Self-Study Report for Accreditation

2025-26

Submitted to

National Agricultural Education Accreditation Board

Indian Council of Agricultural Research

New Delhi

College of Agriculture

Junagadh Agricultural University

Junagadh -362001

Gujarat

Self-Study Report for Accreditation 2025-26

College of Agriculture, Junagadh Agricultural University, Junagadh, Gujarat

Submitted for:

(i) B.Sc. (Hons.) Agriculture

(ii) M.Sc. (Agriculture) - 13 disciplines

(iii) Ph.D in Agriculture - 13 disciplines

(iv) College of Agriculture, JAU, Junagadh

Submitted to:

National Agricultural Education Accreditation Board (NAEAB),

Indian Council of Agricultural Research (ICAR), New Delhi

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January 2026
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PREFACE

Accreditation is widely regarded as a crucial cog in the framework of continuous improvement and quality assurance of Higher Education Institutions (HEIs). It is both my privilege and honour to present the Self-Study Reports (SSRs) of the College of Agriculture, JAU, Junagadh, for the accreditation cycle covering the period from 2020-21 to 2025-26. The cut-off date for academic and research information and other particulars furnished in the present SSRs has been kept as July 31, 2025, in alignment with the UG and PG academic calendars of the college.

With the college already been accredited thrice by ICAR, New Delhi—during AYs 2009-10 to 2013-14, 2015-16 to 2019-20, and 2021-22 to 2025-26—the present SSRs are submitted for the following programmes: (i) B.Sc. (Hons.) Agriculture degree programme; (ii) M.Sc. (Agri.) degree programmes; (iii) Ph.D. degree programmes; and (iv) the institutional SSR of the College of Agriculture, JAU, Junagadh. The SSRs for the PG and Ph.D. degree programmes cover the following 13 disciplines: (i) Agronomy; (ii) Agricultural Meteorology; (iii) Soil Science and Agricultural Chemistry; (iv) Agricultural Entomology; (v) Plant Pathology; (vi) Agricultural Extension Education; (vii) Agricultural Economics; (viii) Agricultural Statistics; (ix) Genetics and Plant Breeding; (x) Plant Physiology; (xi) Seed Science and Technology; (xii) Biochemistry; and (xiii) Biotechnology.

The college has left no stone unturned in incorporating all vital information of the degree programmes, with adequate depth and crisp detail. To assess the academic and research performance of the college during the accreditation cycle, each degree programme is detailed with its background and developmental milestones, along with departmental accomplishments in the form of recommendations for farmers and the scientific community, research publications, and awards received by faculty members and PG students. The information on classroom infrastructure, departmental laboratories, and farm facilities is provided for each department with photographs.

All the departments of the college extensively use ICT tools to fulfil their UG/PG teaching, research, and extension mandates. With the JAU Examination Management System (JEMS) at the core of the university's digital infrastructure, all academic processes, including admissions, fee payment, examinations, and result declaration, are carried out online. Learning materials are prepared and periodically updated in accordance with the recommendations of the VI Deans' Committee and the BSMA guidelines of the respective degree programmes. In addition to the college's commendable performance under the NAHEP-IDP initiative, through the organization of personality and soft-skill development programmes, training on cutting-edge technologies, and internships for faculty members and students at reputed international institutions, the establishment of the NCC battalion in 2023-24 stands as another feather in the college's cap. Due emphasis has also been placed on documenting the feedback mechanism of the college, incorporating suggestions and ratings received from various stakeholders, covering all the aspects from infrastructure to student placements.

I place on record our sincere gratitude to the Hon'ble Vice Chancellor, Director of Research, Registrar, and other university officers for their steadfast guidance in all our academic and research endeavours. I also congratulate all Professors and Heads and the members of the SSR team, for their consistent efforts and dedicated contributions in all the stages of report preparation.

Date: 31.01.2026
Place: Junagadh

(P. D. Kumawat)

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6.4:

Self-Study Report for the Undergraduate Degree Programme: B. Sc. (Hons.) Agriculture

6.4. SELF-STUDY REPORT FOR THE B.SC. (HONS.) AGRICULTURE DEGREE PROGRAM OF COLLEGE OF AGRICULTURE, JUNAGADH

6.4.1. BRIEF HISTORY OF THE UNDERGRADUATE DEGREE PROGRAM

The College of Agriculture, Junagadh Agricultural University, Junagadh, was established in 1960 and since then it has been rendering exemplary services in advancing agricultural education and enhancing the livelihoods of the farming community in the Saurashtra region as well as across the state of Gujarat. The College has emerged as one of the leading institutions for agricultural education, not only in Gujarat but also in the country. The College has emerged as a major hub for agricultural research and extension, proactively and consistently addressing critical agrarian challenges.

As the state's first government agricultural college, the institution commenced its journey on a modest scale with about 100 students. At present, it imparts knowledge and expertise to an average of more than 700 students across undergraduate and postgraduate programmes. In tune with changing times, the College has readily embraced modern technologies, which its faculty members have effectively integrated into student-centric teaching practices. Besides, strong emphasis is placed on ground realities, with students continually encouraged to learn through field visits, educational tours, and hands-on practical experiments. The College is committed to the holistic development of its students, according equal importance to intellectual, physical, and ethical growth to nurture responsible and socially conscious citizens. Consequently, students have demonstrated outstanding academic performance while also excelling in sports and cultural activities. Besides, to ensure the all-round development of the students, the College regularly organizes guest lectures on contemporary issues, personality development programmes, skill-building initiatives, and similar activities.

From the very beginning, the Government of Gujarat entrusted the College with the twin mandate of agricultural education and agricultural research along with technology

dissemination. In its formative years, all faculty members were designated as Subject Matter Specialists (SMS) to effectively address the state's integrated requirements of teaching, research, and extension (TRE). This legacy continues even today, notwithstanding the establishment of dedicated Research Stations and Krishi Vigyan Kendras. Faculty members not only discharge their teaching duties but also remain deeply involved in laboratory and field experiments, postgraduate research, and frontline extension activities through *Krushi Mahotsavs*, technology transfer programmes, *Khedut Shibirs*, and several other initiatives.

To ensure academic and professional excellence, the College consistently equips its faculty with the latest knowledge, skills, and technologies by encouraging and supporting their participation in short- and long-duration training programmes, workshops, seminars, and conferences. The College takes immense pride in the achievements of its students, many of whom have secured top positions in diverse fields such as Agriculture and Horticulture Departments, Administration, Banking, and the State Public Service Commission (GPSC). Several alumni have also established successful start-ups, underscoring the strength of the College's academic foundation. Graduates are also well-represented in corporate sectors, industries, private companies, NGOs, and other organizations related to agriculture and allied fields. Notably, some alumni have risen to prominent positions, including Vice-Chancellor, Director of Agriculture/Horticulture, Director of Campus, District Collector, and even Minister of Agriculture of the state.

The College has a robust and vibrant infrastructure with state-of-the-art facilities, including a well-stocked library, fully equipped departmental laboratories, modern classrooms with electronic teaching aids, a conference hall, separate hostels for boys and girls, a sports complex with indoor and outdoor facilities, a canteen, a modern health centre, an auditorium, and a student counselling and placement cell. Both undergraduate and postgraduate students follow a rigorous curriculum and actively participate in an academic calendar enriched with teaching, research, extension, sports, cultural, NSS, and social, cultural and national-integration activities.

STEPPING-STONES OF THE COLLEGE

Established in June 1960, the College holds the distinction of being the first Government Agricultural College in Gujarat. The other stepping-stones of the college are:

- It remained affiliated to Gujarat University, Ahmedabad until the year 1967.
- The affiliation was transferred to Saurashtra University, Rajkot in 1968.
- The College achieved a major milestone with it coming under the jurisdiction of the newly established Gujarat Agricultural University in 1972.
- The education medium was in vernacular language (Gujarati) during initial years of the College and was changed to English medium from the first semester of academic calendar of the year 1977.
- The College received a significant boost with it coming under the jurisdiction of Junagadh Agricultural University with the quadfurcation of the erstwhile Gujarat Agricultural University into four new Agricultural Universities from May 01, 2004.
- The B.Sc. (Hons.) Agriculture degree program of the College has been accredited thrice by ICAR, New Delhi for AY 2009-10 to 2013-14, 2015-16 to 2019-20, besides 2021-22 to 2025-26.

- The College successfully implemented the NAHEP-IDP project of the University, sponsored by ICAR, New Delhi and World Bank of Rs. 30 crore-grant, during 2020-21 to 2023-24, for UG students, with organizing 256 personality development/soft skill-oriented training programmes, 170 guest lectures, 28 overseas fully paid training for students and faculty in reputed institutions like UC, Davis; HUJI, Israel; ICBA, Dubai; AIT, Bangkok, besides institutions in Malaysia, Vietnam, *etc*.
- The College established its own NCC Unit (8 Gujarat Battalion) during 2023-24.
- Under the ambit of MoU with the Western Sydney University, Australia, the College has been instrumental in sending its students for dual degree program in 2024-25.
- The college has also been conferred with top-ratings for educational and research excellence from GSIRF, GoG, successively for 2023-24 & 2024-25.
- The college was also bestowed with 7th rank nationally by Education World Magazine in 2023-24.

MISSION, GOALS AND OBJECTIVES

MISSION:

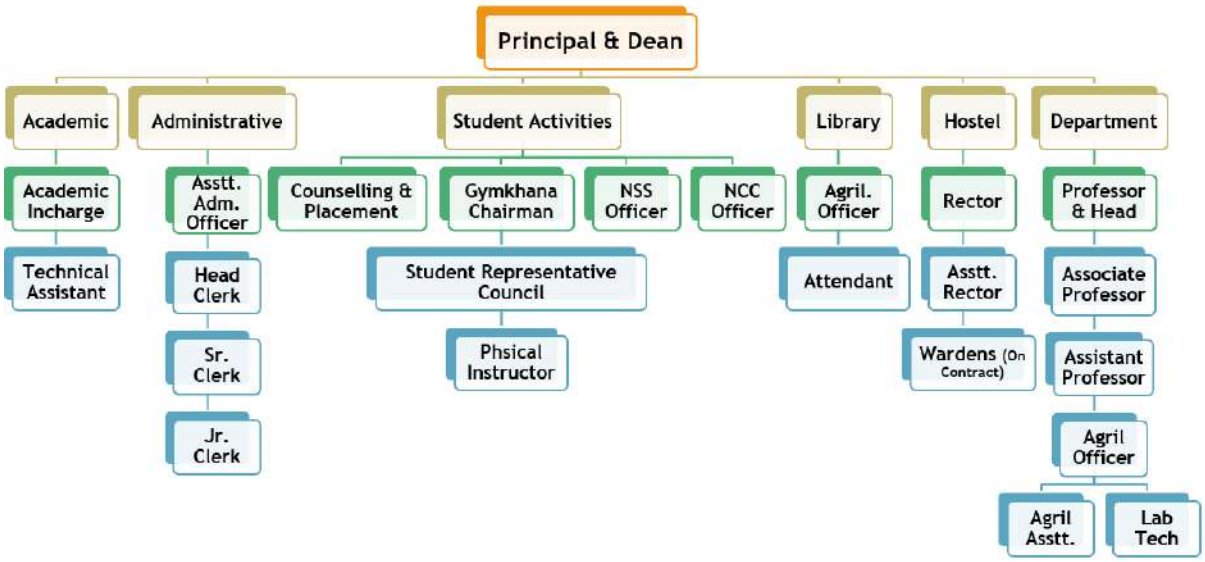
- The College is committed to provide excellence, innovation and effectiveness in education, research and transfer of technology.
- The mission of the College of Agriculture is to be a premier college in the country.

GOAL:

- Goal of College of Agriculture is to develop agricultural professionals with managerial excellence through quality education and research with socio-cultural sensitivity, ethical responsibility and concern for environment with aspirations of the farming community in particular.

OBJECTIVES:

- To implement direct recommendations of the Deans' Committee Report of ICAR in terms of course content, credit requirement, examination system, guidelines for under graduate program.
- To strengthen various laboratories with modern scientific equipment as per revised course curricula, the library on scientific lines, redesigning the course content, ensuring adequacy in practical exposure in the field of agriculture.
- To strengthen the faculty and manpower in colleges and to ensure proper placement of the graduates.
- To provide integrated agricultural education at all levels to develop efficiency and effectiveness in skill, attitude and knowledge among students and to provide necessary placement support to the graduating students. To provide overall knowledge and skill-sets to students for boosting their competitiveness and to nurture them to become a good human resource for the society.



Organogram of CoA, JAU, Junagadh

6.4.2. FACULTY STRENGTH AS OF 31-07-2025 (AS PER ICAR NORMS)

Table 6.4.1: Details of faculty recommended by the ICAR and sanctioned by the Government of Gujarat (GoG)

Sr. No.	Sanctioned faculty	Faculty in place (Sanctioned by GoG)	Vacant positions (Sanctioned by GoG)	Faculty recommended by the ICAR
1	Professor	9	3	3
2	Associate Professor	16	22	8
3	Assistant Professor	52	16	34
	Total	**77**	**41**	**45**

Note: Faculty members are also involved in research and extension duties, besides teaching.

Table 6.4.2: Details of faculty strength and achievements (AY 2020-21 to 2024-25)

Sr. No.	Name of faculty & designation	Highest degree obtained	Work experience (in years)	No. of research papers published	No. of seminar/ symposia *etc.* participated	No. of trainings attended	No. awards/ recognition	No. of recommendation / varieties released
1. Department of Agronomy								
1.	Dr. P. K. Chovatia Professor & Head	Ph.D.	31	20	9	-	-	12
2.	Dr. R. M. Solanki Professor	Ph.D.	31	16	18	3	-	3

Sr. No.	Name of faculty & designation	Highest degree obtained	Work experience (in years)	No. of research papers published	No. of seminar/ symposia *etc.* participated	No. of trainings attended	No. awards/ recognition	No. of recommendation / varieties released
3.	Dr. P. J. Gohil Professor	Ph.D.	19	2	4	-	1	9
4.	Dr. V. B. Bhalu Associate Professor	Ph.D.	31	11	11	10	-	-
5.	Dr. B. S. Gohil Assistant Professor	Ph.D.	9	11	43	17	5	11
6.	Dr. S. K. Chhodavadia Assistant Professor	Ph.D.	9	11	12	1	-	12
7.	Prof. D.R. Vaghasiaya Assistant Professor	M. Sc	6 months	4	3	1	-	-
8.	Dr. K. V. Hirpara Assistant Professor	Ph.D.	6 months	4	2	2	-	-
9.	Dr. S. H. Lakhani Assistant Professor	Ph.D.	10	6	18	2	-	-
2. Department of Horticulture								
10.	Dr. N. D. Polara Professor and Head	Ph.D.	19	11	5	1	-	3
11.	Prof. R. L. Chitroda Assistant Professor	M.Sc.	17	4	6	2	0	2
12.	Dr. S. K. Bhuva Assistant Professor	Ph.D.	8	9	6	2	1	6
13.	Dr. M. A. Dudhat Assistant Professor	Ph.D.	7 months	4	8	2	0	0
3. Department of Soil Science and Agricultural Chemistry								
14.	Dr. H. L. Sakarvadiya Professor and Head	Ph. D.	30	16	15	1	1	26

Sr. No.	Name of faculty & designation	Highest degree obtained	Work experience (in years)	No. of research papers published	No. of seminar/ symposia *etc.* participated	No. of trainings attended	No. awards/ recognition	No. of recommendation / varieties released
15.	Dr. A. V. Rajani Professor	Ph. D.	32	34	10	5	2	5
16.	Dr. H. P. Dholariya Associate Professor	Ph.D.	12	11	10	1	-	-
17.	Dr. L. C. Vekariya Associate Professor	Ph.D.	11	40	22	8	-	46
18.	Prof. P. I. Jetpara Assistant Professor	M.Sc. (Agri.)	12	1	6	3	1	-
19.	Dr. A. S. Jadeja Assistant Professor	Ph. D.	8	18	18	8	3	6
20.	Prof. K. P. Bhuriya Assistant Professor	M.Sc. (Agri.)	8	12	19	4	3	8
21.	Dr. D. V. Parakhiya Assistant Professor	Ph. D.	3 months	2	1	1	-	-
22.	Dr. P. B. Kotadiya Assistant Professor	Ph. D.	6 months	2	-	1	-	-
23.	Prof. T. R. Ribadiya Assistant Professor	M.Sc. (Agri.)	6 months	1	-	4	-	-
4. Department of Agricultural Entomology								
24.	Dr. D. M. Jethva Professor and Head	Ph. D.	18	20	1	0	6	24
25.	Dr. M. K. Ghelani Associate Professor	Ph. D.	10	17	19	9	0	19
26.	Dr. K. D. Shah Assistant Professor	Ph. D.	10	20	25	7	6	6

Sr. No.	Name of faculty & designation	Highest degree obtained	Work experience (in years)	No. of research papers published	No. of seminar/ symposia *etc.* participated	No. of trainings attended	No. awards/ recognition	No. of recommendation / varieties released
27.	Dr. S. R. Patel Assistant Professor	Ph. D.	8	5	5	8	3	0
28.	Prof. H. S. Godhani Assistant Professor	M.Sc.	9	3	5	1	0	0
5. Department of Plant Pathology								
29.	Dr. K. K. Kanzaria Professor and Head	Ph. D.	30	12	9	7	2	6
30.	Dr. S. V. Undhad Associate Professor	Ph. D.	13	05	7	9	0	0
31.	Dr. J. R. Talaviya Assistant Professor	Ph. D.	10	26	8	6	0	5
32.	Dr. S. V. Lathiya Assistant Professor	Ph.D.	9	21	5	5	4	7
33.	Dr. A. J. Barad Assistant Professor	Ph.D.	1	11	1	1	0	0
34.	Dr. M. D. Sanghani Assistant Professor	Ph.D.	7	7	1	1	0	0
6. Department of Agricultural Extension Education								
35.	Dr. V. N. Chavada Associate Professor	Ph. D.	8 years	6	4	10	-	1
36.	Prof. P. I. Dave Associate Professor	M.A. B.Ed.	27 years	1	1	-	-	-
37.	Dr. B. H. Tavethiya Assistant Professor	Ph. D.	12 years	6	4	1	1	2

Sr. No.	Name of faculty & designation	Highest degree obtained	Work experience (in years)	No. of research papers published	No. of seminar/ symposia *etc.* participated	No. of trainings attended	No. awards/ recognition	No. of recommendation / varieties released
38.	Dr. Sujata J. Parmar Assistant Professor	Ph. D.	9 years	4	6	1	1	2
39.	Dr P. B. Ravia Assistant Professor	Ph. D.	6 months	1	1	-	-	-
7. Department of Agricultural Economics								
40.	Dr. V. D. Tarpara Professor	Ph. D.	36	6	8	7	5	4
41.	Dr. Kalpesh Kumar Associate Professor	Ph. D.	16	20	18	5	3	10
42.	Dr. B. Swami nathan Associate Professor	Ph. D.	10	28	21	8	6	6
43.	Dr. Haresh Chavda Assistant Professor	Ph. D.	6 months	3	5	0	0	1
44.	Dr. S. R. Dahima Assistant Professor	Ph. D.	6 months	3	-	-	-	0
8. Department of Agricultural Statistics								
45.	Dr.D.V. Patel Prof. & Head	Ph.D. in Agril. Stat.	20	6	1	1	-	6
46.	Dr.M.S. Shitap Assistant Professor	Ph.D. in Agril. Stat.	10	8	2	1	-	6

Sr. No.	Name of faculty & designation	Highest degree obtained	Work experience (in years)	No. of research papers published	No. of seminar/ symposia *etc.* participated	No. of trainings attended	No. awards/ recognition	No. of recommendation / varieties released
47.	Prof.A.P. Prajapati Assistant Professor	MCA & M.Com. (Business Stat.)	20	2	9	2	-	3
9. Department of Genetics and Plant Breeding								
48.	Dr. D. R. Mehta Professor and Head	Ph. D.	30	34	6	7	5	5
49.	Dr. L. J. Raval Professor	Ph. D.	17	41	7	4	1	4
50.	Dr. G. U. Kulkani Professor	Ph. D.	17	39	5	5	0	1
51.	Dr. Rajiv Kumar Associate Professor	Ph. D.	13	17	7	4	1	4
52.	Dr. M. H. Sapovadiya Associate Research Scientist	Ph. D.	10	25	12	8	0	1
53.	Dr. S. B. Chaudhari Assistant Research Scientist	Ph. D.	12	12	4	6	0	1
54.	Dr. R. J. Patel Assistant Research Scientist	Ph. D.	6 months	31	03	3	1	0
55.	Prof. C. S. Radadiya Assistant Professor	M.Sc. (Agri)	6 months	4	22	8	0	0
56.	Dr. H. B. Limbani Assistant Professor	Ph. D.	10	6	18	1	0	0
57.	Dr. T. H. Borkhatariya Assistant Professor	Ph. D.	6 months	15	16	6	1	0

Sr. No.	Name of faculty & designation	Highest degree obtained	Work experience (in years)	No. of research papers published	No. of seminar/ symposia *etc.* participated	No. of trainings attended	No. awards/ recognition	No. of recommendation / varieties released
58.	Dr. K. V. Rathawa Assistant Professor	Ph. D.	6 months	2	13	6	1	0
59.	Dr. A. M. Hadiya	Ph.D.	6 months	2	9	3	1	0
10. Department of Seed Science and Technology								
60.	Dr. J. B. Patel Professor & Head	Ph. D. (Agri.)	27	27	13	1	7	1
61.	Dr. Jyotiben R. Sondarva Associate Professor	Ph. D. (Agri.)	10	10	11	1	4	1
62.	Dr. H.V. Bhoot Assistant Professor	Ph. D. (Agri.)	6 Months	8	-	-	-	-
63.	Prof. M.H. Donga Assistant Professor	M. Sc. (Agri.)	6 Months	4	-	1	-	-
64.	Dr. D. V. Savaliya Assistant Professor	Ph.D.	6 Months	5	2	1	1	-
11. Department of Biochemistry								
65.	Dr. H. P. Gajera Professor and Head	Ph. D.	30	28	8	1	0	8
66.	Dr. U. K. Kandoliya Associate Professor	Ph. D.	30	32	7	2	2	4
67.	Dr. S. R. Parmar Assistant Professor	Ph. D.	6 months	2	15	2	2	0

Sr. No.	Name of faculty & designation	Highest degree obtained	Work experience (in years)	No. of research papers published	No. of seminar/ symposia *etc.* participated	No. of trainings attended	No. awards/ recognition	No. of recommendation / varieties released
68.	Dr. H. R. Sodha parmar Assistant Professor	Ph. D.	6 months	03	07	2	0	0
12. Department of Biotechnology								
69.	Dr. Y. V. Naghera Associate Professor	Ph. D.	15	12	6	6	0	5
70.	Dr. M. V. Parakhia Assistant Professor	Ph. D	16	15	12	2	3	4
71.	Dr. A. G. Vala Assistant Professor	Ph. D	10	20	4	5	6	3
72.	Dr. S. B. Bhatt Assistant Professor	Ph. D	10	15	7	2	5	4
73.	Dr. D. G. Hirpara Assistant Professor	Ph. D	6 months	23	6	5	5	2
74.	Dr. J. V. Khaniya Assistant Professor	Ph. D	6 months	6	48	2	1	0
13. Department of Agricultural Engineering								
75.	Dr. M. L. Ramani Assistant Professor	Ph.D. (REE)	6 months	5	1	2	-	-
76.	Prof. V. R. Vagadiya Assistant Professor	M. Tech. (Agril. Enggg.)	36	12	8	-	2	1
14. Department of Animal Science								
77.	Dr. B. D. Savaliya Professor	Ph. D.	34	7	5	-	2	1

6.4.3 TECHNICAL/SUPPORTING STAFF AS OF 31/07/2025 (AS PER ICAR NORMS)

Table 6.4.3: Details of technical/Supporting staff strength as of 31.07.2025

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Staff sanctioned by the GoG
1.	Technical/Supporting staff	202	99	103
2.	Administrative staff	51	31	20
	Total	**253**	**130**	**123**

6.4.4. CLASSROOMS AND LABORATORIES

Table 6.4.4: Details of department-wise classroom infrastructure

Sr. No.	Classroom	Size (Sq.m.)	Seating capacity	Purpose	Degree
College of Agriculture, JAU, Junagadh					
1.	Smart Class Room-1	247	88	For first/second (Group-A morning) semester and fifth/sixth (Group-A after noon) of B.Sc. (Hons.) Agri. students, a separate classroom facility is available and it is sufficient.	UG
2.	Smart Class Room-2	247	88	For first/second (Group-B morning) semester and fifth/sixth (Group-A afternoon) of B.Sc. (Hons.) Agri. students, a separate classroom facility is available and it is sufficient.	UG
3.	Smart Class Room-3	247	88	For third/fourth (Group-A morning) semester and seventh semester (RAWE orientation phase in after noon) of B.Sc. (Hons.) Agri. students, a separate classroom facility is available and it is sufficient.	UG
4.	Smart Class Room-4	213	88	For third/fourth (Group-B morning) semester of B.Sc. (Hons.) Agri. students, a separate classroom facility is available and it is sufficient.	UG

Sr. No.	Classroom	Size (Sq.m.)	Seating capacity	Purpose	Degree
5.	Conference Hall	260	150	For conducting exam as well as for arranging video conferences, special lectures, trainings, Placement orientation sessions, annual agricultural research council meetings, *etc.*	UG
1. Department of Agronomy					
6.	Lecture Hall-1	57.53	30	Teaching	UG
7.	Lecture Hall-2	56.77	30	Teaching	UG
8.	Practical Classroom	362.70	70	Practical	UG
9.	Conference Hall	43.87	30	Teaching, seminar, meeting, *etc.*	PG
2. Department of Horticulture					
10.	Classroom-1	80.35	25	Teaching	UG
11.	Classroom-2	79.99	25	Teaching	UG
12.	Classroom-3	79.89	20	Teaching	UG
3. Department of Soil Science and Agricultural Chemistry					
13.	Lecture Hall-1	57.00	30	Teaching	UG
4. Department of Agricultural Entomology					
14.	UG Class room	88.35	50	Teaching	UG
5. Department of Plant Pathology					
15.	Lecture Hall-1	85.19	45	Teaching	UG
16.	Lecture Hall-2	85.19	45	Teaching	UG
6. Department of Agricultural Extension Education					
17.	Classroom-1	51.68	42	Teaching, seminar, meeting	UG
18.	Classroom-2	32.53	25	Teaching, meeting	UG
7. Department of Agricultural Economics					
19.	Lecture Hall-1	33.75	60	Teaching	UG
20.	Lecture Hall-2	48	66	Teaching	UG
8. Department of Agricultural Statistics					
21.	UG Classroom	68.00	56	Practical	UG
22.	Digital Classroom	45.00	55	Seminar, workshop, teaching	UG

Sr. No.	Classroom	Size (Sq.m.)	Seating capacity	Purpose	Degree
9. Department of Genetics and Plant Breeding					
23.	UG Class cum Practical room - 1	87.36	40	For UG Practical	UG
24.	UG Class cum Practical room - 2	110.75	40	For UG Practical	UG
10. Department of Seed Science and Technology					
25.	UG Practical Class room	357	70	For UG Practical	UG
11. & 12. Department of Biochemistry and Biotechnology					
26.	The department utilizes the smart classrooms (1 to 4) of CoA, JAU, Junagadh				
13. Department of Agricultural Engineering					
27.	Practical Classroom	50	80	Teaching during Practical Lectures	UG
14. Department of Animal Science					
28.	The department utilizes the smart classrooms (1 to 4) of CoA, JAU, Junagadh				

Table 6.4.5: Details of department-wise functional laboratories established

Sr. No.	Name of lab.	Laboratory size (Sq.m.)	Seating capacity	Purpose	Degree
1. Department of Agronomy					
1.	Lab-1	63.33	15	Practical class	UG
2.	AgMet lab.	35	30	Teaching	UG
3.	Museum	63.33	30	Exhibition	UG
2. Department of Horticulture					
4.	Lab-1	110.86	35	Practical class	UG
3. Department of Soil Science and Agricultural Chemistry					
5.	Instruments Lab a) Robotic clay fraction analyser	40.91	1	Practical class & demonstration	UG
6.	b) Atomic absorption spectroscopy (AAS)	45.00	1	Practical class & demonstration	UG
7.	UG Lab	168.00	36	Practical class	UG
8.	Soil water analysis lab	120	10	Practical	UG

Sr. No.	Name of lab.	Laboratory size (Sq.m.)	Seating capacity	Purpose	Degree
9.	G-1 research lab	60	15	Practical	UG
4. Department of Agricultural Entomology					
10.	UG Lab	88.35	40	Practical	UG
11.	Bio-Control Res. Lab	1300	40	ELP, Mass production of bio-agent	UG
5. Department of Plant Pathology					
12.	Lab-1	85.19	25	Teaching & practical	UG
6. Department of Agricultural Extension Education					
13.	Audio-Visual Lab	34.84	25	Teaching	UG
7. Department of Agricultural Economics					
14.	WTO Cell with STATA Econometric Software Package	38.85	15	Practical assignments and projects/research	UG
8. Department of Agricultural Statistics					
15.	UG Computer Lab	81	50	Practical	UG
16.	Hardware & Network Lab	24	10	Demonstration of computer hardware and network devices	UG
9. Department of Genetics and Plant Breeding					
17.	UG Lab-1 (Plant Physiology and Seed Science & Technology)	87.36	40	Teaching for UG Practical	UG
18.	UG Lab-2	110.75	40	Teaching for UG Practical	UG
19.	Plant Tissue Culture-1 (Media preparation room)	110.83	20	For Tissue culture Research and Banana micro-propagation work	UG (ELP)
20.	Plant Tissue Culture -2 (Inoculation I)	12.74	2	For Inoculation of explants	UG (ELP)
21.	Plant Tissue Culture -2 (Inoculation II)	13.80	3	For Inoculation of explants	UG

Sr. No.	Name of lab.	Laboratory size (Sq.m.)	Seating capacity	Purpose	Degree
					(ELP)
22.	Plant Tissue Culture -2 (Inoculation III)	35.70	4	For Inoculation of explants	UG (ELP)
23.	Plant Tissue Culture -2 (Inoculation IV)	22.38	2	For Inoculation of explants	UG (ELP)
24.	Plant Tissue Culture -2 (Culture Room I)	33.34	---	For Incubation of inoculated culture	UG (ELP)
25.	Plant Tissue Culture -2 (Culture Room II)	81.00	---	For Incubation of inoculated culture	UG (ELP)
26.	Plant Tissue Culture-3 (Autoclave Room cum washing room)	37.08	---	For Autoclaving of media and washing glassware and plastic wares	UG (ELP)
10. Department of Seed Science and Technology					
27.	UG Laboratory	188.00	25	Practical and research	UG
11. Department of Biochemistry					
28.	Lab-1	68.82	30	Practical & Research	UG
12. Department of Biotechnology					
29.	Lab-2	68.82	30	Practical &Research	UG
13. Department of Agricultural Engineering					
30.	Agricultural Engineering Lab - ELP	100.00	40	Practical and teaching	UG
14. Department of Animal Science					
31.	Animal Science Lab	93.00	50	Practical	UG

Table 6.4.6: List of most important equipment available in various departments of the college

Sr. No.	Name of Lab	Name of Instrument	Number	Amount (Rs. in Lakh)
1. Department of Agronomy				
1.	Lab-1	Electronic Balance	1	1.46
2.		SPAD Meter	1	2.36
3.		Infrared Thermometer	1	2.95
4.	Agmet lab	Meteorological instruments	17	1.30
2. Department of Horticulture				
5.	Lab-1	Epson LCD Projector	1	0.99
3. Department of Soil Science and Agricultural Chemistry				
6.	UG Lab	Citizen Mettles Balance	1	1.00
7.		Water Purification System	1	4.96
8.		Refrigerated Centrifuge	1	1.39
9.		UV Spectrophotometer	1	4.50
10.		Analytical Balance	1	1.80
11.	Instruments lab	Robotic clay fraction analyser	1	40.91
12.		Atomic absorption spectroscopy (AAS)	1	40.65
4. Department of Agricultural Entomology				
13.	Biocontrol Research Laboratory	Comb foundation mill for *Apis mellifera*	1	1.10
14.		Comb foundation mill for *Apis cerena indica*	1	1.10
15.		Comb foundation mill for *Apis mellifera drone*	1	1.10
16.		Honey Processing Unit	1	4.37
17.		UV visible spectrometer	1	6.11
18.		Incubator	1	4.36
19.		Refrigerator	2	1.37
20.		Muffle Furnace	1	4.61
21.		Digital abbe refractometer	1	11.35
22.		Centrifuge with rotors	1	8.09
23.		Hot air oven	1	2.51

Sr. No.	Name of Lab	Name of Instrument	Number	Amount (Rs. in Lakh)
24.		Deep freezer	1	2.38
25.		Recirculating chiller	3	6.81
26.		Hexacopter Dron	1	6.66
27.		Leica Microscope	1	18.96
28.		Greaves Generators	1	7.87
29.		Utility vehicles	1	8.14
30.		Digital v rotary evaporator	1	2.99
31.		Honey motorized extractor	1	3.64
32.		Semi-automatic one head auger filling machine	1	4.10
33.		Screw conveyor	1	2.75
34.		Mixer machine	1	1.14
35.		Pouch Packing Machine	1	2.93
36.		Table top winder machine	1	1.80
37.		Autoclave	1	2.68
38.		Fume hood	1	3.57
39.		Deep freezer	1	4.79
40.		Shaking water bath	1	2.95
41.		Pouch packing machine	1	4.83
42.		Fermenter system with 10 L capacity with laptop	1	12.62
43.		Vacuum packing machine	1	1.87
44.		Horizontal laminar air flow	1	1.79
5. Department of Plant Pathology				
45.	East wing Lab-1	Laminar Air Flow (Horizontal)	1	0.61
46.		Hot Air Oven: 40 l	1	0.65
47.		Hot Air Oven: 18” x 18” x 24”	1	0.27
48.		Autoclave Vertical : 135 Litre	1	4.5
49.		Autoclave Vertical : 30 x 50 cm height	1	0.52
50.		Refrigerator-687 Litre	1	0.91

Sr. No.	Name of Lab	Name of Instrument	Number	Amount (Rs. in Lakh)
51.	East wing Lab-2	Refrigerator-230 Litre	1	0.14
52.		BOD Incubator : 400 litre	1	2.55
53.		Leica Trinocular Microscope (Leica DM)	1	8.09
54.		Binocular Stereo Zoom Microscope cat Scope	1	2.25
55.		Portable Generator	1	1.91
56.	West wing Lab-1	B.O.D Incubator 400L (Equitron)	1	2.55
57.		LED Television (Sony Bravia)	1	1.24
58.		Fermenter 200 L (Bio-Age)	1	19.95
59.		Fermenter 50 L (Bio-Age)	1	15.74
60.		Bulk Centrifuge (Hitachi)	1	6.00
61.		Tubular Centrifuge (Sharplex)	1	7.67
62.		Pouch Packing Machine (Packmake)	1	4.83
63.		Auger Filler Screw Conveyor (Packmaker)	1	2.99
64.		Portable Generator	1	1.73
65.	West wing Lab-2	Soxhlet Extraction System (Gerhardt)	1	9.98
66.		Transilluminator (JSGW)	1	0.40
67.		Slide Scanner (Catalyst Biotech)	1	2.59
68.		Water Bath (Equitron)	1	0.24
69.		Double Distillery Unit (TKA)	1	2.00
70.		Magnetic Stirrer With Hot Plate (MAC)	1	0.08
71.		Chilled Water Circulator 25 L (Equitron)	1	1.32
72.		Cintex Quick Freezer (Electroquip)	1	0.45
73.		Hot Air Oven 200 L (Thermolab)	1	1.15
74.		Refrigerator Centrifuge (REMI)	1	1.51
75.		Water Purification System	1	2.00
76.		Gel Electrophoresis Unit (Genei)	1	1.70
77.		Stereo Binocular Microscope (Magnus)	1	0.55
78.		Trinocular Microscope (Leica)	1	8.99
79.		pH Meter (Horiba)	1	1.05

Sr. No.	Name of Lab	Name of Instrument	Number	Amount (Rs. in Lakh)
80.		Conductivity Meter (Horiba)	1	0.84
81.		Digital Colony Counter (Lapiz)	1	0.11
82.		RT- PCR (Thermofisher)	1	12.50
83.		Spectrophotometer Nanodrop (Thermo-scientific)	1	8.46
84.		Digital Flame Photometer (Relitech)	1	0.45
85.		Gel Documentation System (Biotop)	1	7.46
86.		Table Top Refrigerator Centrifuge (Hitachi)	1	4.25
87.		B.O.D. Incubator 200 L (Thermolab)	1	1.65
88.		Deep Freezer (Remi)	1	0.97
89.		Refrigerator 596 L (Sharp)	1	0.55
6. Department of Agricultural Extension Education				
90.	Lab cum Classroom	Public Address System		
91.		- Speaker with box	6	0.36
92.		- Amplifier	5	0.05
93.		- Horn with Unit WFB	5	0.48
94.		Radio	1	0.03
95.		Automatic slide projector (Kinder Model) with remote	1	0.13
96.		Overhead Projector G.E. VIP	1	0.20
97.		Microphone base	2	0.02
98.		Cordless Handheld Microphone	5	0.35
99.		Mini DVD Player	1	0.14
100.		Heavy-Duty Tripod Stand for Video Camera	1	0.12
101.		Nikon Coolpix Digital Still Camera	1	0.73
102.		Sony Digital Movie Camera	1	0.34
7. Department of Agricultural Economics				
103.	UG/PG Classrooms	LED Projector	3	0.90
104.		Smart TV	1	1.25
105.		STATA Statistical software package with perennial licence	5	2.5
106.		Educational Charts	36	0.60

Sr. No.	Name of Lab	Name of Instrument	Number	Amount (Rs. in Lakh)
8. Department of Agricultural Statistics				
107.	UG Computer Lab	Computer System	50	21.22
108.		Diesel Generator 15 KVA	1	3.85
109.		Online UPS 10 KVA	1	1.60
110.	Hardware & Network Laboratory	All in One desktop	2	3.4
111.		All in One (Print/Scan/Xerox)	1	
112.		Colour laser Jet printer	1	
113.		OMR Scanner	1	
114.		Digitizing tablet	1	
115.		Network devices	1	
116.	UG/PG Laboratory	Multifunction digital copier	1	0.85
9. Department of Genetics and Plant Breeding				
117.	Plant Tissue-Culture -1	Telescopic Binocular	1	1.63
118.		Electronic balance	1	1.18
119.		Environmental shaker	1	1.13
120.		Peristaltic pump	1	2.71
121.		SHIMADZU Electronic Weighing Scale	1	1.69
122.		IMOS stereo microscope trinocular (version 1.0) digital microscope	1	1.21
123.	Plant Tissue-Culture -2	Laminar Air Flow cabinet (Horizontal)	3	3.72
124.		Laminar Flow unit (Horizontal)	4	5.00
125.		Air Handling Unit with Auxiliary (AHU)	1	12.25
126.		Canon 30MP DSLR Camera	1	1.22
127.		Creative lab world vertical air flow cabinet	1	1.71
128.	Plant Tissue-Culture -3 (Autoclave Room)	Horizontal Cylindrical Steam Sterilizer (Autoclave)	1	12.59
129.		Autoclave self-top loading	1	2.69
130.		Autoclave vertical	2	2.70
131.	Green house	Generator set	1	2.46
132.		Generator (Harison 62.5 KVA, Three-phase	1	4.97

Sr. No.	Name of Lab	Name of Instrument	Number	Amount (Rs. in Lakh)
10. Department of Seed Science and Technology				
133.	Seed Testing Laboratory	Plant growth chamber	1	8.96
134.		Dehumidifier	1	1.09
135.		Double door seed germinator	1	1.60
136.		Seed analyzer	1	1.42
137.		Vacuum seed sealing machine	1	2.59
138.		Moisture meter	1	2.12
11. & 12. Department of Biochemistry and Biotechnology				
139.	Lab-1	Water Purification system	1	3.7
140.		PCR with Accessories	1	17.7
141.		Ultra-high-speed Refrigerated centrifuge (Plastocraft)	1	3.8
142.		Capillary electrophoresis	1	25.0
143.		DE -Auto clave	1	1.2
144.		U. V. 220 Volt Spectrophotometer with Accessories (PC)	1	4.8
145.		Sartorius German Make Micro Balance	1	5.1
146.		Gel Documentation System GDS 8000 with Accessories	1	3.1
147.	Lab-2	Freeze vertical -25 C	1	1.5
148.		Various Capacity Balance	2	2.5
149.		Pico drop Spectrophotometer	2	5.7
150.		Alico U.V. Spectrophoto.	2	2.3
151.		Veriti-96 Thermal cycler PCR machine	2	3.6
13. Department of Agricultural Engineering				
152.	Agricultural Engineering Lab - ELP	Tractor (55 HP)	1	6.5
153.		Crop Harvester	1	7.0
154.		Mini Tractor (625 DI)	1	1.8
155.		Trailer for mini Tractor	1	0.47
156.		Rotavator	1	0.78
157.		Seed cum Fertilizer Drill	1	0.48
158.		Dryer cum Oven	1	0.07

Sr. No.	Name of Lab	Name of Instrument	Number	Amount (Rs. in Lakh)
159.	Lab cum Practical Classroom	Projector	1	0.57
160.		AC (2 Ton Split)	1	0.47
161.		LED TV	1	0.63
14. Department of Animal Science				
162.	Lab -1	LCD Projector	1	0.99
163.		Model of cow for demonstration	1	0.45

Table 6.4.7: Details of farm facilities available at the college

Sr. No.	Name of farm/ cafeteria	Area (ha)	No. of experiments conducted	
			Departmental	Students
Department of Agronomy				
1.	Instructional Farm	40.00	8	58
2.	Model Organic Farm	8.75	3	4
3.	Natural farming Model	1.90	2	8
4.	Weed Control Scheme	8.00	4	2
5.	Mechanized Commercial Farm	48.74	1	0
6.	Seed Farm	6.82	0	0
7.	Farming System Research Centre	6.00	2	0
8.	**Total**	**120.21**	**20**	**72**
Department of Horticulture				
9.	Greenhouse	0.075	-	For ELP
Department of Agricultural Entomology				
10.	Plot No. A-11	0.500	1	-
11.	Plot No. B-11	0.500	2	-
12.	Plot No. 7	0.135	1	-
	Total	1.135	4	

Sr. No.	Name of farm/ cafeteria	Area (ha)	No. of experiments conducted	
			Departmental	Students
Department of Plant Pathology				
13.	Plot No. A-1 (Micro Plot)	0.15	1	-
Department of Genetics and Plant Breeding				
14.	Botanical Garden Motibaug	12.62	3	Utilized for RAWE Students
15.	Botanical Garden Paritalav	5.16	1	
16.	Botanical Garden Laldhori	12.60	Conservation	
17.	Botanical Garden Dudheshwar	3.40	Conservation	
	Total	33.78	4	
Department of Seed Science and Technology				
18.	Sagdividi Farm	78.15	2	6

Table 6.4.8: Details of theory and practical batches of the UG degree program

Sr. No.	Name of the degree program	Year	Total intake per year	Batch of students in theory class	Batch of students in practical class
1.	UG - B.Sc. (Hons.) Agri.	2020-21	144	2 (Group A & B) each with 57 to 72 students per semester, from 1st to 6th semesters	4 batches each with 27 to 36 students per semester, from 1st to 6th semesters
		2021-22	143		
		2022-23	156		
		2023-24	165		
		2024-25	175		
		Students' READY programme	RAWE for 7th semester	NA	5 phases with 4 batches for boys each of 25 to 30 students and 2 batches for girls each of 20 to 25 students.
			ELP for 8th semester	NA	5 ELPs (with each student attending 2 modules)

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

A) LEARNING MATERIALS

- As far as the theory course material is concerned, the faculty members of all the four SAUs in Gujarat develop common theory notes in a comprehensive manner by drawing upon standard textbooks, reference books, and research publications, strictly in accordance with the Sixth Deans' Committee guidelines.
- Practical manuals for each subject in the degree programmes are prepared and provided to students free of cost, and the same learning materials are also made available on the university website. In addition, students are assigned coursework on emerging themes and advanced technologies to keep updated.
- Faculty members with over five years of undergraduate teaching experience have also contributed to the ICAR e-Learning portal by serving as course creators, unit reviewers, and course reviewers. Such course links are shared with students to supplement classroom teaching. Students get practical exposure in separate laboratory of each discipline and field visit at various research station of JAU.
- Visits to various agro-based industries, APMCs and co-operative societies are also arranged on a regular basis to give practical knowledge of the subject.
- Extra lectures are arranged on a regular basis by each department for preparation of JRF and various competitive exams like UPSC, GPSC, Banking, *etc.*
- Special skill oriented and personality development classes as well as training are organized regularly for the benefit of the students during the last five years.

B) PRACTICAL AND HANDS-ON-TRAINING

- During practical sessions, teachers demonstrate specific exercises using charts, models, and interactive hands-on training. Students then perform the exercises themselves following a learning-by-doing approach. Key activities such as emasculation, hand pollination, culture media preparation, insect dissection, slide preparation, stock solutions, titrations, field operations, machinery use, surveying and levelling, and data visualization are practiced directly by students.
- Students are regularly taken on farm visits to nearby farmers' fields to observe crop conditions, soils, agronomic practices, and the incidence of pests and diseases along with their damage, besides collecting samples. These visits also provide opportunities for direct interaction with farmers.

- For each course, students are divided into four batches for practical classes, with a two-hour session scheduled per week, during which they carry out various exercises and acquire essential skills and practical know-how.
- The Student READY Programme is implemented in two phases: RAWE in the 7th semester and ELP in the 8th semester. The RAWE component includes village stay, industrial visits, cooperative and NGO visits, and exposure to research stations and KVKs. Through this programme, students gain practical insights into current agricultural trends.
- Under the Experiential Learning Programme (ELP), 8th semester students receive hands-on training through various ELP units operated at the College.
- Students engage in activities such as production of *Trichoderma* and *Beauveria* bio-agents, biofertilizers, and value-added products like jam, jelly, and nectar, along with raising vegetable nurseries. They are also exposed to soil and water sample analysis, seed production, greenhouse cultivation, and banana tissue culture.
- The selected eighth semester students are also permitted to undergo paid internship with agro-input companies. In 2024-25 alone, 24 students were selected for summer internship with Crystal Crop Protection Ltd., New Delhi, with a stipend of Rs. 44,000 per student for two months of fieldwork.

A UG theory class in progress: A screengrab from the university's video available on YouTube at the url: https://www.youtube.com/watch?v=AocYtHxMMNQ

C) STATUS OF THE EIGHT EXPERIENTIAL LEARNING PROGRAMME MODULES (ELP) DURING THE YEAR 2024-25

Table 6.4.9: Details of experimental learning programme modules

Sr. No.	Name of ELP modules	Nodal Officer of module their mobile no. & Email	Grant received	No. of students trained under ELP	Product being developed under ELP	Revenue earned (Lakh)	Revolving fund generated	% Share income distributed to students
1.	Quality seed production of field crops	Dr. J. B. Patel Mo. 9979298558 Dr. C. A. Babariya, Mo. 9687564855 megaseed@jau.in	-	58	Seed production of wheat LOK-1(Breeder seed) in 1 ha area in rabi and seed production of Green gram - 10 (Breeder seed) in summer in 1 ha of area: Total 2 ha.	3.16	3.16	50 %
2.	Agriculture Machinery Management Custom Hiring and Mobile Workshop	Dr. Rajvir Yadav Mo. 94264 20561 Yadavryadav@jau.in	-	-	Skill development	0.52**	0.52	-
3.	Production Technology for Bio-Fertilizer and Bio-Agent	Dr. S. V. Lathiya, Dr. J. R. Talaviya and Dr. D. S. Kelaiya	-	58	Production of Bio-Fertilizer (Azotobacter, Rhizobium, PSB, KMB), Bio-Agent (Trichoderma) and Mushroom Spawn	-	4.23	50%

Sr. No.	Name of ELP modules	Nodal Officer of module their mobile no. & Email	Grant received	No. of students trained under ELP	Product being developed under ELP	Revenue earned (Lakh)	Revolving fund generated	% Share income distributed to students
4.	Commercial bio-agent production	Dr. D. M. Jethva Mob: 9427513000 E-mail: entomology@jau.in	-	60	Production of different bioagents of Gir Sawaj brands (Entomopathogenic fungi, NPV, pheromone and fruit fly traps, Trichocards etc.)	5.91	5.91	50%
5.	Nursery management and protected cultivation	Dr. N. D. Polara 94283 47112 horti@jau.in	-	58 (44+14*)	Tomato, Methi and Palak cultivation	0.24	0.22	0.11
6.	Quality seed production in field crops	Dr. S. K. Chhodavadia Mo. 9601906896 E-mail: skchhodavadia24589@jau.in	-	58	Quality seed production for Pigeon pea and wheat crop	1.83	1.00	0.50 (50%)
7.	Soil, Water, Plant and Seed Testing	Dr. L. C. Vekaria 9898125777 lalit@jau.in	-	61	Report to farmer for soil, water and plant analysis	7.83	5.09	2.14

Sr. No.	Name of ELP modules	Nodal Officer of module their mobile no. & Email	Grant received	No. of students trained under ELP	Product being developed under ELP	Revenue earned (Lakh)	Revolving fund generated	% Share income distributed to students
8.	Plant Tissue Culture Technology	Dr. Rajiv Kumar Mo.- 9725974491 e-mail- drrajivkumar@jau.in	31.0 lakh	29 (Jan - March 2025- 1st batch) 29 (April - June 2025 2nd batch	Skill oriented ELP for production of banana tissue culture plantlets. Each batch was divided into four sub batches in group of 5-6 students as under: 1. Media Preparation 2. Inoculation 3. Washing 4. Green house for hardening of plantlets	---	---	50%
9.	Practical crop production - I (kharif crops)		-	132	Seed production for soybean crop	2.475	129920	129920 (50%)
10.	Practical crop production - II (rabi crops)		-	132	Seed production for wheat crop	2.775	277200	175925 (50%)

D) PRACTICAL MANUALS/ RESEARCH/TECHNICAL BULLETINS PUBLISHED (DURING 2020-21 TO 2025-26)

Sr. No.	Details of Practical Manuals/ Research/Technical Bulletins Published	Publication Year
Department of Agronomy		
1.	Mathukia, R.K.; Solanki, R.M. and Parmar, K.B. 2020. Training manual of Five Day Vocational Training on "Alternative Farming Systems to Improve Learning Skills in Agronomy" held during February 24-28, 2020. IDP-NAHEP Cell, College of Agriculture, JAU, Junagadh	2020
2.	Gohil, B.S.; Bhalu, V.B.; Chhodavadia, S.K. and Sagarka, B.K. 2020. Practical manual of Crop Production Technology-I (*Kharif* crops). Department of Agronomy, JAU, Junagadh	2020
3.	Gohil, B.S.; Bhalu, V.B.; Chhodavadia, S.K. and Sagarka, B.K. 2020. Practical manual of Crop Production Technology-II (*Rabi* crops). Department of Agronomy, JAU, Junagadh	2020
4.	Chopada, M.C.; Sagaraka, B.K.; Parmar, B.V.; Vaghasiya, D.R.; Malam, K.V. and Parmar, U.B. 2020. Annual Weather at Junagadh during 2020. Agromet Research Bulletin No. 25. Agromet Cell, Department of Agronomy, JAU, Junagadh.	2020
5.	Chovatia, V.P.; Rajani, V.V.; Mohnot, P.; Parmar, K.B.; Mathukia, R.K.; Swaminathan, B.; Barad, D.B. and Sangani, M.D. 2020. Vision-2050. Junagadh Agricultural University. Directorate of Research, JAU, Junagadh.	2020
6.	Chopada, M.C., Mathukiya, R.K., Parmar B.V., Vaghasiya D.R., Malam K.V. and Parmar U.B. 2021. Annual Weather at Junagadh during 2021. Agromet Research Bulletin No. 26, Department of Agronomy, JAU, Junagadh.	2021
7.	Sindhi, S.J., Chopada, M.C., Kumawat, P.D., Parmar B.V., Vaghasiya D.R., Malam K.V. and Parmar U.B. 2022. Annual Weather at Junagadh during 2022. Agromet Research Bulletin No. 27, Department of Agronomy, JAU, Junagadh.	2022
8.	Sindhi, S. J., Kumawat, P. D., Parmar B. V., Vaghasiya D. R., Malam K.V. and Parmar U.B.: Annual Weather -2022 at Junagadh during 2023. Agromet Research Bulletin No.-3	2022
9.	R. M. Solanki, P. D. Kumawat, P. J. Gohil, V. V. Ruparelia and S. P. Oza 2023. Training manual on five days vocational training programme on “Integrated Farming System for Sustainable Agriculture “held	2023

Sr. No.	Details of Practical Manuals/ Research/Technical Bulletins Published	Publication Year
	during June 26-30, 2023 under the aegis of IDP-NAHEP, Department of Agronomy, College of Agriculture, JAU, Junagadh	
Department of Agricultural Chemistry and Soil Science		
1.	Soil and water testing laboratory at a glance	2020
2.	Book of department publication	2020
3.	Achievements of Research Schemes	2020
4.	Book of thesis abstracts	2020
5.	Ag. Chem. 1.1: Fundamentals of Soil Science	2021
6.	Ag. Chem. 2.2: Manures, fertilizers & soil fertility management	2021
7.	Ag. Chem. 3.3: Problematic soil & their management	2022
Department of Plant Pathology		
1.	Kelaiya D. S.,Talaviya J. R., Dhingani J. C. and Lathiya S. V. Training Manual for student on "Mushroom production technology: A step towards entrepreneurship development", Organized by Dept. of Plant Pathology, CoA, J.A.U. Junagadh.	2022
2.	Kelaiya D. S., Kanzaria K. K., Bhaliya C. M. and Dhingani J. C. Training Manual for student on "Combating the Diseases of Field and Horticultural Crops: Past and Future Strategies", Organized by Dept. of Plant Pathology, CoA, J.A.U. Junagadh.	2022
3.	Kelaiya D. S.,Talaviya J. R. and Lathiya S. V. Training Manual for student on "Bio fertilizer: A key tool for Sustainable Agriculture", Organized by Dept. of Plant Pathology, CoA, J.A.U. Junagadh.	2023
Department of Agricultural Extension Education		
1.	Jadav, N. B; Parmar, S. J. Tavethiya, B. H. and Chavada, V. N. Book on Departmental Theses Abstract. College of Agriculture, Junagadh Agricultural University, Junagadh	2021
2.	Jadav N. B. and Chavda, V. N., Practical Manual on Rural Awareness Works Experience (RAWE) and Agro-Industrial Attachment (AIA)	2021
3.	Chavda, V. N.; Jadav, N. B.; Parmar, S. J. and Tavethiya, B. H. Practical Manual on "Entrepreneurship Studies and Business Communication". College of Agriculture, Junagadh Agricultural University, Junagadh	2021
4.	Tavethiya, B. H.; Parmar, S. J.; Jadav, N. B. and Chavda; V. N. Practical Manual on "Entrepreneurship Development and Business Management". College of Agriculture, Junagadh Agricultural University, Junagadh	2021

Sr. No.	Details of Practical Manuals/ Research/Technical Bulletins Published	Publication Year
5.	Bariya, M. K.; Parmar, S. J.; Jadav, N. B.; Tavethiya, B. H. and Chavda; V. N. Practical Manual on "Communication Skills and Personality Development". College of Agriculture, Junagadh Agricultural University, Junagadh	2021
6.	Tavethiya, B. H.; Jadav, N. B.; Parmar, S. J. and Chavda; V. N. (2021). Practical Manual on "Fundamentals of Extension Education". College of Agriculture, Junagadh Agricultural University, Junagadh	2021
7.	Jadav N. B. and Chavda, V. N. (2022) Practical Manual on Rural Awareness Works Experience (RAWE) and Agro-Industrial Attachment (AIA)	2022
8.	Kalsariya, B. N. and Chavda, V. N. (2023) Practical Manual on Rural Awareness Works Experience (RAWE) and Agro-Industrial Attachment (AIA)	2023
9.	Kalsariya, B. N. and Tavethiya, B. H. (2024) Practical Manual on Rural Awareness Works Experience (RAWE) and Agro-Industrial Attachment (AIA)	2024
10.	Kalsariya, B. N. and Raviya, P. B. (2024) Practical Manual on Rural Awareness Works Experience (RAWE) and Agro-Industrial Attachment (AIA)	2025
Department of Agricultural Economics		
1.	Gajipara, H. M.; Swaminathan, B. and Tarpara, V. D. Training Manual on 'Emerging Dimensions in Agribusiness Development and Trade'. Organized by the Department of Agricultural Economics in collaboration with the IDP Cell, College of Agriculture, Junagadh Agricultural University, Junagadh.	2020
2.	Swaminathan, B. and Tarpara, V. D. Training manual for students on 'Structural Equation Modelling using SPSS-AMOS,' Organized by Dept. of Agril. Economics, CoA, JAU, Junagadh	2020
3.	Swaminathan, B. Training Manual on "Development of Soft Skills for Entrepreneurship among Agri-Graduates" Organized by College of Agriculture, JAU, Junagadh in collaboration with ICAR-NAARM, Hyderabad	2023
4.	Savalia S. G., Swaminathan B. and Delvadiya N. A. A booklet on 'Forging Ahead: Inspiring stories from successful graduates and graduates-turned-entrepreneurs of Junagadh Agricultural University'. University Publication No.: 3-1-4, Office of Directorate of Research & PI (NAHEP-IDP), Junagadh Agricultural University, Junagadh	2023
5.	Swaminathan, B. and Tarpara, V. D. Training manual for students on 'Towards Vikshit Bharat@204: How FPO can transition agri graduates to become job creators?' Organized by Dept. of Agril. Economics, CoA, JAU, Junagadh	2024
Department of Agricultural Statistics		

Sr. No.	Details of Practical Manuals/ Research/Technical Bulletins Published	Publication Year
1.	Practical Manual of Information and Communication Technology (SSC 1.1). Page: 1-142	2021
2.	Practical Manual of Agricultural Informatics (Ag. Stat. 1.1) & Ag. Stat. 7.3 (Third Edition) Page: 1-190.	2023
3.	Statistical Methods (Ag. Stat. 2.2) prepared Page: 1-146.	2023
Department of Genetics and Plant Breeding		
1.	Kulkarni, G. U.; Mehta D. R.; Sapovadiya M. H. and Chaudhari S. B. Practical Manual of GPB 5.6 CROP IMPROVEMENT-I (*Kharif Crops*) for B.Sc. (Hons.) Agri. Students, Department of Genetics & Plant Breeding, JAU., Junagadh	2020
2.	Lata J. Raval; Hadvani Janki K. and Mehta D. R. Practical Manual of GPB 6.7 CROP IMPROVEMENT-II (*Rabi Crops*) for B.Sc. (Hons.) Agri. Students, Department of Genetics & Plant Breeding, JAU., Junagadh	2020
3.	Sapovadiya M. H.; Mehta D. R. and Rajiv Kumar. Practical Manual of GPB 2.2 FUNDAMENTALS OF GENETICS for B.Sc. (Hons.) Agri. Students, Department of Genetics & Plant Breeding, JAU., Junagadh	2022
Department of Biotechnology		
1.	A practical manual for BSC 3.6 Elementary Plant Biotechnology. Department of biotechnology, CoA, JAU, Junagadh (M. V. Parakhia)	2020
2.	A practical manual for Biotech 5.1 Introductory Biotechnology. Department of biotechnology, CoA, JAU, Junagadh (M. V. Parakhia)	2021
3.	A practical manual for Biotech5.1 Introductory Biotechnology. Department of biotechnology, CoA, JAU, Junagadh (A. G. Vala)	2021
Department of Animal Science		
1.	A practical manual for LPM-5.1 Ruminant Production and management. Department of Animal Science, CoA, JAU, Junagadh (N. K. Ribadiya)	2022
2.	A practical manual for LPM-6.2 Poultry Production and management. Department of Animal Science, CoA, JAU, Junagadh (N. K. Ribadiya)	2022
3.	A practical manual for AH-2.1 Livestock and Poultry Management. Department of Animal Science, CoA, JAU, Junagadh (B. D. Savaliya)	2025

6.4.6. SUPERVISION OF STUDENTS IN UG PROGRAM

As far as the supervision of UG students are concerned, faculty members are involved in the monitoring the progress of the students from their first semester onwards with the assignment of five to eight students under a faculty mentor by the college. The students are supervised on a continuous basis regarding their learning, extracurricular activities, exam related preparations, etc. The appointed faculty mentors also regularly visit students at their hostels to provide guidance and support to upkeep their physical and mental health. Special classes are also arranged for weaker students with the organization of mock tests in zero hours of the college to improve the overall grades of the students.

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*)

- Feedback is periodically obtained from students, parents, farmers, and industry representatives. The feedback indicates that academic activities are conducted as per schedule and that adequate facilities such as hostels, mess, gymnasium, sports ground, and Wi-Fi are provided for all-round student development. Parents visiting the hostels and the College have expressed satisfaction with the available infrastructure. Farmers from nearby villages, during interactions with students under the RAWE programme, actively discuss their field-level problems with faculty and students and report positive outcomes. Documentary evidences are provided in Annexure-6.4.7a.
- ***THE ACADEMIC COUNCIL:*** The Council is constituted by the University as per the prescribed schedule and comprises Deans of all faculties, nominated Professors and Research Scientists from different disciplines, along with eminent academicians. In addition to considering stakeholder feedback received through various channels, the Council reviews the recommendations of the Board of Studies, based on which the Academic Council takes decisions on academic matters for implementation at the University and College levels.
- ***STUDENT ADVISORY COMMITTEE:*** It is constituted at the College level, wherein four to five students are allotted to each faculty member. Educational and hostel-related issues are discussed regularly, and the authorities take appropriate action based on these discussions (Annexure-6.4.7b).
- ***STUDENT REPRESENTATIVE COUNCIL (SRC) AND STUDENT COUNSELLING AND PLACEMENT CELL (SCPC):*** They function at the College level by regularly interacting with students to discuss the teaching-learning process. Feedback is systematically collected during these interactions, reviewed and appropriate measures are implemented based on the feedback received.
- ***BOARD OF STUDIES:*** The Board of Studies of the Agriculture Faculty meets under the chairmanship of the Dean (Agriculture) to review academic matters, including feedback received from students and other stakeholders, and to recommend necessary improvements in curricula and teaching-learning processes.
- ***GROUP OF SUBJECTS:*** The Board of Studies for different subject groups meets under the convenership of the respective departmental heads. These meetings, attended by the Vice-Chancellor and the Director of Research, review and deliberate upon feedback received from students and other stakeholders to refine curricula and strengthen the teaching-learning process. (**Annexure-6.4.7c**)

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR THE LAST FIVE YEARS

Table 6.4.10: Details of student intake and attrition in the last five years

Name of the degree program	Year	Sanctioned strength	Actual intake	Attrition (%)
UG	2020-21	149	144	3.35
	2021-22	149	143	4.02
	2022-23	158	156	1.26
	2023-24	167	165	1.19
	2024-25	167	175*	0.00
***8 semester drop students were transferred from 5th Deans' Committee to 6th Deans' Committee with them clearing their backlogs**				

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

- Teaching is supported through PowerPoint presentations and audio-visual aids during lectures and practical sessions, and faculty-prepared lecture videos are uploaded on YouTube and the University AIMS portal.
- The College has a Smart Classroom with an interactive board, smart podium, LCD projector, computer, and LAN/Wi-Fi connectivity for teaching and practical sessions.
- The Departments of Biotechnology and Agricultural Statistics also have smart classrooms with interactive boards for teaching and conducting guest lectures.
- Three Digital Classrooms equipped with audio-visual and video-conferencing facilities are used by students and faculty, with hundreds of lectures given by the JAU faculty members uploaded to the ICAR portal.
- In addition, 25 department-level digital classrooms are equipped with boards, LCD projectors, computers, and LAN/Wi-Fi internet facilities.
- A digital library with computer and internet access is available, and round-the-clock internet facilities are provided in hostels.
- Students are also given exposure to use JAU iKrushi Sanhita, a mobile application developed by the University, besides encouraging them to regularly listen to Junagadh Janvani 91.2 FM for information on crop-specific advisory and strategies.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Date: 31.01.2026
Place: Junagadh

ACADEMIC ACTIVITIES

Theory Class in Progress for U.G. Students

Harvesting Carried Out by UG students

Mushroom Cultivation by UG students

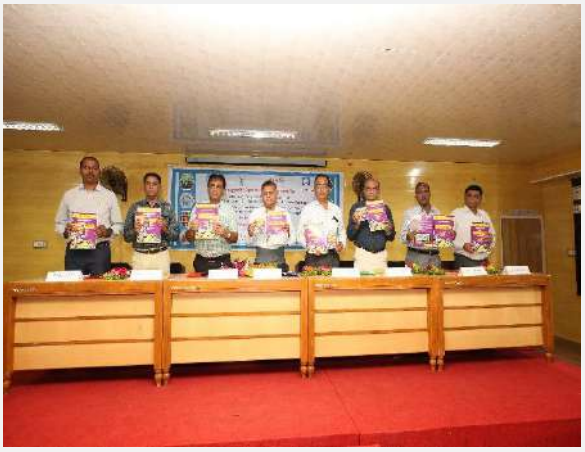
Roughing Activities by UG students in ELP

UG Students Working at Biotechnology lab

Inoculation Process by UG Students in ELP

NAHEP-IDP ACTIVITIES DURING THE ASSESSMENT PERIOD

Training Programme on 'Combating the Disease of Field and Horticultural Crops'



Vocational Training Programme on 'Medicinal and Arometic Plants'

Guest Lectures on 'Career and Entrepreneurial Opportunities for Agricultural Graduates in Commodity Markets'

One of the Succesful International Training Batch of Students of CoA, JAU, Junagadh under IDP-NAHEP

Vocational Training Programme on 'Soil Testing Lab as an Entrepreneurip/ Business Opportunity'

A Leadership Training Programme for UG Students in Progress under NAHEP-IDP

INFRASTRUCTURAL FACILITIES

Smart Classroom

UG Boys' Hostel

UG Girls' Hostel

UG Boys' Hostel

University Library

Indoor Sports Complex

SPORTS & CULTURAL ACTIVITIES

Inter-College Cultural Competition

Gujarat State Inter-Agricultural University Cultural & Literary Competition

Inter-College Kho-Kho Tournament

Inter-College Volleyball Tournament

Inter-College Kabaddi Tournament

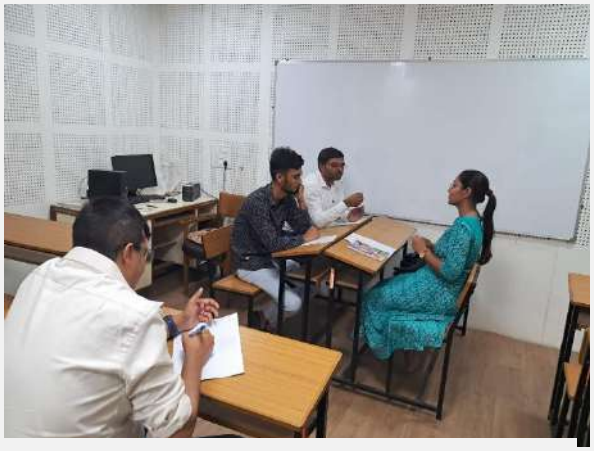
Inter-College Cricket Tournament

STUDENT COUNSELLING AND PLACEMENT CELL (SCPC)

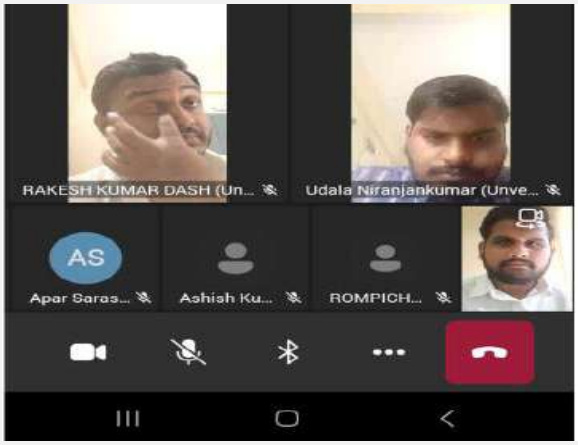
Personal Interview Round of Agro Vikas Pvt. Ltd., Gandhinagar (06/02/2023)

Orientation session of GSFC Agrotech Ltd., Vadodara organized by SCPC, CoA, JAU, Junagadh (13/04/2024)

An interactive session with the Placement Officials from Gharda Chemicals Ltd., Mumbai ((19/04/2022)



Group discussion round of the shortlisted students for Viterra India Pvt. Ltd. Mumbai (31/05/2024)



Online interview session of PI Industries, Gurgaon (18-07-2025)

Online test for executive positions of Pratik Industries, Maharashtra (12-02-2025)

6.4:

Self-Study Report for Master's Degree Programmes

6.4:

Self-Study Report for M. Sc. (Agri.) in Agronomy

6.4. SELF-STUDY REPORT FOR M.SC. (AGRI.) IN AGRONOMY AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PG PROGRAM

The Department of Agronomy was started with the establishment of College of Agriculture, Junagadh in 1960. At that time, about 100 ha donated land was assigned to the Department of Agronomy. The land was developed and divided into blocks with roads, irrigation, drainage, buildings, and sheds etc. facilities. After release of first UG students' batch, the PG program was started in Agronomy.

Department of Agronomy, College of Agriculture, JAU, Junagadh

STEPPING-STONES OF THE DEPARTMENT

- The Department of Agronomy was started with the establishment of College of Agriculture, Junagadh in 1960.
- The PG program in Agronomy was started in 1964.
- The Ph.D. program in Agronomy was started in 1966.
- The affiliation of the college was transferred to Saurashtra University, Rajkot in 1968.
- The College achieved a major milestone with it joining to the new-born Gujarat Agricultural University in 1972.
- The education medium was in vernacular language (Gujarati) during initial years of the College and was changed to English medium from the first semester of academic year 1977.
- The College came under the jurisdiction of Junagadh Agricultural University with the quadfurcation of the erstwhile Gujarat Agricultural University into four new Agricultural Universities from May 01, 2004.

MISSION, GOALS AND OBJECTIVES

MISSION: To provide education as well as practical and skill-oriented training to the students in Agronomy discipline.

GOAL: To develop agricultural professionals with excellence in fundamental knowledge and field experience in agronomy discipline.

OBJECTIVES:

- To impart UG and PG education in Agronomy discipline.
- To provide practical field training to UG and PG students.
- To avail farm facilities for research to PG students of the college.
- To conduct research in agronomic aspects.
- To impart training to farmers, line departments, NGOs etc.

ACCOMPLISHMENTS / ACHIEVEMENTS OF LAST FIVE YEARS:

EXTERNAL FUNDED PROJECTS IN THE DEPARTMENT OF AGRONOMY

1. Evaluation of bio-efficacy and phytotoxicity of BASTA 20 SL (Glufosinate Ammonium SL) against weeds in cotton and its residual effect on succeeding crop (other agency project)
2. Evaluation of pre-mixture herbicide, RIL-202/F1 (35.9% SE) for its efficacy, phytotoxicity & residue against important weeds in groundnut as pre-emergent application (other agency project)
3. Evaluation of bioefficacy of BASTA 20 SL (Glufosinate Ammonium SL) against weeds in non-crop area (other agency project)
4. Evaluation of bio-efficacy and phytotoxicity of BASTA 20 SL (Glufosinate Ammonium SL) against weeds in cotton and its residual effect on succeeding crop (other agency project)
5. Bio-efficacy and Phytotoxicity Evaluation of Coded Herbicide CH-2414 against Broad Spectrum Weed Management with Comparison to Standard Treatment on Wheat Crop (Other agency project)
6. Bio-efficacy and Phytotoxicity Evaluation of Coded Herbicide CH-2021 against Broad Spectrum Weed Management with Comparison to Standard Treatment on Wheat Crop (Other agency project)
7. Evaluation of the Bio-efficacy, Phytotoxicity and Residue Trials of CIX-404 + Surfactant in Groundnut (Other agency project)
8. Evaluation of the Bio-efficacy, Phytotoxicity and Residue Trials of CIX-404 + Surfactant in Groundnut (Other agency project)
9. Bio-efficacy and Phytotoxicity Evaluation of Coded Herbicide CH-2414 against Broad Spectrum Weed Management with Comparison to Standard Treatment on Wheat Crop (Other agency project)

10. Bio-efficacy and Phytotoxicity Evaluation of Coded Herbicide CH-2021 against Broad Spectrum Weed Management with Comparison to Standard Treatment on Wheat Crop (Other agency project)
11. Evaluation of the Bio-efficacy, Phytotoxicity and Residue Trials of CIX-404 + Surfactant in Groundnut (Other agency project)
12. Evaluation of bio-efficacy and phytotoxicity of GOD-H007 64.5% SG against inter row weed control in Cotton and its effects on succeeding crops (Other agency project)
13. Evaluation of bio-efficacy and phytotoxicity of Maxxcott ZC against weeds in groundnut crop and its carryover effects on succeeding crops (Other agency project)
14. Evaluation of bio-efficacy and phytotoxicity of GOD-H007 64.5% SG (herbicide) against inter row weed control in Cotton and its effects on succeeding crops (Other agency project).
15. Evaluation of bio-efficacy and phytotoxicity of Maxxcott ZC against weeds in groundnut crop and its carryover effects on succeeding crops (Other agency project).
16. Studies on bio-efficacy of GOD-H011 against weed flora, its phytotoxic effect on cotton plant and carryover and residual effects of GOD-H011 on succeeding crops (Other agency project).
17. Studies on bio-efficacy of GOD-H011 against weed flora, its phytotoxic effect on guar plant and carryover and residual effects of GOD-H011 on succeeding crops (Other agency project).
18. Studies on bio-efficacy of GOD-H012 against weed flora, its phytotoxic effect on cotton plant and carryover and residual effects of GOD-H012 on succeeding crops (Other agency project).
19. Studies on bio-efficacy of GOD-H013 against weed flora, its phytotoxic effect on cotton plant and carryover and residual effects of GOD-H013 on succeeding crops (Other agency project).

RECOMMENDATIONS FROM THE DEPARTMENT OF AGRONOMY FOR FARMERS

Year: 2020-21

1.	Evaluation of various green manure crops under different time of sowing
The farmers of South Saurashtra Agro-climatic Zone interested in green manuring are advised to sow sunhemp or dhaincha during June-July and incorporate in soil at initiation of flowering for adding higher quantity of green biomass, N, P and K in soil.	
2.	Weed management in coriander
The farmers of Saurashtra region growing coriander are advised to keep weed free condition up to 45 DAS by hand weeding as and when required for effective weed management and to obtain higher seed yield and net realization.	
3.	Weed management in chickpea
The farmers of Saurashtra region growing irrigated chickpea are advised to keep weed free condition up to 45 DAS by interculturing and hand weeding as and when required for effective weed management and to obtain higher seed yield and net realization.	

4.	Weed management in summer guar
The farmers of Saurashtra region growing summer guar are advised to keep weed free condition up to 45 DAS by interculturing and hand weeding as and when required for effective weed management and to obtain higher seed yield and net realization.	
5.	Integrated nutrient management in soybean
The farmers of South Saurashtra Agro-climatic Zone growing *Kharif* soybean are advised to apply either Biocompost 2 t/ha + FYM 2.5 t/ha + *Rhizobium* 2 L/ha + PSB 2 L/ha or Biocompost 4 t/ha or FYM 5 t/ha as soil application to obtain higher yield and net realization along with maintenance of soil fertility.	
6.	Weed management in green gram
The farmers of South Saurashtra Agro-climatic Zone growing *Kharif* green gram are advised to do interculturing and hand weeding at 20 and 40 days after sowing for effective weed management and to obtain higher seed yield and net realization.	
7.	Weed management in black gram
The farmers of South Saurashtra Agro-climatic Zone growing *Kharif* black gram are advised to do interculturing and hand weeding at 20 and 40 days after sowing for effective weed management and to obtain higher seed yield and net realization.	
8.	Effect of tillage and post-emergence herbicides on growth and yield of soybean
The farmers of South Saurashtra Agro-climatic Zone growing *Kharif* soybean are advised to prepare the field by rotavator and apply pendimethalin 0.9 kg/ha (30% EC @ 60 ml/10 L water) as pre-emergence *fb* pre-mix sodium acifluorfen + clodinafop propargyl 245 g/ha (16.5% + 8% EC @ 20 ml/10 L water) as post-emergence at 30 DAS for effective weed management and to obtain higher seed yield and net realization.	

Year: 2021-22

1.	Development and evaluation of microbial consortia enriched vermicompost formulation in wheat
The farmers of South Saurashtra Agro-climatic Zone growing wheat organically are recommended to apply FYM 5 t/ha along with vermicompost 2 t/ha enriched with *Azotobacter* (2 L), PSB (2 L), KSB (2 L), *Trichoderma harzianum* (3 kg), *Pseudomonas fluorescens* (3 L) and *Beauveria bassiana* (3 kg) to obtain higher yield and net return as well as to improve soil health. For enrichment of vermicompost, *Azotobacter* (2 L), PSB (2 L), KSB (2 L), *Trichoderma harzianum* (3 kg), *Pseudomonas fluorescens* (3 L) and *Beauveria bassiana* (3 kg) should be mixed with vermicompost 2 tonne with little water sprinkled (Moisture content 20%) and apply 10 days after incubation in the field.	
2.	Evaluation of microbial consortia enriched vermicompost in *Kharif* groundnut
The farmers of South Saurashtra Agro-climatic zone growing Kharif groundnut organically are recommended to apply FYM 5 t/ha along with vermicompost 2 t/ha enriched with Rhizobium (2 L), PSB (2 L), KSB (2 L), Trichoderma harzianum (3 kg), Pseudomonas fluorescens (3 L) and Beauveria bassiana (3 kg) to obtain higher yield and net return as well as to improve soil health. For enrichment of vermicompost, Rhizobium (2 L), PSB (2 L), KSB (2 L), Trichoderma harzianum (3 kg), Pseudomonas fluorescens (3 L) and Beauveria bassiana (3 kg) should be mixed with vermicompost 2 tonne with little water sprinkled (Moisture content 20%) and apply 10 days after incubation in the field.	

3.	Response of *Rabi* castor based intercropping systems to drip irrigation

The farmers of South Saurashtra Agro-climatic Zone growing *Rabi* castor based intercropping system are recommended to irrigate the castor and intercrops through drip irrigation at 0.8 PEF to obtain higher castor seed equivalent yield and net realization along with higher WUE. Farmers are also recommended to sow gram as an intercrop with *Rabi* castor sown at 180 cm spacing in 1:3 row proportion to obtain higher castor seed equivalent yield and net realization.

System details:

Details	Operating Time	
	Month	Minutes
Lateral spacing: 60 cm	November	270
Dripper spacing: 40 cm	December	
Dripper discharge rate: 4 lph	January	216
Operating pressure: 1.2 kg/cm^2	February	
Operating frequency: Alternate day	March	300

4.	Evaluation of land configuration and intercropping system in Bt. Cotton

The farmers of South Saurashtra Agro-climatic Zone adopting Bt. Cotton based intercropping system are recommended to sow cotton under broad bed and furrow system (Broad bed 210 cm wide, furrow 30 cm wide & 20 cm deep) to obtain higher seed cotton equivalent yield and net return along with soil moisture conservation. The farmers are also recommended to sow cotton + green gram or black gram in 1:2 row proportion for getting higher seed cotton equivalent yield and net realization.

Year: 2022-23

1.	Effect of NPK levels on growth, yield and nutrient uptake by isabgol

The farmers of South Saurashtra Agro-climatic Zone growing isabgol are recommended to apply 30 kg nitrogen, 30 kg phosphorus and 30 kg potash/ha along with FYM 5 t/ha at the time of sowing and remaining 30 kg N at as top dressing at 45 DAS for getting higher seed yield and net realization.

2.	Weed Management in *Kharif* Maize

The farmers of south Saurashtra Agro-climatic zone growing *Kharif* maize are recommended to apply atrazine 500 g/ha (50% WP 20 ml/10 L water) as pre-emergence *fb* Topramezone 25 g/ha (33.6% SC 1.488 g/10 L water) as post-emergence at 30 DAS **OR**

Atrazine 500 g/ha (50% WP 20 ml/10 L water) as pre-emergence *fb* Tank-mix halosulfuron 30 g/ha (75% WG 0.8 g/10 L water) + Topramezone 12.5 g/ha (33.6% SC 0.744 g/10 L water) as post-emergence at 30 DAS (T7) **OR**

HW at 15 and 30 DAS for effective weed management and achieving higher grain yield and net realization.

For effective management of purple nutsedge, farmers of south Saurashtra Agro-climatic zone growing *Kharif* maize are recommended to apply atrazine 500 g/ha (50% WP 20 ml/10 L water) as pre-emergence *fb* halosulfuron-methyl 60 g/ha (75% WG 1.6 g/10 L

water) as post-emergence at 30 DAS OR Atrazine 500 g/ha (50% WP 20 ml/10 L water) as pre-emergence *fb* Tank-mix halosulfuron 30 g/ha (75% WG 0.8 g/10 L water) + Topramezone 12.5 g/ha (33.6% SC 0.744 g/10 L water) as post-emergence at 30 DAS OR HW at 15 and 30 DAS.

Year: 2023-24

1.	**Evaluation of some cow-based bio-enhancers and botanicals for organic cultivation of *Rabi* onion**

The farmers of South Saurashtra Agro-climatic Zone growing *Rabi* onion under organic farming are recommended to apply FYM 10 t/ha to obtain higher yield and net realization.

The farmers who are interested in cow-based farming are recommended to apply FYM 5 t/ha along with *Panchagavya* 3 % spray at 30, 45 and 60 DAS OR FYM 5 t/ha along with *Jivamrut* 500 l/ha with irrigation at sowing, 30 and 45 DAS.

Year: 2024-25

1.	**Real time nitrogen fertilization using leaf colour chart in wheat**

The farmers of South Saurashtra Agro-climatic Zone growing wheat are recommended to apply either 60 kg N/ha as basal + 30 kg N/ha when LCC ≤ 3 + 30 kg N/ha when LCC ≤ 3 or 40 kg N/ha as basal + 40 kg N/ha when LCC ≤ 3 + 40 kg N/ha when LCC ≤ 3 besides FYM 5 t/ha for securing higher yield and net realization. Take LCC observation at weekly interval for LCC value.

2.	**Effect of drip irrigation schedules and plastic mulch on yield of *Rabi* sweet corn**

The farmers of South Saurashtra Agro-climatic Zone growing *Rabi* sweetcorn sown at 40-80-40 cm x 20 cm in paired row planting are recommended to irrigate the crop with surface irrigation at 1.0 IW/CPE with wheat straw mulch (5 t/ha) (15-20 DAS) for securing higher yield and net realization.

3.	**Effect of levels and schedules of nitrogen fertigation on growth and yield of summer sesame**

The farmers of South Saurashtra Agro-climatic zone growing summer sesame are recommended to apply basal dose of fertilizer (10-25-0 kg N-P_2O_5-K_2O/ha) at time of sowing and then N fertigation with 50 kg/ha in water soluble form through drip fertigation (one week after sowing) in six equal splits at 10 days interval for getting higher yield and net returns.

Particulars	**Details**	**Particulars**	**Details**
Lateral Spacing	90 cm	Opereting pressure	1.2 kg/cm^2
Dripper Spacing	60 cm	Opereting frequency	Alternate day
Dripper discharge rate	4 lit./hr.	Irrigation schedule	1.0 PPF

4.	**Effect of NPKS levels on growth, yield and nutrient uptake by *Kharif* soybean**

The farmers of South Saurashtra Agro-climatic Zone growing *Kharif* soybean are recommended to apply 30 kg nitrogen, 60 kg phosphorus and 30 kg sulphur at the time of sowing besides FYM 5 t/ha for getting higher seed yield and net realization.

5.	Bio-efficacy evaluation of pre-mix herbicides in summer soybean

The farmers of south Saurashtra Agro-climatic zone growing summer soybean are recommended to apply pendimethalin 30% EC (60 ml/10 L water) 900 g/ha as pre-emergence *fb* pre-mix propaquizafop 2.5% + imazethapyr 3.75% ME (40 ml/10 L water) 50+75 g/ha as post-emergence at 30 DAS **OR** pre-mix pendimethalin 30%+ imazethapyr 2% EC (50 ml/10 L water) 750+50 g/ha as pre-emergence *fb* pre-mix fluazifop-p-butyl 11.1%+ fomesafen 11.1% SL (20.3 ml/10 L water) 125+125 g/ha as post-emergence at 30 DAS **OR** pre-mix pendimethalin 30%+ imazethapyr 2% EC (50 ml/10 L water) 750+50 g/ha as pre-emergence *fb* IC & HW at 30 DAS **OR** pendimethalin 30% EC (60 ml/10 L water) 900 g/ha as pre-emergence *fb* pre-mix imazamox 35% + imazethapyr 35% WG (2 g/10 L water) 35+35 g/ha as post-emergence at 30 DAS for effective weed management and achieving higher seed yield and net realization.

6.	Dynamics of soil weed seedbank in *Kharif* groundnut

The farmers of south Saurashtra Agro-climatic zone growing *Kharif* groundnut are recommended to use following practices for effective management of wheat residue, weeds, better management and reduction of soil weed seedbank along with profitable cultivation of groundnut and for sustaining of soil health;

Wheat residue incorporation *fb* reduced tillage (Rotavator) and application of waste decomposer 75 ml/ha with pre-sowing irrigation and *Trichoderma viride* 5 kg/ha + 20 kg N/ha and suicidal germination (Application of Ethylene 2 L/ha + KNO_3 2 kg/ha with pre-sowing irrigation *fb* Killing the weed flush by subsequent light harrowing) along with Inter-culturing and hand weeding at 15, 30 & 45 DAS according to availability of labourers.

7.	Bio-efficacy evaluation of different herbicides in *Bt* cotton

The farmers of south Saurashtra Agro-climatic zone growing *Bt*. cotton are recommended to do IC & HW at 20, 40 and 60 DAS OR apply tank-mix pendimethalin 30% + pyrithiobac sodium 10% EC (30 + 7.5 ml/10 of water) 450 +37.5 g/ha as pre-emergence *fb* pre-mix pyrithiobac sodium 6% + quizalofop-ethyl 4% EC (25 ml/10 of water) 75+50 g/ha as post-emergence at 30 DAS *fb* IC & HW at 60 DAS OR tank-mix pendimethalin 30% + pyrithiobac sodium 10% EC (30+7.5 ml/10 of water) 450 + 37.5 g/ha as pre-emergence *fb* IC & HW at 30 & 60 DAS OR pendimethalin 30% EC (60 ml/10 of water) 900 g/ha as pre-emergence *fb* IC & HW at 30 & 60 DAS as per availability of labours for effective weed management and achieving higher seed cotton yield and net realization.

8.	Response of castor to subsoiling and furrow irrigation

The farmers of South Saurashtra Agro-climatic zone are recommended to sow the castor in in-row subsoiling (by subsoiler at 45 cm depth) prepared before sowing and irrigate the crop through furrow irrigation at 15 days interval (0.8 IW/CPE ratio) after cessation of monsoon for getting higher yield and net realization.

RECOMMENDATIONS FROM THE DEPARTMENT OF AGRONOMY FOR SCIENTIFIC COMMUNITY

Year: 2020-21

1.	Weed management in coriander
Under Saurashtra region, effective weed management along with higher seed yield of coriander can be achieved by application of tank-mix pendimethalin 450 g/ha + oxadiargyl 30 g/ha as pre-emergence *fb* HW at 30 DAS or paraquat 500 g/ha as early post-emergence at 7 DAS *fb* HW at 30 DAS or pendimethalin 750 g/ha as pre-emergence *fb* HW at 30 DAS.	
2.	**Weed management in chickpea**
Under Saurashtra region, effective weed management along with higher seed yield of chickpea and net return can be achieved by application of pendimethalin 750 g/ha as pre-emergence *fb* IC & HW at 30 DAS or pre-mix pendimethalin + imazethapyr 750 g/ha as pre-emergence *fb* IC & HW at 30 DAS.	
3.	**Weed management in summer guar**
Under Saurashtra region, effective weed management along with higher seed yield of guar and net return can be achieved by application of tank-mix pendimethalin 450 g/ha + oxadiargyl 30 g/ha as pre-emergence *fb* IC & HW at 30 DAS or pre-mix pendimethalin + imazethapyr 750 g/ha as pre-emergence *fb* IC & HW at 30 DAS.	
4.	**Weed management in green gram**
Under South Saurashtra Agro-climatic Zone, effective weed management along with higher seed yield of *Kharif* green gram and net return can be achieved by application of pre-mix pendimethalin + imazethapyr 750 g/ha as pre-emergence *fb* IC & HW at 40 DAS or pendimethalin 900 g/ha as pre-emergence *fb* IC & HW at 40 DAS.	
5.	**Weed management in black gram**
Under South Saurashtra Agro-climatic Zone, effective weed management along with higher seed yield of *Kharif* black gram and net return can be achieved by application of pre-mix pendimethalin + imazethapyr 750 g/ha as pre-emergence *fb* IC & HW at 40 DAS.	

Year: 2023-24

1.	Calibration and validation of CERES model (DSSAT 4.6) for different cultivars of wheat under different sowing time

CERES-Wheat model of DSSAT family was calibrated and validated for GW 499, GW 451 and GJW 463 cultivars of wheat. The model simulations of grain yield of wheat were validated with less than 10 percent error. The genetic coefficients are recommended for use in optimization for crop management and yield prediction of wheat crop as under

Symbol	Description	GW 499	GW 451	GJW 463
PHINT	Phyllochron interval (^{0}days)	73.4	71.2	72.8
P1V	Vernalization coefficient	0.50	0.40	0.50
P1D	Photoperiodism coefficient	1.80	1.90	2.00
P5	Grain filling duration coefficient	3.25	3.15	3.10
G1	Kernel number coefficient	5.55	5.60	5.50
G2	Kernel weight coefficient	4.20	4.35	4.25
G3	Spike number coefficient	5.25	5.35	5.30

DSSAT model can be used for predicting wheat grain yield and 49tat re49ical events under various agro-climatic conditions. The model may also be used to improve and evaluate the current practices of wheat growth management to increase the crop production.

2.	**Calibration and validation of CERES model (DSSAT 4.6) for different cultivars of wheat under different sowing time**

It is informed to the scientific community that wheat crop under South Saurasthra Agro-climatic condition can be sown around 15th November (Minimum temperature 15 to 17 0C and Maximum temperature 32 to 34 0C) and prefer varieties GW 499, GW 451 and GJW 463 for getting higher yield and net return.

3.	**Dynamics of weed flora in major *Rabi* crops**

- It is informed to scientific community that information on weed dynamics in wheat, chickpea and coriander during *Rabi* season is as below:
- Total sixteen existing weed species of eleven different families were identified and observed during *Rabi* season. From total sixteen species of weeds, the families constituted as Amaranthaceae (02), Asteraceae (03), Chenopodiaceae (01), Cyperaceae (01), Euphorbiaceae (01), Leguminosae (01), Liliaceae (01), Poaceae (03), Portulacaceae (01), Solanaceae (01) and Tiliaceae (01).
- Total weeds in floristic composition were *Cyperus rotundus*, *Asphodelus tenuifolius*, *Echinochloa colona*, *Eluropus villosus*, *Dactyloctenium aegyptium*, *Digera arvensis*, Eclipta *alba*, *Euphorbia hirta*, *Parthenium hysterophorus*, *Indigofera glandulosa*, *Portulaca oleracea*, *Corchorus olitorious*, *Tridax procumbens*, *Physalis minima*, *Amaranthus spinosus* and *Chenopodium album*.
- Highest weeds were observed of families; *Asteraceae* ≥ *Poaceae* > *Amaranthaceae*.
- *Cyperus rotundus*, *Asphodelus tenuifolius*, *Chenopodium album*, *Echinocloa colona*, *Physalis minima*, *Digera arvensis*, *Eluropus vilosus*, *Indigofera glandulosa*, *Eclipta alba* and *Euphorbia hirta* were found to be the most common weed species in *Rabi* season.
- The most dominant succession of *Cyperus rotundus*, *Asphodelus tenuifolius* and *Echinochloa colona* and *Digera arvensis* were noted throughout season.
- *Echinochloa colona* with wheat, *Asphodelus tenuifolius*, *Indigofera glandulosa* and *Physalis minima* with chickpea and coriander; *Cyperus rotundus* with all crops throughout *Rabi* season were associated than other weed species.
- Dry weight of weeds increased over time. The lowest weed dry weight was registered in wheat, followed by coriander and the highest weed dry weight at all the stages was recorded in chickpea.
- Among the crops, monocots > dicots > sedges in wheat, monocots > sedges > dicots were observed in chickpea and coriander. Among weed management practices, monocots > dicots > sedges in unweeded, monocots in weed free, monocots > sedges in HW and monocots > sedges > dicots order in herbicidal treatment was observed.
- The weed late to emerge was observed *i.e.*, *Eluropus villosus* up to 15 DAS.
- Uprooting of weeds at 15 days interval decreased periodical weed dry weight, followed by two hand weeding and application of pre- & post-emergence herbicides. Whereas, the undisturbed weedy condition progressively increased weed dry weight.

- Number of weeds decreased with time. The weed count at all the stages was more or less same in wheat, chickpea and coriander.
- Removal of existing weeds put forth the emergence of new weeds. HW at 15 & 30 DAS and application of pre- & post-emergence herbicides were almost equally effective in suppressing weed count. Whereas, undisturbed condition reduced weed count over time, but had the highest weed count at all the stages as compared to weed control methods.
- The most densely weeds *viz.*, *Asphodelus tenuifolius, Echinochloa colona* and *Cyperus rotundus* and least densely were *Tridax procumbens, Chenopodium album* and *Corchorus olitorious*. Removal of weeds at 15 days interval increased yields of wheat, chickpea and coriander. Manual weeding and herbicidal weed control were found equally effective in increasing crop yield.
- Weed species vary according to crop and weed management practices.

4.	**Dynamics of weed flora in major *Kharif* crops**

- The scientific community is informed that information on weed dynamics in groundnut, soybean and pearl millet during *Kharif* season is as below:
- From total nineteen weeds species, families constituted as Aizoaceae, Amaranthaceae, Asteraceae, Commelinaceae, Cyperaceae, Euphorbiaceae, Fabaceae, Lamiaceae, Lythraceae, Poaceae, Portulacaceae, Solanaceae and Tiliaceae. Highest weeds observed of families; Poaceae > Asteraceae > Euphorbiaceae.
- Total weeds in floristic composition were *Cyperus rotundus, Echinochloa colona, Eluropus villosus, Dactyloctenium aegyptium, Digitaria sanguinalis; Digera arvensis, Eclipta alba, Euphorbia hirta, Indigofera glandulosa, Tridax procumbens, Leucas aspera, Phyllanthus niruri, Corchorus olitorious, Commelina benghalensis, Portulaca oleracea, Ammannia baccifera, Parthenium hysterophorus, Physalis minima and Trianthema portulacastrum.*
- The most dominant succession of *Cyperus rotundus, Echinochloa colona, Commelina benghalensis, Leucas aspera* and *Digera arvensis* were noted throughout season.
- *Echinochloa colona* and *Eluropus villosus* with pearl millet, *Indigofera glandulosa* with groundnut and soybean; *Cyperus rotundus* throughout the *Kharif* season were associated.
- Among the crops, monocots > dicots > sedges in pearl millet, dicots > sedges > monocots were observed in soybean and groundnut. Among weed management practices, dicots > monocots > sedges in unweeded, monocots in weed free and HW and monocots > sedges > dicots order in herbicidal treatment was observed.
- The herbicidal treatments have lowest monocot weeds up to 30 DAS.
- Dry weight of weeds increased over time. Uprooting of weeds at 15 days interval decreased periodical weed dry weight, followed by hand weeding and herbicidal treatments. Whereas, the undisturbed weedy condition progressively increased weed dry weight.
- Number of weeds decreased with time. Weed species vary according periodical stages, crops and weed management practices.
- The most densely weeds *viz.*, *Echinochloa colona and Cyperus rotundus* and least densely were *Tridax procumbens, Parthenium hysterophorus* and *Trianthema portulacastrum.*

- The weeds late to emerge were *Digitaria sanguinalis* up to 15 DAS, *Eluropus villosus* up to 30 DAS and *Ammannia baccifera* up to 45 DAS.
- Removal of existing weeds put forth the emergence of new weeds specially weed *i.e.*, *Ammannia baccifera* and *Cyperus rotundus*.
- *Ammannia baccifera* found dominating around 45 DAS in weed free condition when the rainfall amount was more.
- The *Phyllanthus niruri* dominant only in earlier season, hence it has completed life cycle within 30-45 DAS.

Year: 2024-25

1.	**Dynamics and depletion of soil weed seedbank in wheat**
It is informed to scientific community that for effective weed management along with weed seedbank depletion and achieving higher grain yield of wheat, apply ethylene 2 L/ha + KNO_3 2 kg/ha with pre-sowing irrigation as suicidal germination *fb* killing the weed flush by subsequent harrowing *fb* HW at 30 DAS. Further, the seed physical extraction method is more precise over the seed emergence method for proper estimation of soil weed seedbank.	

Table 6.4.1 PG: Awards/recognition received by Faculty (Department of Agronomy)

Sr. No	Name of Faculty	Name of Award	Authority	Year
1.	Dr. R. K. Mathukia	International Scientist Life Time Achievement Award	VDGOOD Professional Association, Villupuram	2020
2.	Dr. B. S. Gohil	GAAS Best Ph.D. Thesis Award	GAAS, Ahmedabad	2020
3.	Dr. B. S. Gohil	GAAS Best Presentation Award	GAAS, Ahmedabad	2020
4.	Dr. P. J. Gohil	GAAS Award	GAAS, Ahmedabad	2023
5.	Dr. B. S. Gohil	ISWS Young Weed Scientist Award	ISWS, Jabalpur	2024
6.	Dr. B. S. Gohil	Young Scientist Award	SARSD, New Delhi	2024
7.	Dr. B. S. Gohil	Young Agronomist Award	GNFSU, Halol	2024

Table 6.4.2 PG: Awards received by PG Degree students (Department of Agronomy)

Sr. No.	Name of Student	Name of Award	Year
1	Ms. S. R. Lalani	Best Oral Presentation in International webinar	2020
2	Ms. S. R. Lalani	Best Oral Presentation in International e-symposium	2020
3	Ms. S. R. Lalani	Best Article Award	2020
4	Mr. V.V. Rupareliya	Chancellor Gold Medal for the Best Overall Performance in Doctoral Degree	2021
5	Mr. K. V. Hirapara	Chancellor's Gold Medal in Doctoral Degree	2022
6	Mr. K. V. Hirapara	Gold-Plated Silver Medal in Master's Degree	2022
7.	Mr. Muchhadiya R. M.	Best Oral Presentation in National Symposium	2023
8.	Ms. Bhatt Kajol	Gold-Plated Silver Medal for Highest GPA	2023
9.	Ms. K. B. Sangani	Gold-Plated Silver Medal for Highest GPA	2024

Table 6.4.3 PG: Year-wise NET Qualified PG/Ph.D. students in Agronomy

Sr. No.	Year	No. of students qualified NET
1.	2020-21	23
2.	2021-22	-
3.	2022-23	11
4.	2023-24	11
5.	2024-25	-
	Total	55

Table 6.4.4 PG: Research publications of faculty members (Department of Agronomy)

Sr. No.	Particular	Number of publications during Last Five Years
1.	National/International Journal	
	6.0 and above	07
	4.0-6.0	45
	< 4.0	02
2.	Books Published/Book Chapter	28
3.	Practical Manuals	07

Table 6.4.5 PG: Seminar / workshop / symposia organized by the Department of Agronomy during 2020-21 to 2025-26

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2020-21				
1.	Vocational Training Programme on "Integrated Nutrient Management"	08/02/2021 to 12/02/2021	JAU, Junagadh	78
2022-23				
1.	Training Programme on Integrated Farming System for Sustainable Agriculture	26/06/2023 to 30/06/2023	JAU, Junagadh	50
2023-24				
1.	Workshop on Battling the Invasive: *Parthenium* Management from Awareness to Action	17/08/2024	JAU, Junagadh	150
2.	Hands on training on how to take daily precision meteorological observations	06/08/2024	JAU, Junagadh	28

6.4.2. FACULTY STRENGTH (AS OF 31-07-2025)

The Department has sufficient sanctioned and filled up faculty position. Besides this, teaching and guiding the PG students are also given to the faculties from research stations and other offices.

Table 6.4.6 PG: Details of faculty strength (Department of Agronomy)

Sr. No	Sanctioned Faculty	Faculty in place	Vacant position	Faculty recommended by the ICAR	Faculty sanctioned by GoG
1	Professor	01	00	Not Recommended by ICAR	01
2	Associate Professor	01	03		04
3	Assistant Professor	05	01		06
Total		07	04		11

6.4.3. TECHNICAL/SUPPORTING STAFF (AS OF 31-07-2025)

The Department has sufficient sanctioned and filled up supporting staff position. Moreover, technical and administrative staff are outsourced as per the need.

Table 6.4.7 PG: Details of technical/supporting staff strength as of 31.07.2025 (Department of Agronomy)

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Recommended by the ICAR	Staff sanctioned by the GoG
1	Technical/Supporting staff	14	09	Not Recommended by ICAR	23
2	Administrative staff	04	01		05
Total		18	10		28

6.4.4. CLASSROOMS AND LABORATORIES

a) Number of classrooms

There are two lecture halls for conducting theory classes and one conference hall for seminar/presentation purpose in the Department and one practical classroom for conducting practical at the Instructional Farm.

Table 6.4.8 PG: Classroom infrastructure in the Department of Agronomy

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
1	Conference Hall	43.87	30	Teaching, seminar, meeting	PG
2	Lecture Hall-1	57.53	30	Teaching	PG
3	Lecture Hall-2	56.77	30	Teaching	PG
4	Practical Classroom	362.70	70	Practical	UG & PG

Lecture Hall

Conference Hall

b) Functional PG laboratories

This Department has one laboratory for chemical analysis of soil and plant samples and museum for exhibition purpose. The Agro Meteorology Cell has one laboratory having meteorological instruments and models. The laboratories of Soil Science and Agril. Chemistry Department and Central Instrumentation Laboratory are also being utilized for soil and plant analysis purpose.

Table 6.4.9 PG: PG laboratories established in the Department of Agronomy

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
1	Lab-1	63.33	15	Research	PG
2	Museum	63.33	30	Exhibition	PG

Museum

c) List of most important equipment available

The laboratory consisting all the required equipments/instruments, some costly equipments are indicated in the table below.

Table 6.4.10 PG: List of major equipment available in the Department of Agronomy

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in lakh)
1	Lab-1	Electronic Balance	1	1.46
2	Lab-1	SPAD Meter	1	2.36
3	Lab-1	Infrared Thermometer	1	2.95
4.	Lab-1	GreenSeeker	1	0.62

Green Seeker	**SPAD Meter**

d) Farm facility

This Department has full-fledged and well-developed farm equipped with buildings, roads, farm protection wall/fencing, electricity, tractors, farm implements, threshers, threshing yards, sheds, stores/godowns, irrigation & drainage facility, *etc*.

Table 6.4.11 PG: Farm Facilities available with the Department of Agronomy

Sr. No.	Name of Farm/ Cafeteria	Area (ha)	No. of Experiments continue		Details of activities
			Departmental	Students	
1	Instructional Farm	38.23	8	58	Practical crop production, ELP and PG experiments
2	Model Organic Farm	8.75	3	4	Training and research on organic farming and organically certified seed production
3	Micro irrigation Scheme	4.00	2	8	Research on micro irrigation
4	Weed Control Scheme	8.00	4	2	Weed control research and seed production
5	Mechanized Commercial Farm	20.28	1	0	Research on tillage technology and seed production
6	Seed Farm	6.82	0	0	Seed production
7	Farming System Research Centre	6.00	2	0	Research on integrated farming and seed production
8	Crop Cafeteria	1.00	-	-	Season-wise growing of important field crops

Krushigadh

Crop Cafeteria

Weed Control Research Farm

Mechanised Commercial Farm

Farming System Research Farm

Vermicomposting Unit

e) Theory and practical batches for the PG program (2024-2025)

The theory and practical classes of PG students who are majoring and minoring agronomy subject are conducted in one batch every semester.

Table 6.4.12 PG: Theory and practical batches for the PG program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semester	Batch of students in theory class		Batch of students in practical class	
			Batch	No. of students	Batch	No. of students
1	M.Sc. (Agri.) in Agronomy	Odd	1	19	1	19
2		Even	1	19	1	19

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty members prepare comprehensive theory notes for each subject of the degree programme by referring to standard textbooks, research papers, and reference books, and distribute them to students free of cost. Practical manuals are also developed, published, and provided to students. The same study material is also uploaded to the Google Classroom accounts of courses for easier access.
- Many faculties with five years' experience in UG/PG teaching also contributed to ICAR E-learning portal as course creators, unit reviewers and course reviewers, and the links of which have been shared with the students.
- Students get practical exposure in the departmental laboratory and farms of various research stations.
- Classes, guest lectures and special lectures are also organized through online platforms such as Google Classroom, Microsoft Teams, and Zoom *etc*, complementing the offline sessions.
- PPT, lecture notes, practical manual *etc*. are uploaded in respective subject Google Class Room and WhatsApp groups for detail study.
- During the COVID-19 pandemic, examinations were also conducted by the department in online mode; subsequently, they transitioned back to the conventional offline mode post-pandemic.

PRACTICAL AND HANDS-ON-TRAINING

- The Department has well-developed and well-equipped farms, namely the Instructional Farm, Micro-Irrigation Scheme, Organic Farming Model Farm, Weed Control Research Farm, Integrated Farming System Farm, Mechanized Commercial Farm, Seed Farm, and Tillage Technology Farm. Students regularly visit these farms during the study period as well as practical classes, and they also conduct research experiments on these farms.
- Students are regularly exposed to farm visits in nearby farmers' fields to study various cultural practices and to understand farmers' problems. During these visits, they also interact with farmers on agronomic aspects.

6.4.6. SUPERVISION OF STUDENTS IN PG PROGRAM

Apart from the faculty of the Department, scientists/faculty working in the various research stations and university offices are being allotted PG students for guiding.

Table 6.4.13 PG: Number of students supervised (guided) by faculty in the last five years

Department	No. of students supervised (guided) by faculty for PG Degree in the last five years
Agronomy	90

- Teachers of the Department are actively involved in guiding postgraduate students as Major Guides and as members of advisory committees. Each advisory committee, besides the Major Guide, consists of three members—one from Agricultural Statistics and the others from minor and allied subjects.
- Seminar topic is finalized after discussion in meeting of advisory committee, faculties and PG students.
- Research works for students is finalized in the presence of all the faculty members of department, minor guide, statistician and students.
- Advisory committee takes frequent field visits to supervise and guide the students.
- Head of Department arranges preliminary written examination of eligible candidates.
- Advisory committee arranges preliminary viva of students.
- Surprise visits by Principal and the HoD to the laboratories, farm and classrooms for improvement in teaching.

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*)

- Generally, good feedback is received from current and passed-out students as well as from parents, industries, employers, farmers *etc.* (Annexure 6.4.7a)
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per the prescribed schedule, and comprises the Deans of all faculties, nominated Professors, Research Scientists from different faculties, and renowned academicians, who discuss the feedback received from different stakeholder during the meetings. Based on the recommendations of the Board of Studies, the Academic Council takes decisions on academic matters for implementation in the University and its constituent colleges.
- ***STUDENT ADVISORY COMMITTEE:*** It comprises a four-member advisory committee, chaired by the Major Guide, with the other members drawn from the minor subject, allied subject, and statistics. The committee guides the student in selecting the research problem, seminar topics, and related academic/research activities. The members also frequently visit the experimental fields and provide necessary guidance and feedback to the students.
- ***STUDENT REPRESENTATIVE COUNCIL (SRC) AND STUDENT COUNSELLING AND PLACEMENT CELL (SCPC):*** Feedback collected with student interactions is reviewed by the committee members and appropriate measures are implemented based on the feedback received.
- ***FACULTY GROUP OF SUBJECTS:*** Faculty Group of Subjects is a unique and robust mechanism of JAU, which is held once in a year wherein the workload of faculty and progress of the students are thoroughly discussed with suggestions for improvement.

The suggestions received by the Department of Agronomy in the Faculty Group of Subjects during the last five years are given hereunder.

Table 6.4.14 PG: Faculty Group Meetings for Natural Resource Management group

Sr. No.	Year	Convener	Faculties remain present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Director of Student Welfare, Principal & Dean and Registrar	Suggestions received from concerned FGS meetings; corresponding action taken reports are submitted in **Annexure 6.4.7b, pg. 62 to 67.**
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Director of Student Welfare, Principal & Dean and Registrar	
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal & Dean	
4.	2023-24	Professor and Head	Director of Research & Dean PG Studies, Registrar, Director of Extension Education, Principal & Dean and Associate Director of Research	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research & Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal & Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR LAST FIVE YEARS

Table 6.4.15 PG: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
M.Sc. (Agri.) in Agronomy	2020-21	13	13	0.0
	2021-22	11	11	0.0
	2022-23	11	11	0.0
	2023-24	12	11	8.3
	2024-25	13	13	0.0

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

1. ***CERA AND OTHER ONLINE E-RESOURCES:*** Junagadh Agricultural University has subscribed to the ICAR Consortium for e-Resources in Agriculture (CeRA). Through this, faculty and students access more than 3,000 reputed journals in Agriculture and allied sciences with full-text availability.
2. ***ONE NATION, ONE SUBSCRIPTION (ONOS):*** Both faculty members and PG students of the department also regularly access One Nation, One Subscription (ONOS) portal of GoI, besides open access research domains such as Google Scholar,

ResearchGate and Academia are utilized for networking among peers and other scholars.

3. ***E-BOOKS:*** The University Library provides access to Springer e-books. At a time, 25 users can simultaneously access an e-book. Additionally, the library has a collection of more than 200 Indian e-books for academic use.
4. ***KRISHIKOSH:*** Junagadh Agricultural University is an active member of Krishikosh, the national repository of theses submitted to Agricultural Universities and ICAR institutes. All postgraduate and doctoral theses submitted to the department are regularly uploaded to this repository for wider accessibility.
5. ***INTERNET:*** Digital library with computers and internet facility is available and used by the UG and PG students. Internet facility is also provided at all the hostels which is available for all the time.

- The students are taught by PowerPoint presentations and audio-visual aids are systematically utilized during lectures and practical sessions.
- Students are also given exposure to use JAU iKrushi Sanhita, a mobile application developed by the University, besides encouraging them to regularly listen to Junagadh Janvani 91.2 FM for information on crop-specific advisory and strategies.
- Various video platforms, including Google Classroom, Google Meet, Zoom, and Microsoft Teams, are regularly used for arranging online lectures by esteemed faculty members, recruiters and career counsellers.
- The concerned course teachers also upload lecture-wise PPT, note, assignments, *etc*. to Google Classroom and semester-wise WhatsApp groups.
- The department also strictly adheres to the Anti-Plagiarism norms stipulated by the university.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, CoA, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Date: 31.01.2026
Place: Junagadh

Glimpses of activities at Department of Agronomy, CoA, JAU, Junagadh

Dignitaries' Visits

Students Involved in Grading of Produce

Farmers' Field Visits

PG Research Supervision

Annexure 6.4.7a

Postgraduate Students' Feed Back Report for AY 2024-25	
Department of Agronomy, CoA, JAU, Junagadh (n = 26)	
Particulars	**Average Score**
Departmental Teaching - Learning Process	
1. How do you rate Student- Teacher relations?	3.8
2. How do you rate for completion of courses by the teachers?	3.7
3. How do you rate fairness in internal assessment in the department?	3.9
4. How do you rate practical exposure from the department?	3.6
5. How do you rate for statical analysis facility provided by the department	3.5
6. Did teachers motivate /support you for solving your personal problems	4.0
P.G. Research facility	
1. How do you rate for your selection of research topic?	3.7
2. Did you get enough facilities for conducting experiment?	3.9
3. How do you rate material provided for conducting experiment?	3.8
4. How do you rate for major Guide for supporting in completion of Seminar and thesis project	3.9
Library facilities	
1. Books related to your subject are available in the library	3.5
2. Internet facilities for learning and research purpose	3.3
3. Availability of research journals (online /offline) for review purpose	3.6
4. How do you rate for delivery of books system?	3.5
Hostel Facility	
1. How do you rate Hostel facilities?	3.1
2. How do you rate wi-fi facility?	3.2
3. How do you rate for food quality in mess?	3.2
4. How do you rate cleanliness in the hostel?	3.1
Sports Facility	
1. How do you rate indoor sports facility?	3.9
2. How do you rate outdoor sports facility?	3.7

Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	**3**	**2**	**1**

Annexure 6.4.7b: Suggestions Received in the Faculty Group Meetings

Action taken report on the proceedings of 6th meeting of FGS-NRM held on November 24, 2020 at conference hall, Department of Agril. Economics, CoA, JAU, Junagadh

#	Suggestions received	Action Taken
6.1	Publication of research papers and popular articles by the faculty is not up to satisfactory level, hence faculty have to take this matter as serious and should have to publish in >5 NAAS rated journals (***Action:*** *All faculty members, FGS-NRM*).	Faculty members mostly published their research papers in above 5 NAAS ratted journals.
6.2	Research papers based on departmental research should be published (***Action:*** *All faculty members, FGS-NRM*).	We have already published our departmentally research work in above 5 NAAS rated journals.
6.3	Our previous research should be cited in the new research articles (**Action**: All faculty members, FGS-NRM).	The suggestion is implemented.
6.4	The RAWEP should be implemented properly (***Action:*** *HoD, Agronomy and Agril.Chemistry & Soil Science*).	The suggestion is implemented.
6.5	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET and their placement (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	Department already maintain NET/SRF/JRF pass out student's register.
6.6	Junior teachers should be involved in research projects (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	The suggestion is implemented.
6.7	Training organized by the College/Department, its feedback and resource persons should be included in the report (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	Department organized five trainings and its resource person are mentioned in the report.
6.8	There is need to prepare guidelines for presence of PG students in seminar when there are multiple groups (***Action:*** *Principal, COA, Junagadh*).	---
6.9	First semester UG course should be offered by respective HoD (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	---
6.10	Need to prepare guidelines and format for teaching workload including courses, seminar, guiding (Major/Minor/Member), RAWE/ELP, etc. (***Action:*** *Principal, COA, Junagadh*).	Implemented
6.11	Upgrade teaching material with latest technology, varieties, etc. (***Action:*** *All*	E- Resources (Videos, booklets, live specimens, presentations with

	teaching faculty members, FGS-NRM).	audio *etc.*) developed by our faculties during these COVID-19 eras for easy-to-understand UG and PG courses.
6.12	Outsourced manpower and research fellow should be included in staff position status of the report (***Action:*** *HoD, Agronomy and Agril. Chem. & Soil Sci. and Principals, Polytechnics*).	The suggestions are accepted.
6.13	Enhance digital learning by preparing video of practicals, PCP, ELP, educational tour, etc. and include in digital library like YouTube (***Action:*** *All teaching faculty members, FGS-NRM & HoDs*).	Department faculties are recorded their lectures videos for students and also uploaded on ICAR e-*shiksha* portal. Our faculty also arrange tour for ELP students.
6.14	Polytechnics have also to prepare the report as per format of Agronomy and Soil Science (***Action:*** *Principals, Polytechnics*).	---
6.15	Photographs of lab, infrastructure and awards should be included in the report (***Action:*** *HoD, Agronomy and Agril. Chem. & Soil Sci. and Principals, Polytechnics*).	The suggestion is implemented.
6.16	All faculty and PG students should apply for outstanding achievement/thesis awards and report to the concerned department. (***Action:*** *All faculty members, FGS-NRM*).	The suggestion is implemented.
6.17	Teaching workload should be equally distributed to faculty members (***Action:*** *HoD, Agronomy and Agril. Chem. & Soil Sci. and Principals, Polytechnics*).	The suggestion is implemented.
6.18	Major guides has to visit their PG students' experiments regularly (***Action:*** *Concerned faculty members, FGS-NRM*).	The suggestion is implemented.
6.19	All the members of faculty group of NRM shall have to provide related information strictly as per the format and in time (***Action:*** *All faculty members, FGS-NRM*).	The suggestion is implemented
6.20	If possible, ISBN number of manual should be taken and manual should be cross-checked by external experts (***Action:*** *All faculty members, FGS-NRM*).	----
6.21	All the faculties should have to attend PG seminars (***Action:*** *All faculty members, FGS-NRM*).	The suggestion is implemented

Action Taken Report on the Proceedings of 7th Meeting of FGS-NRM Held on December 02, 2021 at Conference Hall, Department of Agril. Economics, CoA, JAU, Junagadh

#	Suggestions received	Action taken
7.1	Publication of research papers and popular articles by the faculty is not up to satisfactory level, hence faculty have to take this matter as serious and should have to publish in >5 NAAS rated journals (***Action**: All faculty members, FGS-NRM*).	Implemented
7.2	Research papers based on departmental research should be presented in seminar/symposia and then published in good journals (***Action**: All faculty members, FGS-NRM*).	Implemented
7.3	Our previous research should be cited in the new research articles (**Action**: All faculty members, FGS-NRM).	Implemented
7.4	The records of the placement of UG & PG students should be maintained at college as well as at department level (***Action**: Principal, COA, HoD, Agronomy and Agril. Chemistry & Soil Science*).	Implemented
7.5	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Implemented
7.6	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major/Minor/Member), RAWE/ELP, etc. (***Action**: Associate Director of Research & Principal, COA, Junagadh*).	Accepted
7.7	Good quality photographs of the laboratory, infrastructure developed, award and recognition should be included in the report (***Action**: HoD, Agronomy, Agril. Chemistry & Soil Science and Principals, Polytechnics*).	Included
7.8	All the documentations done by the department should be properly documented for future reference (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Implemented
7.9	Every month, a meeting of the PG students should be organised at department level to discuss about experiments and other works (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Accepted
7.10	All the Ph.D. students should be treated as staff members and they should be assigned departmental work as well as practical teaching (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Not finalised

7.11	Information of the FGS should be submitted timely and strictly as per the format (***Action:*** *All faculty members, FGS-NRM*).	Some improvement is observed, still some faculty have not followed the instructions
7.12	If possible, ISBN number of manuals should be taken and manuals should be cross-checked by external experts (***Action:*** *All faculty members, FGS-NRM*).	Implemented
7.13	The PG table of the department should be designated as PG Coordinator or Co-Coordinator (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	Accepted
7.14	Arrange a felicitation programme for the students who have passed SRF/JRF/ARS/NET (***Action:*** *Principal, CoA, Junagadh*).	Implemented
7.15	There should be a combined presentation of all the Polytechnics of Agriculture (***Action:*** *Principals, Polytechnics*).	Implemented
7.16	Principal, Polytechnic should be designated as Principal (Poly.) (***Action:*** *Principals, Polytechnics*).	Partially implemented
7.17	The strength of the students in polytechnics should be increased up to 50 including EWS and PCP should be included in the syllabus (***Action*** *Principals, Polytechnics*).	Implemented
7.18	Polytechnics should arrange 2-3 programmes in a year, so Vice Chancellor and University Officers can visit (***Action:*** *Principals, Polytechnics*).	Implemented
7.19	All the faculties should have to attend PG seminars (***Action:*** *All faculty members, FGS-NRM*).	Implemented

Action Taken Report on the Proceedings of 8th Meeting of FGS-NRM Held on January 25, 2023 at Conference Hall, Department of Agril. Economics, JAU, Junagadh

#	Suggestions received	Action taken
8.1	All the PG students should cite at least 10 references of JAU faculty's research in their thesis (***Action:*** *All the PG students & faculty members, FGS-NRM*).	Implemented
8.2	The faculties should participate in seminar / symposia and present the research papers based on departmental research and then published in good journals (***Action:*** *All faculty members, FGS-NRM*).	Implemented
8.3	The records of the placement of UG & PG students should be maintained at college as well as at department level (***Action:*** *Principal, COA, HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented
8.4	The record should be maintained every year for students passed out the competitive examinations like JRF / SRF / NET (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented

8.5	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major / Minor / Member), RAWE/ELP, etc. (***Action:*** *Associate Director of Research & Principal, COA, Junagadh*).	Implemented
8.6	Good quality photographs of the laboratory, infrastructure developed, award and recognition should be included in the report (***Action:*** *HoD, Agronomy, Soil Science & Agril. Chemistry and Principals, Polytechnics*).	Implemented
8.7	Every month, a meeting of the PG students should be organised at department level to discuss about experiments and other works (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented
8.8	Information of the FGS should be submitted timely and strictly as per the format (***Action:*** *All faculty members, FGS-NRM*).	Accepted, still some faculty are not providing information in prescribed format.

Action Taken Report on the Proceedings of 9th Meeting of FGS-NRM Held on February 01, 2024 at Conference Hall, Department of Agril. Economics, JAU, Junagadh

#	Suggestions received	Action taken
9.1	All the PG students should cite at least 10 references of JAU faculty's research in their thesis (***Action:*** *All the PG students & faculty members, FGS-NRM*).	Implemented, PG students have cited relevant research of JAU faculties in their thesis
9.2	The faculties should participate in seminar / symposia and present the research papers based on departmental research and then published in NASS rated journals (***Action:*** *All faculty members, FGS-NRM*).	Implemented
9.3	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented
9.4	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major/Minor/Member), RAWE/ELP, etc. (***Action:*** *Associate Director of Research and Principal & Dean , CoA, Junagadh*).	Implemented
9.5	Every month, a meeting of the PG students should be organised at department level to discuss about experiments and other works (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented, Seven meeting were organised
9.6	Information of the FGS should be submitted timely and strictly as per the format (***Action:*** *All faculty members, FGS-NRM*).	Accepted & implemented

9.7	Verify of how many recommended books were purchased by the university library and if any important books were not purchased, further recommend to the library (***Action:*** College library, CoA, JAU, Junagadh).	Implemented
9.8	Review the printed journals of UG courses from the experts or teacher from the other university (***Action:*** *All faculty members, FGS-NRM*).	Accepted & implemented

Action Taken Report on the Proceedings of 10th Meeting of FGS-NRM Held on January 04, 2025 at Conference Hall, Department of Agril. Economics, JAU, Junagadh

#	Suggestions received	Action taken
10.1	Information of the FGS should be submitted timely and strictly as per the format. (***Action:*** *All faculty members, FGS-NRM*).	Implemented and information submitted timely by all the faculties.
10.2	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET and send to Principal and Dean *(**Action:** HoD, Agronomy and Soil Science & Agril. Chemistry)*.	Record has been maintained and also submitted to Principal & Dean.
10.3	All the PG students should cite at least 10 references of JAU faculties' research in their thesis *(**Action:** All the PG students & faculty members, FGS-NRM)*.	PG students and their guides are instructed to cite references of JAU faculty's research.
10.4	All the NRM faculty remain present strictly in FGS meeting *(**Action:** All faculty members, FGS-NRM)*.	The message has been conveyed the faculties to remain present in the meeting strictly.
10.5	PG research and departmental research published in high NAAS rated journals *(**Action:** All faculty members, FGS-NRM)*.	Papers have been published in higher NAAS rated journals.
10.6	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major /Minor/ Member), RAWE/ELP, etc. *(**Action:** Asso. Director of Research & Principal, CoA, Junagadh)*.	The report of 11th FGS-NRM meeting is prepared as per the revised FGS information Performa.
10.7	The faculties should participate in seminar /symposia/training as per their discipline only. *(**Action:** All faculty members, FGS-NRM)*.	Faculties are attending relevant seminar /symposia/ training etc. of the discipline.

6.4:

Self-Study Report for M. Sc. (Agri.) in Agricultural Meteorology

6.4. SELF-STUDY REPORT FOR M.SC. (AGRI.) IN AGRICULTURAL METEOROLOGY AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PG PROGRAM

The Department of Agronomy was started with the establishment of College of Agriculture, Junagadh in 1960. The Agricultural Meteorology Cell was started in 1990 under the Department of Agronomy.

STEPPING-STONES OF THE PG PROGRAM

- The Department of Agronomy was started with the establishment of College of Agriculture, Junagadh in 1960.
- The affiliation of the college was transferred to Saurashtra University, Rajkot in 1968.
- The College achieved a major milestone with it joining to the new-born Gujarat Agricultural University in 1972.
- The education medium was in vernacular language (Gujarati) during initial years of the College and was changed to English medium from the first semester of academic year 1977.
- The Agricultural Meteorology Cell was started in 1990 under the Department of Agronomy.
- The PG program in Agril. Meteorology was started in 2000.
- The College came under the jurisdiction of Junagadh Agricultural University with the quadfurcation of the erstwhile Gujarat Agricultural University into four new Agricultural Universities from May 01, 2004.

MISSION, GOALS AND OBJECTIVES

MISSION:

- To provide education as well as practical and skill-oriented training to students in Agricultural Meteorology discipline.

GOAL:

- To develop agricultural professionals with excellence in fundamental principles and applied knowledge in Agricultural Meteorology discipline.

OBJECTIVES:

- To impart UG and PG education in Agricultural Meteorology discipline.
- To provide practical field training to UG and PG students.
- To provide Agromet Advisory Services.
- To conduct research in agro-meteorological aspects.
- To impart training to farmers, line departments, NGOs *etc*.

6.4.2. FACULTY STRENGTH (AS OF 31-07-2025)

The Cell has sufficient sanctioned and filled up faculty position. Besides, faculty from research stations are shared for teaching and guiding the students.

Table 6.4.16 PG: Details of faculty strength (Agricultural Meteorology Cell)

Sr. No	Sanctioned Faculty	Faculty in place	Vacant position	Faculty recommended by the ICAR	Faculty sanctioned by GoG
1	Professor	0	0	Not Recommended by ICAR	0
2	Associate Professor	0	0		0
3	Assistant Professor	4	0		4
Total		4	0		4

6.4.3. TECHNICAL/SUPPORTING STAFF (AS OF 31/07/2025)

The Department of Agronomy has sufficient sanctioned and filled up supporting staff position. Moreover, technical and administrative staff are outsourced as per the need.

Table 6.4.17 PG: Details of Technical/Supporting staff strength as of 31.07.2025 (Agricultural Meteorology Cell)

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Recommended by the ICAR	Staff sanctioned by the GoG
1	Technical/Supporting staff	-	-	Not Recommended by ICAR	-
2	Administrative staff	-	-		-
Total		-	-		-

Note: As there is no separate Department of Agril. Meteorology, technical/ Supporting /administrative staff of Agronomy is being shared for Agril. Meteorology.

6.4.4. CLASSROOMS AND LABORATORIES

a) Number of classrooms

There are two lecture halls for conducting theory classes and one conference hall for seminar/presentation purpose in the Department of Agronomy and one practical classroom for conducting practical at the Instructional Farm.

Table 6.4.18 PG: Classroom infrastructure in the Department of Agronomy

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
1	Conference Hall	43.87	30	Teaching, seminar, meeting	PG
2	Lecture Hall-1	57.53	30	Teaching	PG
3	Lecture Hall-2	56.77	30	Teaching	PG
4	Practical Classroom	362.70	70	Practical	UG & PG

b) Functional PG laboratories

The Agril. Meteorology Cell has one laboratory having meteorological instruments and models. The laboratories of Agronomy, Soil Science and central instrumentation laboratory are also utilized for the purpose of soil and plant analysis.

Table 6.4.19 PG: Departmental PG laboratories established (As of 31-07-2025)

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
1	Lab-1	63.33	15	Research	PG
2	Agmet lab	35.00	30	Teaching	PG
3	Museum	63.33	30	Exhibition	PG

c) List of most important equipments available

The laboratory consists all the required equipments/instruments/models, some costly equipments are indicated in the table below.

Table 6.4.20 PG: List of major equipment available in the Department of Agronomy

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
1	Lab-1	Electronic Balance	1	1.46
2	Lab-1	SPAD Meter	1	2.36
3	Lab-1	Infrared Thermometer	1	2.95
4	Agmet lab	Meteorological instruments	17	1.30

d) Farm facility

The Department of Agronomy has full-fledged and well-developed farm equipped with buildings, roads, farm protection wall/fencing, electricity, tractors, farm implements, threshers, threshing yards, sheds, stores/godowns, irrigation & drainage facility, *etc*. These farm facilities are used by the Agril. Meteorology Cell to conduct field research programs including PG experiments.

Table 6.4.21 PG: Farm Facilities available with the Department of Agronomy

Sr. No.	Name of Farm/ Cafeteria	Area (ha)	No. of Experiments continue		Details of activities
			Departmental	Students	
1	Instructional Farm	38.23	9	58	Practical crop production, ELP and PG experiments
2	Crop Cafeteria	1.00	-	-	Season-wise growing of important field crops
3	Agromet Observatory	0.24	-	-	Recording of standard meteorological observations

e) Theory and practical batches for the PG program (2024-25)

The theory and practical classes of PG students of Agricultural Meteorology discipline are conducted in one batch in every semester.

Table 6.4.22 PG: Theory and practical batches for the PG program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semester	Batch of students in theory class		Batch of students in practical class	
			Batch	No. of students	Batch	No. of students
1	M.Sc. (Agri.) in Agricultural Meteorology	Odd	1	2	1	2
2		Even	1	2	1	2

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty members prepare comprehensive theory notes for each subject of the degree programme by referring to standard textbooks, research papers, and reference books, and distribute them to students free of cost. Practical manuals are also developed, published, and provided to students. The same study material is also uploaded to the Google Classroom accounts of courses for easier access.
- Many faculties with five years' experience in UG/PG teaching also contributed to ICAR E-learning portal as course creators, unit reviewers and course reviewers, and the links of which have been shared with the students.
- Students get practical exposure in separate laboratory of each discipline and farms of various research stations.
- Classes, guest lectures and special lectures are also organized through online platforms such as Google Classroom, Microsoft Teams, and Zoom *etc*, complementing the offline sessions.
- PPT, lecture notes, practical manual *etc*. are uploaded in respective subject Google Class Room and WhatsApp groups for detail study.
- During the COVID-19 pandemic, examinations were also conducted by the department in online mode; subsequently, they transitioned back to the conventional offline mode post-pandemic.

PRACTICAL AND HANDS-ON-TRAINING

- The Agricultural Meteorology Cell and Department of Agronomy have well developed and equipped farms *viz.*, Agro. Meteorological Observatory, Instructional Farm, Micro irrigation, Organic Farming Model Farm, Weed Control Research Farm, Integrated Farming System Farm, Mechanized Commercial Farm, Seed Farm, and Tillage Technology Farm. The students are visiting these farms during study period as well as in practical class. The students conduct field experiments at these farms. Besides, a rich database of observatory-wise climatic indicators is available.
- Students are frequently exposed to farm visits in nearby farmer's fields to study various cultural practices as well as to know the farmers' problems related to weather. They also interact with the farmers about meteorological aspects.

6.4.6. SUPERVISION OF STUDENTS IN PG PROGRAM

Apart from the faculty of the Department, scientists/faculty working in the various research stations and university offices are being allotted PG students for guiding.

Table 6.4.23 PG: Number of students supervised (guided) by faculty in the last five years

PG degree program	No. of students supervised (guided) by faculty for PG Degree in the last five years
Agricultural Meteorology	8

- Teachers of the Department are actively involved in guiding postgraduate students as Major Guides and as members of advisory committees. Each advisory committee, besides the Major Guide, consists of three members—one from Agricultural Statistics and the others from minor and allied subjects.
- Seminar topic is finalized after discussion in meeting of advisory committee, faculties and PG students.
- Research works for students is finalized in the presence of all the faculty members of department, minor guide, statistician and students.
- Advisory committee takes frequent field visits to supervise and guide the students.
- Head of Department arranges preliminary written examination of eligible candidates.
- Advisory committee arranges preliminary viva of students.
- Surprise visits by Principal and the HoD to the laboratories, farm and classrooms for improvement in teaching.

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*)

- Generally, very good feedback is received from current and passed-out students as well as from parents, industries, employers, farmers *etc*. (Annexure 6.4.7a)
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per schedule wherein, Deans of all faculties, nominated Professors and Research Scientists of different faculties and renowned academicians are members. Based on the Board of Study recommendation, the Academic Council takes the decision on academic matter for implementation in the university/college.
- ***STUDENT ADVISORY COMMITTEE:*** There is four-member advisory committee. Major guide is chairman and other members from minor subject, allied subject and statistics. Committee members guide the student to select research work, seminar topics, *etc*. Committee members frequently visit the experimental field and guide the students.
- ***STUDENT REPRESENTATIVE COUNCIL (SRC) AND STUDENT COUNSELLING AND PLACEMENT CELL (SCPC):*** Feedback collected with student interactions is reviewed by the members and appropriate measures are implemented based on the feedback received.
- ***FACULTY GROUP OF SUBJECTS:*** Faculty Group of Subjects meeting held once in a year and the workload of faculty and progress of the students are thoroughly discussed with suggestions for improvement. The suggestions received by the Department of Agronomy in the Faculty Group of Subjects during the last five years are given hereunder.

Table 6.4.24 PG: Faculty Group Meetings for Natural Resource Management group

Sr. No.	Year	Convener	Faculties remain present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Director of Student Welfare, Principal & Dean and Registrar	Suggestions received from concerned FGS meetings; corresponding action taken reports are submitted in **Annexure 6.4.7b, pg. 62 to 67.**
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Director of Student Welfare, Principal & Dean and Registrar	
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal & Dean	
4.	2023-24	Professor and Head	Director of Research & Dean PG Studies, Registrar, Director of Extension Education, Principal & Dean and Associate Director of Research	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research & Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal & Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR LAST FIVE YEARS

Table 6.4.25 PG: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
M.Sc. (Agri.) in Agricultural Meteorology	2020-21	2	2	00
	2021-22	-	-	00
	2022-23	-	-	00
	2023-24	2	2	00
	2024-25	2	2	00

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

1. ***CERA AND OTHER ONLINE E-RESOURCES:*** Junagadh Agricultural University has subscribed to the ICAR Consortium for e-Resources in Agriculture (CeRA). Through this, faculty and students access more than 3,000 reputed journals in Agriculture and allied sciences with full-text availability.
2. ***ONE NATION, ONE SUBSCRIPTION (ONOS):*** Both faculty members and PG students of the department also regularly access One Nation, One Subscription (ONOS) portal of GoI, besides open access research domains such as Google Scholar, ResearchGate and Academia are utilized for networking among peers and other scholars.

3. ***E-BOOKS:*** The University Library provides access to Springer e-books. At a time, 25 users can simultaneously access an e-book. Additionally, the library has a collection of more than 200 Indian e-books for academic use.
4. ***KRISHIKOSH:*** Junagadh Agricultural University is an active member of Krishikosh, the national repository of theses submitted to Agricultural Universities and ICAR institutes. All postgraduate and doctoral theses submitted to JAU are regularly uploaded to this database for wider accessibility.
5. ***INTERNET:*** Digital library with computers and internet facility is available and used by the UG and PG students. Internet facility is also provided at all the hostels which is available for all the time.

- The students are taught by PowerPoint presentations and audio-visual aids are systematically utilized during lectures and practical sessions.
- Students are also given exposure to use JAU iKrushi Sanhita, a mobile application developed by the University, besides encouraging them to regularly listen to Junagadh Janvani 91.2 FM for information on crop-specific advisory and strategies.
- Various video platforms, including Google Classroom, Google Meet, Zoom, and Microsoft Teams, are regularly used for arranging online lectures by esteemed faculty members, recruiters and career counsellers.
- The concerned course teachers also upload lecture-wise PPT, note, assignments, *etc.* to Google Classroom and semester-wise WhatsApp groups.
- The department also strictly adheres to the Anti-Plagiarism norms stipulated by the university.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, CoA, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: 31.01.2026
Place: Junagadh

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Departmental Entrance

Agromet Observatory

PG Research

Annexure 6.4.7a

Postgraduate Students' Feed Back Report for AY 2024-25	
PG Students in Agrometeorology **(n = 6)**	
Particulars	**Average Score**
Departmental Teaching - Learning Process	
1. How do you rate Student- Teacher relations?	3.2
2. How do you rate for completion of courses by the teachers?	3.8
3. How do you rate fairness in internal assessment in the department?	3.8
4. How do you rate practical exposure from the department?	3.5
5. How do you rate for statical analysis facility provided by department?	3.8
6. Did teachers motivate /support you for solving your personal problems?	3.9
P.G. Research facility	
1. How do you rate for your selection of research topic?	3.6
2. Did you get enough facilities for conducting experiment?	3.8
3. How do you rate material provided for conducting experiment?	3.7
4. How do you rate for major Guide for supporting in completion of Seminar and thesis project	3.9
Library facilities	
1. Books related to your subject are available in the library	3.5
2. Internet facilities for learning and research purpose	3.6
3. Availability of research journals (online /offline) for review purpose	3.6
4. How do you rate for delivery of books system?	3.5
Hostel Facility	
1. How do you rate Hostel facilities?	3.3
2. How do you rate wi-fi facility?	3.1
3. How do you rate for food quality in mess?	3.2
4. How do you rate cleanliness in the hostel?	3.0
Sports Facility	
1. How do you rate indoor sports facility?	3.8
2. How do you rate outdoor sports facility?	3.9

Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	**3**	**2**	**1**

Annexure 6.4.7b: Suggestions Received in the Faculty Group Meetings

Action taken report on the proceedings of 6th meeting of FGS-NRM held on November 24, 2020 at conference hall, Department of Agril. Economics, CoA, JAU, Junagadh

#	Suggestions received	Action Taken
6.1	Publication of research papers and popular articles by the faculty is not up to satisfactory level, hence faculty have to take this matter as serious and should have to publish in >5 NAAS rated journals (***Action:*** *All faculty members, FGS-NRM*).	Faculty members mostly published their research papers in above 5 NAAS ratted journals.
6.2	Research papers based on departmental research should be published (***Action:*** *All faculty members, FGS-NRM*).	We have already published our departmentally research work in above 5 NAAS rated journals.
6.3	Our previous research should be cited in the new research articles (**Action**: All faculty members, FGS-NRM).	The suggestion is implemented.
6.4	The RAWEP should be implemented properly (***Action:*** *HoD, Agronomy and Agril.Chemistry & Soil Science*).	The suggestion is implemented.
6.5	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET and their placement (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	Department already maintain NET/SRF/JRF pass out student's register.
6.6	Junior teachers should be involved in research projects (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	The suggestion is implemented.
6.7	Training organized by the College/Department, its feedback and resource persons should be included in the report (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	Department organized five trainings and its resource person are mentioned in the report.
6.8	There is need to prepare guidelines for presence of PG students in seminar when there are multiple groups (***Action:*** *Principal, COA, Junagadh*).	---
6.9	First semester UG course should be offered by respective HoD (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	---
6.10	Need to prepare guidelines and format for teaching workload including courses, seminar, guiding (Major/Minor/Member), RAWE/ELP, etc. (***Action:*** *Principal, COA, Junagadh*).	Implemented
6.11	Upgrade teaching material with latest technology, varieties, etc. (***Action:*** *All*	E- Resources (Videos, booklets, live specimens, presentations with

	teaching faculty members, FGS-NRM).	audio *etc.*) developed by our faculties during these COVID-19 eras for easy-to-understand UG and PG courses.
6.12	Outsourced manpower and research fellow should be included in staff position status of the report (***Action**: HoD, Agronomy and Agril. Chem. & Soil Sci. and Principals, Polytechnics*).	The suggestions are accepted.
6.13	Enhance digital learning by preparing video of practicals, PCP, ELP, educational tour, etc. and include in digital library like YouTube (***Action**: All teaching faculty members, FGS-NRM & HoDs*).	Department faculties are recorded their lectures videos for students and also uploaded on ICAR e-*shiksha* portal. Our faculty also arrange tour for ELP students.
6.14	Polytechnics have also to prepare the report as per format of Agronomy and Soil Science (***Action**: Principals, Polytechnics*).	---
6.15	Photographs of lab, infrastructure and awards should be included in the report (***Action**: HoD, Agronomy and Agril. Chem. & Soil Sci. and Principals, Polytechnics*).	The suggestion is implemented.
6.16	All faculty and PG students should apply for outstanding achievement/thesis awards and report to the concerned department. (***Action**: All faculty members, FGS-NRM*).	The suggestion is implemented.
6.17	Teaching workload should be equally distributed to faculty members (***Action**: HoD, Agronomy and Agril. Chem. & Soil Sci. and Principals, Polytechnics*).	The suggestion is implemented.
6.18	Major guides has to visit their PG students' experiments regularly (***Action**: Concerned faculty members, FGS-NRM*).	The suggestion is implemented.
6.19	All the members of faculty group of NRM shall have to provide related information strictly as per the format and in time (***Action**: All faculty members, FGS-NRM*).	The suggestion is implemented
6.20	If possible, ISBN number of manual should be taken and manual should be cross-checked by external experts (***Action**: All faculty members, FGS-NRM*).	----
6.21	All the faculties should have to attend PG seminars (***Action**: All faculty members, FGS-NRM*).	The suggestion is implemented

Action Taken Report on the Proceedings of 7th Meeting of FGS-NRM Held on December 02, 2021 at Conference Hall, Department of Agril. Economics, CoA, JAU, Junagadh

#	Suggestions received	Action taken
7.1	Publication of research papers and popular articles by the faculty is not up to satisfactory level, hence faculty have to take this matter as serious and should have to publish in >5 NAAS rated journals (***Action**: All faculty members, FGS-NRM*).	Implemented
7.2	Research papers based on departmental research should be presented in seminar/symposia and then published in good journals (***Action**: All faculty members, FGS-NRM*).	Implemented
7.3	Our previous research should be cited in the new research articles (**Action**: All faculty members, FGS-NRM).	Implemented
7.4	The records of the placement of UG & PG students should be maintained at college as well as at department level (***Action**: Principal, COA, HoD, Agronomy and Agril. Chemistry & Soil Science*).	Implemented
7.5	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Implemented
7.6	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major/Minor/Member), RAWE/ELP, etc. (***Action**: Associate Director of Research & Principal, COA, Junagadh*).	Accepted
7.7	Good quality photographs of the laboratory, infrastructure developed, award and recognition should be included in the report (***Action**: HoD, Agronomy, Agril. Chemistry & Soil Science and Principals, Polytechnics*).	Included
7.8	All the documentations done by the department should be properly documented for future reference (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Implemented
7.9	Every month, a meeting of the PG students should be organised at department level to discuss about experiments and other works (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Accepted
7.10	All the Ph.D. students should be treated as staff members and they should be assigned departmental work as well as practical teaching (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Not finalised

7.11	Information of the FGS should be submitted timely and strictly as per the format (***Action:*** *All faculty members, FGS-NRM*).	Some improvement is observed, still some faculty have not followed the instructions
7.12	If possible, ISBN number of manuals should be taken and manuals should be cross-checked by external experts (***Action:*** *All faculty members, FGS-NRM*).	Implemented
7.13	The PG table of the department should be designated as PG Coordinator or Co-Coordinator (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	Accepted
7.14	Arrange a felicitation programme for the students who have passed SRF/JRF/ARS/NET (***Action:*** *Principal, CoA, Junagadh*).	Implemented
7.15	There should be a combined presentation of all the Polytechnics of Agriculture (***Action:*** *Principals, Polytechnics*).	Implemented
7.16	Principal, Polytechnic should be designated as Principal (Poly.) (***Action:*** *Principals, Polytechnics*).	Partially implemented
7.17	The strength of the students in polytechnics should be increased up to 50 including EWS and PCP should be included in the syllabus (***Action*** *Principals, Polytechnics*).	Implemented
7.18	Polytechnics should arrange 2-3 programmes in a year, so Vice Chancellor and University Officers can visit (***Action:*** *Principals, Polytechnics*).	Implemented
7.19	All the faculties should have to attend PG seminars (***Action:*** *All faculty members, FGS-NRM*).	Implemented

Action Taken Report on the Proceedings of 8th Meeting of FGS-NRM Held on January 25, 2023 at Conference Hall, Department of Agril. Economics, JAU, Junagadh

#	Suggestions received	Action taken
8.1	All the PG students should cite at least 10 references of JAU faculty's research in their thesis (***Action:*** *All the PG students & faculty members, FGS-NRM*).	Implemented
8.2	The faculties should participate in seminar / symposia and present the research papers based on departmental research and then published in good journals (***Action:*** *All faculty members, FGS-NRM*).	Implemented
8.3	The records of the placement of UG & PG students should be maintained at college as well as at department level (***Action:*** *Principal, COA, HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented
8.4	The record should be maintained every year for students passed out the competitive examinations like JRF / SRF / NET (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented

8.5	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major / Minor / Member), RAWE/ELP, etc. (***Action:*** *Associate Director of Research & Principal, COA, Junagadh*).	Implemented
8.6	Good quality photographs of the laboratory, infrastructure developed, award and recognition should be included in the report (***Action:*** *HoD, Agronomy, Soil Science & Agril. Chemistry and Principals, Polytechnics*).	Implemented
8.7	Every month, a meeting of the PG students should be organised at department level to discuss about experiments and other works (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented
8.8	Information of the FGS should be submitted timely and strictly as per the format (***Action:*** *All faculty members, FGS-NRM*).	Accepted, still some faculty are not providing information in prescribed format.

Action Taken Report on the Proceedings of 9th Meeting of FGS-NRM Held on February 01, 2024 at Conference Hall, Department of Agril. Economics, JAU, Junagadh

#	Suggestions received	Action taken
9.1	All the PG students should cite at least 10 references of JAU faculty's research in their thesis (***Action:*** *All the PG students & faculty members, FGS-NRM*).	Implemented, PG students have cited relevant research of JAU faculties in their thesis
9.2	The faculties should participate in seminar / symposia and present the research papers based on departmental research and then published in NASS rated journals (***Action:*** *All faculty members, FGS-NRM*).	Implemented
9.3	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented
9.4	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major/Minor/Member), RAWE/ELP, etc. (***Action:*** *Associate Director of Research and Principal & Dean , CoA, Junagadh*).	Implemented
9.5	Every month, a meeting of the PG students should be organised at department level to discuss about experiments and other works (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented, Seven meeting were organised
9.6	Information of the FGS should be submitted timely and strictly as per the format (***Action:*** *All faculty members, FGS-NRM*).	Accepted & implemented

9.7	Verify of how many recommended books were purchased by the university library and if any important books were not purchased, further recommend to the library (***Action:*** College library, CoA, JAU, Junagadh).	Implemented
9.8	Review the printed journals of UG courses from the experts or teacher from the other university (***Action:*** *All faculty members, FGS-NRM*).	Accepted & implemented

Action Taken Report on the Proceedings of 10th Meeting of FGS-NRM Held on January 04, 2025 at Conference Hall, Department of Agril. Economics, JAU, Junagadh

#	Suggestions received	Action taken
10.1	Information of the FGS should be submitted timely and strictly as per the format. (***Action:*** *All faculty members, FGS-NRM*).	Implemented and information submitted timely by all the faculties.
10.2	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET and send to Principal and Dean *(**Action:** HoD, Agronomy and Soil Science & Agril. Chemistry)*.	Record has been maintained and also submitted to Principal & Dean.
10.3	All the PG students should cite at least 10 references of JAU faculties' research in their thesis *(**Action:** All the PG students & faculty members, FGS-NRM)*.	PG students and their guides are instructed to cite references of JAU faculty's research.
10.4	All the NRM faculty remain present strictly in FGS meeting *(**Action:** All faculty members, FGS-NRM)*.	The message has been conveyed the faculties to remain present in the meeting strictly.
10.5	PG research and departmental research published in high NAAS rated journals *(**Action:** All faculty members, FGS-NRM)*.	Papers have been published in higher NAAS rated journals.
10.6	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major /Minor/ Member), RAWE/ELP, etc. *(**Action:** Asso. Director of Research & Principal, CoA, Junagadh)*.	The report of 11th FGS-NRM meeting is prepared as per the revised FGS information Performa.
10.7	The faculties should participate in seminar /symposia/training as per their discipline only. *(**Action:** All faculty members, FGS-NRM)*.	Faculties are attending relevant seminar /symposia/ training etc. of the discipline.

6.4:

Self-Study Report for M.Sc. (Agri.) in Soil Science

6.4. SELF-STUDY REPORT FOR M.SC. (AGRI.) IN SOIL SCIENCE AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PG DEGREE PROGRAM

Junagadh Agricultural University (JAU) is one of the leading State Agricultural Universities in India. Established in 2004 as an independent institution following its bifurcation from the erstwhile Gujarat Agricultural University, JAU has steadily strengthened its role in addressing emerging challenges in agriculture and contributing meaningfully to the formulation and implementation of state agricultural policies. The university has emerged as a key hub for education, research, and extension, with a strong focus on sustainable agriculture, natural resource management, and farmer-centric innovations suited to the agro-climatic conditions of Gujarat. Agricultural research at JAU has always been viewed as a collaborative endeavor rather than an individual pursuit, emphasizing interdisciplinary approaches and collective problem-solving. This spirit of collaboration is well reflected in the long and distinguished legacy of the Department of Soil Science and Agricultural Chemistry. Established in 1960, the department has evolved over the decades through the dedicated efforts of nearly four generations of researchers, teachers, and scientists. Their sustained contributions in teaching, research, and extension have significantly advanced soil fertility management, plant nutrition, and sustainable land-use practices in the Saurashtra region.

Department of Soil Science and Agricultural Chemistry

STEPPING-STONES OF THE DEPARTMENT

- Established in 1960, the department has evolved over the decades through the dedicated efforts of nearly four generations of researchers, teachers, and scientists.
- Accredited for postgraduate programmes in Agricultural Chemistry and Soil Science since 1964, the department has so far guided 150 Master's degree students.
- Its alumni are successfully serving in diverse capacities across academia, banking, government departments, private organizations, and non-governmental organizations (NGOs).
- At present, the department has six faculty members, offering 63 credits across faculties, and 33 PG/Ph.D. pursuing full-time degree programmes.

MISSION, GOALS AND OBJECTIVES:

MISSION:

- To provide high-quality education, training, and skill development to students, enabling them to become professionally competent managers of soil resources for the benefit and well-being of society.
- To enhance the quality of life by delivering research-based knowledge and educational opportunities focused on the sustainable use and effective management of land resources.

GOALS:

- To advance knowledge in soil science and promote the development of technologies for sustainable soil use and management, thereby ensuring food security and environmental protection.

OBJECTIVES:

Educational

- To provide undergraduate, postgraduate, and doctoral education in Soil Science and Agricultural Chemistry.
- To strengthen the practical and experiential components of the curriculum, ensuring that students gain adequate hands-on exposure in agricultural fields.
- To introduce relevant vocational and professional courses related to the agricultural faculty.
- To provide integrated agricultural education at all levels for developing students' efficiency, technical skills, and professional attitude, along with ensuring placement support.

Research

- To conduct research on fundamental and applied aspects of soil science, focusing on the physical, chemical, and biological properties of soils, fertilizers, and manures, and their interactions with soil and plants.
- To improve and maintain soil fertility for achieving sustained and optimum agricultural production.
- To promote the utilization of organic residues and agricultural wastes as manure, and to carry out soil test-crop response correlation studies for accurate fertilizer recommendations.
- To characterize soils for fertility and assess their suitability for different agricultural crops.
- To characterize irrigation water and evaluate its suitability for various crops.
- To assess salinity and sodicity issues in regional soils and recommend suitable reclamation measures.
- To develop and promote site-specific nutrient management strategies for diverse cropping systems.

Extension

- To educate farmers on balanced plant nutrition through Integrated Nutrient Management (INM) practices.
- To provide consultancy services to farmers through personal interaction, telephone support, and field visits.

ACCOMPLISHMENTS/ ACHIEVEMENTS OF LAST FIVE YEARS

EXTERNAL FUNDED PROJECTS IN THE DEPARTMENT OF SOIL SCIENCE AND AGRICULTURAL CHEMISTRY (AS OF 31-07-2025)

1. Balance Nutrient Management on Groundnut (*Monsoon*) -Wheat (*Winter*) Cropping Sequence on LTFE.
2. Soil test-based fertilizers recommendation for targeted yield of Bt cotton in Saurashtra region of Gujarat.
3. Integrated Resource Management in Agriculture and Allied Field for Stakeholder under Farmer First Programme (FFP) project.
4. Management of potassium for maximization of yield and quality of Bt. cotton in Saurashtra region.

RECOMMENDATIONS MADE BY THE DEPARTMENT OF SOIL SCIENCE AND AGRICULTURAL CHEMISTRY FOR FARMERS

Year: 2020-21

1. Effect of multi-micronutrient formulations on chickpea (2017-18).

The farmers of South Saurashtra Agro-climatic Zone growing chickpea in medium black calcareous soil are recommended to apply micronutrients as per soil test value or multi micronutrients formulation Grade-V (40 kg/ha) as basal in addition to recommended dose of chemical fertilizers (20-40-0 N-P_2O_5-K_2O kg/ha) for getting higher yield and net return.

2. Effect of foliar application of various fertilizers on growth, yield and nutrients uptake by onion (2018-19)

The farmers of South Saurashtra Agro-climatic Zone growing onion in medium black calcareous soil are recommended to apply 75% RDF (56-45-37.5-15 kg/ha N-P_2O_5-K_2O-S) + 1 % (100 g/10 liter water) foliar spray of water soluble fertilizer (19-19-19 N-P-K) and 1 % Banana pseudostem sap both at 45 and 60 day after transplanting for getting higher yield and net return.

3. Effect of foliar application of water soluble fertilizer on growth, yield and nutrients uptake by *Bt*. cotton (2017-18)

The farmers of South Saurashtra Agro-climatic Zone growing *Bt* cotton in medium black calcareous soil are advised to apply 75% RDF (180-37.5-112.5 N-P_2O_5-K_2O kg/ha) + two spray of 2.0 % water soluble fertilizer (19-19-19) at 50 and 75 DAS for getting higher yield and net return.

Year: 2021-22

4. Effect of nano boron on yield and nutrients uptake by summer groundnut (2018-19)

The farmers of Saurashtra region growing summer groundnut in medium black calcareous soil are advised to apply three sprays of 0.2% (20 ml/10 lit water) nano boron or 0.2% (20 g/10 lit water) boric acid at 30, 45 and 60 DAS in addition to recommended dose of fertilizers (25-50-50 N-P_2O_5-K_2O kg ha^{-1}) to summer groundnut for getting higher yield and net return.

5. Effect of different levels of NPK and time of application on cucumber yield under protected condition (2020-21)

The farmers of Saurashtra region growing cucumber during kharif under protected conditions (Poly house) are advise to apply 80-50-50 kg/ha N-P_2O_5-K_2O in four equal split i.e. basal, 30, 45and 60 DAS in form of water soluble fertilizer (19-19-19 NPK) and remaining nitrogen from urea through fertigation in addition to FYM 20 t/ha as basal for getting higher yield and net return.

6. Integrated management practices in groundnut under poor drained medium black calcareous soil (2019-20)

The farmers of South Saurashtra Agro-climatic Zone growing *kharif* groundnut under poorly drained (*Rechak*) medium black calcareous soil are recommended to apply tanch 50 t/ha every three year for getting higher yield and net return. If tanch is not available then apply FYM 10 t/ha.

Year: 2022-23

7. Effect of N, P and K levels on growth, yield and nutrients uptake by bottle gourd (2020)

The farmers of South Saurashtra Agro-climatic Zone growing bottle gourd in summer season are recommended to apply 125-75-75 kg N-P_2O_5-K_2O/ha for achieving higher yield and net return. Nitrogen should be applied in three equal splits (Basal and remaining nitrogen at 30 and 45 days after sowing as spot application), full dose of phosphurus and potash as basal.

8. Effect of fresh cow dung on yield, quality and uptake of nutrients in groundnut (2020)

The farmers of South Saurashtra Agro-climatic Zone growing *kharif* groundnut are recommended to apply slurry of 1500 kg/ha fresh (upto five days) cow dung (cow dung : water - 1:3) through drenching at the time of sowing **or** RDN (12.5 kg/ha) through FYM (about 2.5 t/ha) + 25:50 kg P_2O_5:K_2O per ha for getting higher yield and net return.

2023-24:

9. Effect of fresh cow dung on yield and yield attributes of garlic (2020-21)

The farmers of South Saurashtra Agro-climatic Zone growing garlic are recommended to apply slurry (cow dung: water - 1:3) of 1500 kg/ha fresh cow dung (up to five days) with irrigation at the time of sowing for getting higher yield and net return.

2024-25

10. Effect of cow dung on yield and nutrients uptake by wheat (2021-22)

The farmers of South Saurashtra Agro-climatic Zone growing wheat are recommended to apply 60% RDF) 72-36-36 kg N-P_2O_5-K_2O) to wheat along with slurry (cow dung: water - 1:3) of 1500 kg/ha fresh cow dung (up to five days) (1/2 at basal and 1/2 at 30 DAS) with irrigation at the time of sowing for getting higher yield and net return.

RECOMMENDATIONS MADE BY THE DEPARTMENT OF DEPARTMENT OF SOIL SCIENCE AND AGRICULTURAL CHEMISTRY FOR SCIENTIFIC COMMUNITY

Year: 2020-21

1. Soil test based fertilizer recommendation for targeted yield of wheat (2018-19)

The scientist of soil testing laboratories are informed that the nutrients requirement for production of one quintal wheat grain was assessed as 3.81, 0.82 and 3.40 kg; N, P_2O_5 and K_2O, respectively and the fertilizer prescription equations are: for N: [FN = 6.82 x T - 1.01 x SN - 0.27 x FYM], P: [FP_2O_5 =1.80 x T - 2.25 x SP - 0.09 x FYM] and K:[FK_2O: = 3.14 x T - 0.46 x SK - 0.27 x FYM] with FYM 10 t/ha. While, without FYM nutrients requirement for production of one quintal wheat grain was assessed as 3.52, 0.77 and 3.02 kg; N, P_2O_5 and K_2O, respectively and the fertilizer prescription equations are: for N: [FN = 8.53 x T - 1.19 x SN], P: [FP_2O_5 =2.61 T - 3.07 x SP] and K:[FK_2O: = 5.03 x T - 0.68 x SK]. Targeted yield concept could be effectively adopted from 40 to 50 q/ha for site specific fertilizer recommendation to achieve high yields of wheat in the medium black calcareous soils of Saurashtra region of Gujarat.

2. Establishment of critical limit of zinc for summer green gram in medium black calcareous soils (2020)

For recommending Zn application to green gram crop grown in calcareous soils of Saurashtra, STL of Gujarat should consider the critical limit 0.70 ppm in soil and 47.0 ppm in green gram plant at 45 DAS.

3. Establishment of critical limit of zinc for pigeonpea crop in medium black calcareous soils (2019-20)

For recommending Zn application to pigeonpea crop grown in calcareous soils of Saurashtra, STL of Gujarat should consider the critical limit of 0.63 ppm in soil and 33.9 ppm in pigeonpea plant at 60 DAS.

4. Effect of saline irrigation water on garlic (2018-19)

It is for the information to scientific community especially for the plant breeder that garlic varieties GJG-5 recorded value of different salt tolerance criteria like higher mean salinity index (77.00 %), comparable mean bulb yield (54.78 g/pot), minimum yield decline (43.61 %) at EC 5.0 dS m^{-1} and for 50 % yield reduction at EC 9.32 as well as lower Na/K ratio in bulb and straw. Garlic varieties GJG-5 were found more salt tolerant as compared to GG-4, G-282 and GG-2 on the basis of salinity indices.

5. Effect of saline irrigation water on sesamum (2018-19)

It is for the information to scientific community especially for the plant breeder that sesamum variety Guj. Til-3 recorded value of different salt tolerance criteria like higher mean seed yield (19.69 g/pot), comparable with other varieties of mean salinity index (71.82 %), yield decline (38.51 %) at EC 5.0 dS m^{-1} and for 50% yield reduction at EC 9.47 dS m^{-1}, as well as lower Na/K ratio in seed (0.253) and straw (0.551). The seed yield was found the highest with G Til 3 followed by GJT-5, G Til 2 and G Til 4.

6. Evaluation of salt tolerance of onion (*Allium cepa*) varieties with and without FYM (2017-18)

It is for the information to scientific community especially for the plant breeder that among the four varieties *viz:* Pilipatti, Agri. found light red, Talaja red, GJRO-11, the variety Agri. found light red recorded significantly the highest bulb yield (7290 kg/ha), bulb girth (3.59 cm), bulb length (3.70 cm) and lowest Na/K ratio in fodder (0.56) with saline irrigation water having EC 4.00 to 12.70 (dS m^{-1}). Application of FYM @ 20 t/ha significantly increase bulb yield of onion and soil EC. The variety Agri. found light red recorded superior in salt tolerance up to the saline irrigation water EC 12.70 (dS m^{-1}).

Year: 2021-22

7. Evaluation of cowpea varieties for salinity tolerance (2019-20)

It is for the information of scientific community especially for plant breeders that cowpea variety GC 1 recorded higher mean salinity index (81.07) and mean seed yield (15.81 g/plant), minimum yield decline (29.1 %) at EC 8.0 dSm^{-1} and for 50 % yield reduction at EC 7.68 dS/m, as well as lower Na/K ratio in seed and stalk. Cowpea varieties GC 1 was found more salt tolerance as compared to AVC 1, Pusa Falguni and GC 2 on the basis of salinity indices.

8. Effect of saline irrigation water on pearl millet (2019-20)

It is for the information to scientific community especially for the plant breeder that pearl millet hybrid GHB 1129 recorded superior values of different salt tolerance criteria like higher mean salinity index (79.25%), higher mean grain yield (504.0 g/plot), minimum yield decline (32.49%) at 8.0 dS/m and for 50% yield reduction at 11.21 dS/m, as well as lower Na/K ratio in grain and fodder. Pearlmillet hybrid GHB 1129 was found more salt tolerant as compared to GHB 538, GHB 732 and GHB 558 on the basis of salinity indices.

9. Periodical evaluation of soil fertility status of Saurashtra region (2020)

Nutrient index values for available N, P_2O_5, K_2O and S were 1.50, 1.68, 2.68 and 2.19, respectively. While, nutrient index values for DTPA extractable micronutrients were 1.47, 2.70, 2.07 and 3.00 for Fe, Mn, Zn and Cu, respectively. Based on nutrient index values, the soils of Saurashtra region categorized in low in available N and Fe, medium in available P_2O_5, S and Zn whereas, high in available K_2O, Mn and Cu.

10. Establishment of critical limit of zinc for soybean crop in medium black calcareous soils (2021)

While, recommending Zn application to *kharif* soybean crop grown in calcareous soils of Saurashtra, STL of Gujarat should consider the critical limit of 0.55 ppm in soil and 42.44 ppm in soybean plant at 45 DAS.

Year: 2022-23

11. Optimization of nutrient package in *Bt* cotton under irrigated condition (2019-20)

If soil status of available nitrogen and phosphorus is low and potassium is high, than apply 180:50:113 kg/ha N:P_2O_5:K_2O to Bt cotton. N fertilizer applies in five splits of 20% each *viz:* as basal, at 30, 60, 90 and 120 DAS and K_2O in two splits *viz;* 50% as basal and at 30 DAS and P_2O_5 as basal. In addition, apply Azatobactor, PSB and KSB each 3 lit/ha through drenching for getting higher yield.

Year: 2023-24

12. Evaluation of soil texture of Junagadh district (2022)

It is informed to scientific community that, soil texture of Junagadh district is clayey, consisting of soil separate viz; sand 29.05 %, silt 24.67 % and clay 46.23 % i.e. 64 % area of soils of Junagadh district. Among the different talukas, Malia, Mangrol and Visavadar talukas soils falls under clay loam texture, while, in Vanthali, Bhesan, Keshod, Manavadar, Mendarda and Junagadh talukas soils falls under clayey texture.

13. Effect of FYM with and without phosphorus on groundnut (GG 20) yield (2019-20)

It is informed to scientific community that in *kharif* groundnut application of FYM 10 t ha^{-1} along with 20 kg P_2O_5 ha^{-1} every year gave higher yield and net return and also increases phosphorus content and uptake by pod and haulm. Application of FYM 10 t ha^{-1} along with 20 kg P_2O_5 ha^{-1} every year also increasing the phosphorus level in soil as compared to control.

Year: 2024-25

14. Effect of silicon on chickpea under saline irrigation water (2023-24)

It is for the information to scientific community that, chickpea crop irrigated with saline irrigation water yield was decreased with increase in salinity levels from 2.0 to 8.0 dS m^{-1}. With increase in soil application of silicon in form of SiO2 at the time of sowing from 0 to 300 ppm there was increased in yield and Si content in soil and decreased in Na/K ratio in plant and soil, $EC_{2.5}$, SAR and ESP of soil under saline irrigation water.

15. Effect of silicon on wheat under saline irrigation water (2023-24)

It is for the information to scientific community that, wheat crop irrigated with saline irrigation water, yield was decreased with increase in salinity levels from 2.0 to 8.0 dS m^{-1}. With increase in soil application of silicon in form of SiO_2 at the time of sowing from 0 to 300 ppm there was increased in yield and Si content in soil and decreased in Na/K ratio in plant and soil under saline irrigation water.

16. Study on relative salinity tolerance of leafy vegetables (2022-23)

Among the different leafy vegetable crops like coriander, fenugreek and spinach, higher mean salinity index (69.12) and mean seed yield (619.64 g/plot), minimum yield decline (52.87 %) at EC 8.0 dS/m and for 50 % yield reduction at EC 8.02 dS/m, as well as lower Na/K ratio in seed and stalk were observed with spinach. Spinach crop found more salt tolerance as compared to coriander and fenugreek on the basis of salinity indices.

17. Soil test based fertilizer recommendation for targeted yields of coriander (2022-23)

The scientist of soil testing laboratories are informed that the nutrients requirement for production of one quintal coriander grain was assessed as 3.92, 0.51 and 2.61 kg; N, P_2O_5 and K_2O, respectively and the fertilizer prescription equations are: for N: [FN : 8.13 x T - 0.46 x SN - 0.23 x FYM], P: [FP_2O_5 : 4.75 x T - 3.60 x SP - 0.24 x FYM] and K: [FK_2O : 8.05 x T - 0.56 x SK - 0.26 x FYM] with FYM 5 t/ha. While, without FYM the fertilizer prescription equations are: for N: [FN : 11.16 x T - 0.63 x SN], P: [FP_2O_5 : 9.41 T - 7.13 x SP] and K:[FK_2O : 9.23 x T - 0.63 x SK]. Targeted yield concept could be effectively adopted from 12.5 to 17.5 q/ha for site specific fertilizer recommendation to achieve high yields of coriander in the medium black calcareous soils of Saurashtra region of Gujarat.

18. Evaluation of soil textural classes in the soils of different talukas of Rajkot district (2025)

It is to inform to scientific community that in Rajkot district overall soil texture class is clay (28.83, 27.0 and 44.67 % sand, silt and clay, respectively), i.e. 51 % area of soils of Rajkot district. Among the different talukas, Gondal and Jetpur talukas soils are comes under Silty clay loam soil texture. While remaining talukas like Rajkot taluka, Padadhari, Jam-Kandorna, Kotda-Sangani, Vinchhiya, Dhoraji, Upleta, Jasdan and Lodhika comes under clay soil texture.

Table 6.4.26 PG: Awards/recognition received by faculty members (Department of Soil Science and Agricultural Chemistry)

Sr. No.	Name of Faculty	Name of Award	Authority	Year
1.	Dr. A. V. Rajani	Golden Achievers Award	Council for Academic Performance & Appraisal (Regd.), Delhi	2022-23
2.	Dr. S. G. Savalia	Member	ASRB, NET and JRF paper setting	2022-23
3.	Dr. S. G. Savalia	Member	ICAR Accreditation committee	2022-23
4.	Dr. S.G. Savalia	GAAS award for best extention work	GAAS, Ahmedabad	2023-24
5.	Dr. S. G. Savalia	Member	ASRB, NET and JRF paper setting	2023-24
6.	Dr. S. G. Savalia	Member	ICAR acreditation peer revie team	2023-24
7.	Dr. A. S. Jadeja	GAAS award for best extention work	GAAS, Ahmedabad	2023-24
8.	Dr. J.J. Vaghani	BEST AICRP (OILSEEDS)	ICAR- Indian Istitute of Oilseed Research, Rajendranagar, Hyderabad	2023-24
9.	Dr. A. S. Jadeja	Best thesis presentation	AAU, Anand	2024-25
10.	Dr. A. S. Jadeja	Best oral presentation	Conference, JAU, Junagadh	2024-25
11.	Dr. K. P. Bhuriya	Young research award	Hindustan Agricultural welfare Research Society, Agra (U. P)	2024-25
12.	Mr. K. P. Bhuriya	Editor	Agriculture E-News letter Magazin	2024-25
13.	Dr. H. L Sakarvadiya	Reviewer	International Journal of Agriculture Sciences	2024-25

Sr. No.	Name of Faculty	Name of Award	Authority	Year
14.	Dr. L. C. Vekariya	Reviewer	International Research Journal of Pure and Applied Chemistry	2024-25
15.	Dr. L. C. Vekariya	Reviewer	Trends in bioscience	2024-25
16.	Dr. K.B. Parmar	Reviewer	An Asian Journal of Agriculture Sciences	2024-25
17.	Dr. A. S. Jadeja	Reviewer	International Journal of Agriculture Sciences	2024-25
18.	Dr. A. S. Jadeja	Reviewer	The Pharma Innovation	2024-25
19.	Pro. P. I. Jetapara	Young Women Scientist Award	Agri meet foundation, Bharat, UGC-MMTTC JNVU Jodhpur.	2025-26

Table 6.4.27 PG: Awards received by PG degree students (Department of Soil Science and Agricultural Chemistry)

Sr. No.	Name of Student	Name of Award	Year
1.	Dalsaniya Hetal M.	Highest OGPA in M.Sc. (Agri) Soil Science, JAU, Junagadh	2022-23
2.	Vasoya Mansi	Best poster award on World Soil Day, AAU, Anand	2022-23
3.	Vadaliya Parita	Highest OGPA in M.Sc. (Agri) Soil Science, JAU, Junagadh	2023-24
4.	Vadaliya Parita	Highest OGPA in M.Sc. (Agri) Soil Science & Agronomy, JAU, Junagadh	2023-24
5.	Vasoya Mansi	Inter college competition, COA, JAU, Junagadh	2023-24

Table 6.4.28 PG: Year-wise NET qualified PG/Ph.D. Students in Soil Science and Agricultural Chemistry

Sr. No.	Year	No. of students qualified NET
1.	2020-21	01 (UGC NET)
2.	2021-22	01
3.	2022-23	---
4.	2023-24	03 (UGC NET)
5.	2024-25	Exam not conducted
Total		05

Table 6.4.29 PG: Research publications of faculty Members (Department of Soil Science and Agricultural Chemistry)

Sr. No.	Particular	Number of publications during Last Five Years
1.	National/International Journal	95
	6.0 and above	02
	4.0-6.0	93
	< 4.0	00
2.	Books Published/Book Chapter	21
3.	Practical Manuals	22

Table 6.4.30 PG: Seminar / workshop / symposia organized by the Department of Soil Science and Agricultural Chemistry during 2020-21 to 2025-26

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2020-21				
1.	Soil Testing as a business opportunity	04-01-2021 to 08-01-2021	JAU, Junagadh	50
2.	Integrated Nutrient Management of Fertilizer Dealers	17-02-20 to 05-03-2020	JAU, Junagadh	79
2021-22				
3.	Integrated Nutrient Management of Fertilizer Dealers	09-08-21 to 26-08-21	JAU, Junagadh	59
4.	Integrated Nutrient Management of Fertilizer Dealers	20-09-21 to 07-10-21	JAU, Junagadh	54
5.	Integrated Nutrient Management of Fertilizer Dealers	18-10-21 to 02-11-21	JAU, Junagadh	61
6.	Integrated Nutrient Management of Fertilizer Dealers	09-12-21 to 23-12-21	JAU, Junagadh	64
2022-23				
7.	Integrated Nutrient Management of Fertilizer Dealers	01-04-2022 to 15-04-2022	JA, Junagadh	71
8.	Integrated Nutrient Management of Fertilizer Dealers	02-05-2022 to 16-05-2022	JAU, Junagadh	77
9.	Integrated Nutrient Management of Fertilizer Dealers	01-06-2022 to 15-06-2022	JAU, Junagadh	92

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
10.	Integrated Nutrient Management of Fertilizer Dealers	27-06-2022 to 11-07-2022	JAU, Junagadh	67
11.	Integrated Nutrient Management of Fertilizer Dealers	25-07-2022 to 08-08-2022	JAU, Junagadh	75
12.	Integrated Nutrient Management of Fertilizer Dealers	29-08-2022 to 12-09-2022	JAU, Junagadh	75
13.	Integrated Nutrient Management of Fertilizer Dealers	15-09-2022 to 29-09-2022	JAU, Junagadh	80
14.	Five days training programme on soil testing as a business opportunity	19-09-2022 to 23-09-2022	JAU, Junagadh	45
15.	Integrated Nutrient Management of Fertilizer Dealers	06-10-2022 to 20-10-2022	JAU, Junagadh	73
16.	Integrated Nutrient Management of Fertilizer Dealers	03-11-2022 to 17-11-2022	JAU, Junagadh	81
2023-24				
17.	Integrated Nutrient Management of Fertilizer Dealers	19-12-2022 to 02-01-2023	JAU, Junagadh	92
18.	Integrated Nutrient Management of Fertilizer Dealers	06-01-2023 to 20-01-2023	JAU, Junagadh	99
19.	Integrated Nutrient Management of Fertilizer Dealers	14-03-2023 to 28-03-2023	JAU, Junagadh	75
20.	Integrated Nutrient Management for fertilizer dealers	11-04-2023 to 25-04-2023	JAU, Junagadh	78
21.	Integrated Nutrient Management for fertilizer dealers	01-05-2023 to 15-05-2023	JAU, Junagadh	78
22.	Integrated Nutrient Management for fertilizer dealers	17-05-2023 to 02-06-2023	JAU, Junagadh	71
23.	Integrated Nutrient Management for fertilizer dealers	08-06-2023 to 23-06-2023	JAU, Junagadh	70
24.	Integrated Nutrient Management for fertilizer dealers	03-07-2023 to 17-07-2023	JAU, Junagadh	48
25.	Integrated Nutrient Management for fertilizer dealers	21-08-2023 to 04-09-2023	JAU, Junagadh	89
26.	Integrated Nutrient Management for	25-09-2023 to	JAU,	86

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
	fertilizer dealers	09-10-2023	Junagadh	
27.	Integrated Nutrient Management for fertilizer dealers	19-10-2023 to 02-11-2023	JAU, Junagadh	80
28.	Integrated Nutrient Management for fertilizer dealers	14-12-2023 to 28-12-2023	JAU, Junagadh	75
2024-25				
29.	Integrated Nutrient Management for fertilizer dealers	12/03/2024 to 26/03/2024	JAU, Junagadh	81
30.	Integrated Nutrient Management for fertilizer dealers	15-04-2024 to 29-04-2024	JAU, Junagadh	103
31.	Integrated Nutrient Management for fertilizer dealers	08-07-2024 to 22-07-2024	JAU, Junagadh	72
32.	Integrated Nutrient Management for fertilizer dealers	02-08-2024 to 16-08-2025	JAU, Junagadh	37

6.4.2. FACULTY STRENGTH AS ON (AS OF 31-07-2025)

The department has sufficicent sanctioned and filled up faculty position. besides this, teaching, and guiding the PG students are also given to the faculties from research stations and other offices.

Table 6.4.31 PG: Details of faculty strength (Department of Soil Science and Agricultural Chemistry)

Sr. No	Sanctioned Faculty for Ph. D.	Faculty in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Associate Professor	01	01	Not recommended by ICAR	02
2.	Assistant Professor	05	01		06
	Total	06	02		08

6.4.3 TECHNICAL /SUPPORTING STAFF AS ON (AS OF 31-07-2025)

Table 6.4.32 PG: Details of technical/supporting staff strength as of 31.07.2025 (Department of Soil Science and Agricultural Chemistry)

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Recommended by ICAR	Staff sanctioned by the GoG
1.	Technical/Supporting staff	07	07	Not recommended by ICAR	14
2.	Administrative staff	01	02		03
Total		08	09		17

6.4.4. CLASSROOMS AND LABORATORIES

a) No. of classrooms

This department has one lecture hall for conducting theory class at the Department of Soil Science and agricultural Chemistry.

Table 6.4.33 PG: Classroom infrastructure in the department

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Soil Science & Agricultural Chemistry					
1	PG Classroom	41.00	40	Theory and practical teaching	AC, Projector, Computer with Internet

PG CLASSROOM

b) Functional PG laboratories

This department has nine laboratories for chemical analysis of soil, water and plant samples for PG students, research experiment and farmers.

Table 6.4.34 PG: Departmental PG laboratories established (As of 31-07-2025)

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Soil Science					
1	MSS Research Lab	60	15	Research	Salinity Indices
2	Micronutrients Research Lab	60	15	Research	Micronutrient analysis
3	G-1 Research Lab	60	15	Research	Soil Plant NPK
4	Soil Water Analysis Lab	120	10	Research	All instruments related to soil analysis

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
5	STCR Lab	62	10	Research	Plant analysis
6	Soil Survey Lab	41	10	Research	Fertility estimation
7	LTFE Lab	41	10	Research	Soil Plant analysis
8	PG Lab	41	10	Practical and research	PG/Ph.D. research work
9	UG Lab	180	50	Practical	UG/Ph.D. dual

PG LABORATORY

Table 6.4.35 PG: List of major equipment available in the Department of Soil Science and Agricultural Chemistry

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
Department of Soil Science and Agricultural Chemistry				
1	Soil Water Analysis Lab	Robotic Clay Fraction Analyser	1	40.91
2	Soil Water Analysis Lab	Atomic temperature correction water quality meter/ion analyser	1	3.08
3	PG Lab	Pressure plate Apparatus	1	45.00
4	PG Lab	Automatic Shaker	1	1.20
5	PG Lab	Water Distillery System	1	0.80
6	PG Lab	Plant Nitrogen analyser	1	0.40
7	Micronutrients Research Lab	Atomic absorption spectroscopy	1	20.00

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
8	Micronutrients Research Lab	Atomic absorption spectroscopy with graphite farness	1	40.00
9	Micronutrients Research Lab	MP-AES	1	45.00
10	MSS Research Lab	Vacuum Unit	1	0.40
11	G-1 Research Lab	automated nitrogen analyser	1	15.00
12	Soil Water Analysis Lab	UV Spectrophotometer	1	5.00
13	Soil Water Analysis Lab	Flame photometer	1	1.30
14	Soil Water Analysis Lab	EC meter, pH meter	1	2.00

ROBOTIC CLAY ANALYSER

ION ANALYSER

PRESSURE PLATE APPARTUS

ATOMIC ABSORPTION SPECTROSCOPY

FLAME PHOTOMETER	**MP-AES**

Table 6.4.36 PG: Farm Facilities available with the Department of Department of Soil Science and Agricultural Chemistry

Sr. No.	Name of Farm/ Cafeteria	Area (hectare)	No. of Experiments continue		Details of activities
			Departmental	Students	
Soil Science and Agricultural Chemistry					
1	Net House	0.8	12	19	Experiment on Soil Salinity, Fertility and Critical limit

Table 6.4.37 PG: Theory and practical batches for the PG program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semesters	Batch of students in theory and practical class	
			Batch	No. of students
1.	M.Sc. (Agri.) Soil Science and Agril. Chemistry	Odd	01	09
2.		Even	01	09

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

- Training is provided on techniques for the collection and analysis of soil and plant samples, along with the use and maintenance of basic analytical instruments. Students are also trained in the use of digital burettes, preparation of standard solutions, handling of pipettes, and other laboratory procedures.
- The faculty members prepare comprehensive theory notes and practical manuals for each subject in the degree program, drawing content from various textbooks, research papers, and reference materials. These study materials are distributed to students free of cost and are also made available on the University website.
- Several faculty members with over five years of teaching experience at the undergraduate and postgraduate levels contributed as course creators to the ICAR e-learning portal.
- Students gain hands-on practical exposure in well-equipped, discipline-specific laboratories.
- Over the past five years, the department's faculty members have published several textbooks for postgraduate students, contributing to quality academic resources as given below.

Sr. No.	Title of Book	Author	Publisher
1	Soil Fertility management for sustainable agriculture (2021)	A.V. Rajani	JAYA Publishing House
2	Textbook of Problematic soil (2021)	D.V. Hirapara, A.S. Jadeja, L.C. Vekariya, H.L. Sakarvadia	JAYA Publishing House
3	Soil Fertility and Nutrient management- A way for sustainable agriculture (2021)	A.S. Jadeja, D.V. Hirapara, L.C. Vekariya, H.L. Sakarvadia	JAYA Publishing House
4	Soil Fertility and Nutrient management- A way for sustainable agriculture (2021)	A.S. Jadeja, D.V. Hirapara, L.C. Vekariya,	CRC Publication
5	Soil Science Simplified (2022)	D.V. Hirpara, A.S. Jadeja, D.V. Parkhiya, L.C. Vekaria, H.L. Sakarvadia, M.A. Davra	Jaya publishing house
6	Chemistry of the soil. A mode to conscious with soil chemistry (2022)	A.V. Rajani	Narendra Publishing House
7	A Basic Concept of Soil Science (2024)	A.V. Rajani	National publishing House

6.4.6. SUPERVISION OF STUDENTS IN PG DEGREE PROGRAM

Table 6.4.38 PG: Number of students supervised (guided) by faculty in the last five years

Department	No. of students supervised (guided) by faculty in the last five years	
	M.Sc. (Agri.)	Ph.D.
Soil Science and Agricultural chemistry	33	14

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*)

- Generally, good feedback is received from current and passed-out students as well as from parents, industries, employers, farmers *etc.* (Annexure 6.4.7a)
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per schedule wherein, Deans of all faculties, nominated Professors and Research Scientists of different faculties and renowned academicians are members. Based on the Board of Study recommendation, the Academic Council takes the decision on academic matter for implementation in the university/college.
- ***STUDENT ADVISORY COMMITTEE:*** There is four-member advisory committee. Major guide is chairman and other members from minor subject, allied subject and statistics. Committee members guide the student to select research work, seminar topics, *etc.* Committee members frequently visit the experimental field and guide the students.
- ***STUDENT REPRESENTATIVE COUNCIL (SRC) AND STUDENT COUNSELLING AND PLACEMENT CELL (SCPC):*** Feedback collected with student interactions is reviewed by the members and appropriate measures are implemented based on the feedback received.
- ***FACULTY GROUP OF SUBJECTS:*** Faculty Group of Subjects meeting held once in a year and the workload of faculty and progress of the students are thoroughly discussed with suggestions for improvement. The suggestions received by the Department of Agronomy in the Faculty Group of Subjects during the last five years are given hereunder.

Table 6.4.39 PG: Faculty Group Meetings for Natural Resource Management group

Sr. No.	Year	Convener	Faculties remain present	Suggestions received
1	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Director of Student Welfare, Principal & Dean and Registrar	Suggestions received from concerned FGS meetings; corresponding action taken reports are submitted in **Annexure 6.4.7b, pg. 106 to 111.**
2	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Director of Student Welfare, Principal & Dean and Registrar	
3	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal & Dean	
4	2023-24	Professor and Head	Director of Research & Dean PG Studies, Registrar, Director of Extension Education, Principal & Dean and Asso. Director of Research	
5	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research & Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal & Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR THE LAST FIVE YEARS

Table 6.4.40 PG: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
M.Sc. (Agri.) in Soil Science and Agricultural Chemistry	2020-21	8	8	00%
	2021-22	7	5	19 %
	2022-23	5	5	00 %
	2023-24	5	5	00 %
	2024-25	4	4	00%
	2025-26	5	5	00%

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

1. ***CERA AND OTHER ONLINE E-RESOURCES:*** Junagadh Agricultural University has subscribed to the ICAR Consortium for e-Resources in Agriculture (CeRA). Through this, faculty and students access more than 3,000 reputed journals in Agriculture and allied sciences with full-text availability.
2. ***ONE NATION, ONE SUBSCRIPTION (ONOS):*** Both faculty members and PG students of the department also regularly access One Nation, One Subscription (ONOS) portal of GoI, besides open access research domains such as Google Scholar, ResearchGate and Academia are utilized for networking among peers and other scholars.
3. ***E-BOOKS:*** The University Library provides access to Springer e-books. At a time, 25 users can simultaneously access an e-book. Additionally, the library has a collection of more than 200 Indian e-books for academic use.
4. ***KRISHIKOSH:*** Junagadh Agricultural University is an active member of Krishikosh, the national repository of theses submitted to Agricultural Universities and ICAR institutes. All postgraduate and doctoral theses submitted to JAU are regularly uploaded to this database for wider accessibility.
5. ***INTERNET:*** Digital library with computers and internet facility is available and used by the UG and PG students. Internet facility is also provided at all the hostels which is available for all the time.
   - The students are taught by PowerPoint presentations and audio-visual aids are systematically utilized during lectures and practical sessions.
   - Students are also given exposure to use JAU iKrushi Sanhita, a mobile application developed by the University, besides encouraging them to regularly listen to Junagadh Janvani 91.2 FM for information on crop-specific advisory and strategies.
   - Various video platforms, including Google Classroom, Google Meet, Zoom, and Microsoft Teams, are regularly used for arranging online lectures by esteemed faculty members, recruiters and career counsellers.

- The concerned course teachers also upload lecture-wise PPT, note, assignments, *etc*. to Google Classroom and semester-wise WhatsApp groups.
- The department also strictly adheres to the Anti-Plagiarism norms stipulated by the university.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, CoA, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: 31.01.2026
Place: Junagadh

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Annexure 6.4.7a

Postgraduate Students' Feed Back Report for AY 2024-25	
Department of Soil Science and Agricultural Chemistry, CoA, JAU, Junagadh (n = 37)	
Particulars	**Average Score**
Departmental Teaching - Learning Process	
1. How do you rate Student- Teacher relations?	3.7
2. How do you rate for completion of courses by the teachers?	3.2
3. How do you rate fairness in internal assessment in the department?	3.4
4. How do you rate practical exposure from the department?	3.5
5. How do you rate for statical analysis facility provided by the department	3.7
6. Did teachers motivate /support you for solving your personal problems	3.9
P.G. Research facility	
1. How do you rate for your selection of research topic?	3.8
2. Did you get enough facilities for conducting experiment?	3.6
3. How do you rate material provided for conducting experiment?	3.5
4. How do you rate for major Guide for supporting in completion of Seminar and thesis project	3.4
Library facilities	
1. Books related to your subject are available in the library	3.2
2. Internet facilities for learning and research purpose	3.3
3. Availability of research journals (online /offline) for review purpose	3.1
4. How do you rate for delivery of books system?	3.4
Hostel Facility	
1. How do you rate Hostel facilities?	3.4
2. How do you rate wi-fi facility?	3.3
3. How do you rate for food quality in mess?	3.1
4. How do you rate cleanliness in the hostel?	3.5
Sports Facility	
1. How do you rate indoor sports facility?	3.8
2. How do you rate outdoor sports facility?	3.5

Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	**3**	**2**	**1**

Annexure 6.4.7b: Suggestions Received in the Faculty Group Meetings

Action taken report on the proceedings of 6th meeting of FGS-NRM held on November 24, 2020 at conference hall, Department of Agril. Economics, CoA, JAU, Junagadh

#	Suggestions received	Action Taken
6.1	Publication of research papers and popular articles by the faculty is not up to satisfactory level, hence faculty have to take this matter as serious and should have to publish in >5 NAAS rated journals (***Action:*** *All faculty members, FGS-NRM*).	Faculty members mostly published their research papers in above 5 NAAS ratted journals.
6.2	Research papers based on departmental research should be published (***Action:*** *All faculty members, FGS-NRM*).	We have already published our departmentally research work in above 5 NAAS rated journals.
6.3	Our previous research should be cited in the new research articles (**Action**: All faculty members, FGS-NRM).	The suggestion is implemented.
6.4	The RAWEP should be implemented properly (***Action:*** *HoD, Agronomy and Agril.Chemistry & Soil Science*).	The suggestion is implemented.
6.5	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET and their placement (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	Department already maintain NET/SRF/JRF pass out student's register.
6.6	Junior teachers should be involved in research projects (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	The suggestion is implemented.
6.7	Training organized by the College/Department, its feedback and resource persons should be included in the report (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	Department organized five trainings and its resource person are mentioned in the report.
6.8	There is need to prepare guidelines for presence of PG students in seminar when there are multiple groups (***Action:*** *Principal, COA, Junagadh*).	---
6.9	First semester UG course should be offered by respective HoD (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	---
6.10	Need to prepare guidelines and format for teaching workload including courses, seminar, guiding (Major/Minor/Member), RAWE/ELP, etc. (***Action:*** *Principal, COA, Junagadh*).	Implemented
6.11	Upgrade teaching material with latest technology, varieties, etc. (***Action:*** *All*	E- Resources (Videos, booklets, live specimens, presentations with

	teaching faculty members, FGS-NRM).	audio *etc.*) developed by our faculties during these COVID-19 eras for easy-to-understand UG and PG courses.
6.12	Outsourced manpower and research fellow should be included in staff position status of the report (***Action:*** *HoD, Agronomy and Agril. Chem. & Soil Sci. and Principals, Polytechnics*).	The suggestions are accepted.
6.13	Enhance digital learning by preparing video of practicals, PCP, ELP, educational tour, etc. and include in digital library like YouTube (***Action:*** *All teaching faculty members, FGS-NRM & HoDs*).	Department faculties are recorded their lectures videos for students and also uploaded on ICAR e-*shiksha* portal. Our faculty also arrange tour for ELP students.
6.14	Polytechnics have also to prepare the report as per format of Agronomy and Soil Science (***Action:*** *Principals, Polytechnics*).	---
6.15	Photographs of lab, infrastructure and awards should be included in the report (***Action:*** *HoD, Agronomy and Agril. Chem. & Soil Sci. and Principals, Polytechnics*).	The suggestion is implemented.
6.16	All faculty and PG students should apply for outstanding achievement/thesis awards and report to the concerned department. (***Action:*** *All faculty members, FGS-NRM*).	The suggestion is implemented.
6.17	Teaching workload should be equally distributed to faculty members (***Action:*** *HoD, Agronomy and Agril. Chem. & Soil Sci. and Principals, Polytechnics*).	The suggestion is implemented.
6.18	Major guides has to visit their PG students' experiments regularly (***Action:*** *Concerned faculty members, FGS-NRM*).	The suggestion is implemented.
6.19	All the members of faculty group of NRM shall have to provide related information strictly as per the format and in time (***Action:*** *All faculty members, FGS-NRM*).	The suggestion is implemented
6.20	If possible, ISBN number of manual should be taken and manual should be cross-checked by external experts (***Action:*** *All faculty members, FGS-NRM*).	----
6.21	All the faculties should have to attend PG seminars (***Action:*** *All faculty members, FGS-NRM*).	The suggestion is implemented

Action Taken Report on the Proceedings of 7th Meeting of FGS-NRM Held on December 02, 2021 at Conference Hall, Department of Agril. Economics, CoA, JAU, Junagadh

#	Suggestions received	Action taken
7.1	Publication of research papers and popular articles by the faculty is not up to satisfactory level, hence faculty have to take this matter as serious and should have to publish in >5 NAAS rated journals (***Action**: All faculty members, FGS-NRM*).	Implemented
7.2	Research papers based on departmental research should be presented in seminar/symposia and then published in good journals (***Action**: All faculty members, FGS-NRM*).	Implemented
7.3	Our previous research should be cited in the new research articles (**Action**: All faculty members, FGS-NRM).	Implemented
7.4	The records of the placement of UG & PG students should be maintained at college as well as at department level (***Action**: Principal, COA, HoD, Agronomy and Agril. Chemistry & Soil Science*).	Implemented
7.5	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Implemented
7.6	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major/Minor/Member), RAWE/ELP, etc. (***Action**: Associate Director of Research & Principal, COA, Junagadh*).	Accepted
7.7	Good quality photographs of the laboratory, infrastructure developed, award and recognition should be included in the report (***Action**: HoD, Agronomy, Agril. Chemistry & Soil Science and Principals, Polytechnics*).	Included
7.8	All the documentations done by the department should be properly documented for future reference (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Implemented
7.9	Every month, a meeting of the PG students should be organised at department level to discuss about experiments and other works (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Accepted
7.10	All the Ph.D. students should be treated as staff members and they should be assigned departmental work as well as practical teaching (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Not finalised

7.11	Information of the FGS should be submitted timely and strictly as per the format (***Action:*** *All faculty members, FGS-NRM*).	Some improvement is observed, still some faculty have not followed the instructions
7.12	If possible, ISBN number of manuals should be taken and manuals should be cross-checked by external experts (***Action:*** *All faculty members, FGS-NRM*).	Implemented
7.13	The PG table of the department should be designated as PG Coordinator or Co-Coordinator (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	Accepted
7.14	Arrange a felicitation programme for the students who have passed SRF/JRF/ARS/NET (***Action:*** *Principal, CoA, Junagadh*).	Implemented
7.15	There should be a combined presentation of all the Polytechnics of Agriculture (***Action:*** *Principals, Polytechnics*).	Implemented
7.16	Principal, Polytechnic should be designated as Principal (Poly.) (***Action:*** *Principals, Polytechnics*).	Partially implemented
7.17	The strength of the students in polytechnics should be increased up to 50 including EWS and PCP should be included in the syllabus (***Action*** *Principals, Polytechnics*).	Implemented
7.18	Polytechnics should arrange 2-3 programmes in a year, so Vice Chancellor and University Officers can visit (***Action:*** *Principals, Polytechnics*).	Implemented
7.19	All the faculties should have to attend PG seminars (***Action:*** *All faculty members, FGS-NRM*).	Implemented

Action Taken Report on the Proceedings of 8th Meeting of FGS-NRM Held on January 25, 2023 at Conference Hall, Department of Agril. Economics, JAU, Junagadh

#	Suggestions received	Action taken
8.1	All the PG students should cite at least 10 references of JAU faculty's research in their thesis (***Action:*** *All the PG students & faculty members, FGS-NRM*).	Implemented
8.2	The faculties should participate in seminar / symposia and present the research papers based on departmental research and then published in good journals (***Action:*** *All faculty members, FGS-NRM*).	Implemented
8.3	The records of the placement of UG & PG students should be maintained at college as well as at department level (***Action:*** *Principal, COA, HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented
8.4	The record should be maintained every year for students passed out the competitive examinations like JRF / SRF / NET (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented

8.5	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major / Minor / Member), RAWE/ELP, etc. (***Action:*** *Associate Director of Research & Principal, COA, Junagadh*).	Implemented
8.6	Good quality photographs of the laboratory, infrastructure developed, award and recognition should be included in the report (***Action:*** *HoD, Agronomy, Soil Science & Agril. Chemistry and Principals, Polytechnics*).	Implemented
8.7	Every month, a meeting of the PG students should be organised at department level to discuss about experiments and other works (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented
8.8	Information of the FGS should be submitted timely and strictly as per the format (***Action:*** *All faculty members, FGS-NRM*).	Accepted, still some faculty are not providing information in prescribed format.

Action Taken Report on the Proceedings of 9th Meeting of FGS-NRM Held on February 01, 2024 at Conference Hall, Department of Agril. Economics, JAU, Junagadh

#	Suggestions received	Action taken
9.1	All the PG students should cite at least 10 references of JAU faculty's research in their thesis (***Action:*** *All the PG students & faculty members, FGS-NRM*).	Implemented, PG students have cited relevant research of JAU faculties in their thesis
9.2	The faculties should participate in seminar / symposia and present the research papers based on departmental research and then published in NASS rated journals (***Action:*** *All faculty members, FGS-NRM*).	Implemented
9.3	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented
9.4	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major/Minor/Member), RAWE/ELP, etc. (***Action:*** *Associate Director of Research and Principal & Dean , CoA, Junagadh*).	Implemented
9.5	Every month, a meeting of the PG students should be organised at department level to discuss about experiments and other works (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented, Seven meeting were organised
9.6	Information of the FGS should be submitted timely and strictly as per the format (***Action:*** *All faculty members, FGS-NRM*).	Accepted & implemented

9.7	Verify of how many recommended books were purchased by the university library and if any important books were not purchased, further recommend to the library (***Action:*** College library, CoA, JAU, Junagadh).	Implemented
9.8	Review the printed journals of UG courses from the experts or teacher from the other university (***Action:*** *All faculty members, FGS-NRM*).	Accepted & implemented

Action Taken Report on the Proceedings of 10th Meeting of FGS-NRM Held on January 04, 2025 at Conference Hall, Department of Agril. Economics, JAU, Junagadh

#	Suggestions received	Action taken
10.1	Information of the FGS should be submitted timely and strictly as per the format. (***Action:*** *All faculty members, FGS-NRM*).	Implemented and information submitted timely by all the faculties.
10.2	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET and send to Principal and Dean *(**Action:** HoD, Agronomy and Soil Science & Agril. Chemistry)*.	Record has been maintained and also submitted to Principal & Dean.
10.3	All the PG students should cite at least 10 references of JAU faculties' research in their thesis *(**Action:** All the PG students & faculty members, FGS-NRM)*.	PG students and their guides are instructed to cite references of JAU faculty's research.
10.4	All the NRM faculty remain present strictly in FGS meeting *(**Action:** All faculty members, FGS-NRM)*.	The message has been conveyed the faculties to remain present in the meeting strictly.
10.5	PG research and departmental research published in high NAAS rated journals *(**Action:** All faculty members, FGS-NRM)*.	Papers have been published in higher NAAS rated journals.
10.6	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major /Minor/ Member), RAWE/ELP, etc. *(**Action:** Asso. Director of Research & Principal, CoA, Junagadh)*.	The report of 11th FGS-NRM meeting is prepared as per the revised FGS information Performa.
10.7	The faculties should participate in seminar /symposia/training as per their discipline only. *(**Action:** All faculty members, FGS-NRM)*.	Faculties are attending relevant seminar /symposia/ training etc. of the discipline.

6.4:
Self-Study Report
for M.Sc. (Agri.)
in
Entomology

6.4. SELF-STUDY REPORT FOR M.SC. (AGRI.) IN ENTOMOLOGY AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PG DEGREE PROGRAM

Postgraduate education in Agricultural Entomology was initiated with the launch of the M.Sc. (Agri.) in Entomology in 1964. The programme was designed to provide specialized knowledge and training in insect science to meet the growing needs of research, teaching, and crop protection. Over the years, the programme has produced a large number of postgraduate scholars, who have excelled in: Teaching – as faculty in state, national, and international universities. Research – contributing to innovations in pest management, insect ecology, resistance studies, and biocontrol. Extension – transferring eco-friendly pest management technologies to farming communities. The curriculum emphasizes a balance of theoretical knowledge and practical skills, with fieldwork, laboratory research, and dissertation-based training. Major areas of focus for postgraduate students include: Insect biodiversity and ecology, Host-pest interactions, Integrated Pest Management (IPM), Biological control of insect pests, Insect toxicology and resistance management. The programme continues to evolve in line with emerging challenges in agriculture, preparing students for leadership roles in entomology research and development.

Department of Agricultural Entomology, College of Agriculture, JAU, Junagadh

STEPPING-STONES OF THE DEPARTMENT

- **1960** – The Department of Agricultural Entomology was established along with the College of Agriculture, Junagadh, laying the foundation for teaching and research in insect science.
- **1964** – The department took a major leap forward by starting the Postgraduate M.Sc. (Agri.) in Entomology programme, strengthening higher education in the discipline.
- **1967** – Building upon this base, the Ph.D. programme in Entomology was initiated, marking a new era of advanced research and academic excellence.
- **1976** – The Non-Plan Project for Research in Pest Control and other Entomological Aspects (B.H. 5026) was launched, enhancing applied research capabilities.
- **1996-97** – Introduction of the Plan Scheme on Integrated Pest Management in Fruit Crops (B.H. 12094) expanded research into sustainable crop protection.

- **2004** – The department diversified by strengthening facilities for sericulture, apiculture, and mushroom cultivation (B.H. 12564), catering to allied agricultural enterprises.
- **2011** – Establishment of the Biocontrol Research Laboratory provided a strong platform for eco-friendly pest management and biological control studies.
- **2012-13** – A new Plan Scheme on Integrated Pest Management in Seed Spices (B.H. 12032) was initiated, addressing region-specific crop protection needs.
- **2023-24:** The department was granted patent for the 'Device for Insects Trapping for Managing Insects' (Granted patent no.: 478250) by the Indian Patent Office, GoI.
- **2024-25:** The department was granted patent for the 'A Composition for Male Confusing Technique of Shoot and Fruit borer in Brinjal crop' (Granted patent no.: 536789) by the Indian Patent Office, GoI.

MISSION, GOALS AND OBJECTIVES

MISSION: The department is committed to provide excellence, innovation and effectiveness in education, research and transfer of technology programs. The mission of the Department of Entomology, College of Agriculture is to advance scientific knowledge in the field of entomology and to disseminate this knowledge through publication, teaching, and service. To advance our mission, the under graduate and post graduate program in the Department of Entomology emphasizes excellence in all scientific endeavors related to the research, teaching, and practice of entomology.

GOALS: The primary goal of the Department of Entomology is to develop skilled human resources, generate advanced scientific knowledge and evolve eco-friendly pest management technologies that contribute to sustainable agricultural production, food security and the welfare of farming communities at regional, national and global levels.

OBJECTIVES:

- To impart and maintain quality in education, research and extension activities in the field of Agricultural Entomology.
- To equip the bachelor, master and doctorate degrees students to conduct independent research in the field of Agricultural Entomology.
- To provide diagnostic services to pest problems of the farming community throughout Saurashtra region of Gujarat.
- To develop advanced technologies in pest management and to disseminate the technologies to the farmers.
- Undertaking research projects sponsored by State Government, ICAR, Private Pesticide/Seed Companies, other Agencies etc. To organize different training programmes for the scientist, faculty members and farmers in the field of entomology.

ACCOMPLISHMENTS/ ACHIEVEMENTS OF THE LAST FIVE YEARS

EXTERNAL FUNDED PROJECTS IN THE DEPARTMENT OF AGRICULTURAL ENTOMOLOGY

2020-21:

1. Integrated Pest Management in seed spices sponsored by Govt. of Gujarat (B.H. 12032)
2. Research for Integrated Pest Management in fruit crops sponsored by Govt. of Gujarat (B.H. 12094)
3. Strengthening the facilities for Sericulture, Apiculture and Mushroom cultivation sponsored by Govt. of Gujarat (B.H. 12564)
4. Project for research in pest control and other entomological aspects sponsored by Govt. of Gujarat (B.H. 5026)
5. Evaluation of chlorpyrifos 50% + cypermethrin 5% EC against fall armyworm and stem borer in maize sponsored by Gharda Chemicals Ltd. (B.H. 18009-60)
6. Evaluation of cypermethrin 10% + indoxacarb 10% SC against fall armyworm and stem borer in maize sponsored by Gharda Chemicals Ltd. (B.H. 18009-61)
7. Bio-efficacy evaluation of beta cyfluthrin 90 g/l + imidacloprid 210 g/l OD (Solomon 300 OD) against aphid and thrips in cumin sponsored by Bayer Crop Science Limited (B.H. 18009-64)
8. Monitoring of *Helicoverpa armigera* (Hubner) through solar light trap in chickpea sponsored by Urmie UV tech India Ltd. (B.H. 18009-67)

2021-22:

1. Integrated Pest Management in seed spices sponsored by Govt. of Gujarat (B.H. 12032)
2. Research for Integrated Pest Management in fruit crops sponsored by Govt. of Gujarat (B.H. 12094)
3. Strengthening the facilities for Sericulture, Apiculture and Mushroom cultivation sponsored by Govt. of Gujarat (B.H. 12564)
4. Project for research in pest control and other entomological aspects sponsored by Govt. of Gujarat (B.H. 5026)
5. Evaluation of bio-efficacy and phytotoxicity of Afidopyropene 50 g/l DC against aphids on cumin crop sponsored by BASF India Ltd. (B.H. 18009-74)

2022-23:

1. Integrated Pest Management in seed spices sponsored by Govt. of Gujarat (B.H. 12032)
2. Research for Integrated Pest Management in fruit crops sponsored by Govt. of Gujarat (B.H. 12094)
3. Strengthening the facilities for Sericulture, Apiculture and Mushroom cultivation sponsored by Govt. of Gujarat (B.H. 12564)

4. Project for research in pest control and other entomological aspects sponsored by Govt. of Gujarat (B.H. 5026)
5. Evaluation of bio-efficacy and phytotoxicity of Afidopyropene 50 g/l DC against aphids on cumin crop sponsored by BASF India Ltd. (B.H. 18009-74)
6. Bio-efficacy evaluation of PII 50 55% EC on insect pests of cotton sponsored by PI Industries Ltd. (B.H. 18009-77)
6. Efficacy evaluation of Flubendiamide 90 g/L + Deltamethrin 60 g/L (Fenos Quick) on mango sponsored by Bayer Crop Science Limited (B.H. 18009-78)
7. Efficacy evaluation of Flubendiamide 90 G/L + Deltamethrin 60 G/L (Fenos Quick) against fruit fly in mango Bayer Crop Science Limited (B.H. 18009-79)

2023-24

1. Integrated Pest Management in seed spices sponsored by Govt. of Gujarat (B.H. 12032)
2. Research for Integrated Pest Management in fruit crops sponsored by Govt. of Gujarat (B.H. 12094)
3. Strengthening the facilities for Sericulture, Apiculture and Mushroom cultivation sponsored by Govt. of Gujarat (B.H. 12564)
4. Project for research in pest control and other entomological aspects sponsored by Govt. of Gujarat (B.H. 5026)
5. Establishment of apiculture unit for bee breeding and bee clinic sponsored by Govt. of Gujarat (B. H. 18009-80)
6. Bio-efficacy evaluation of PII 50 55% EC on insect pests of cotton sponsored by PI Industries Ltd. (B.H. 18009-77)
7. Efficacy evaluation of Flubendiamide 90 g/L + Deltamethrin 60 g/L (Fenos Quick) on mango sponsored by Bayer Crop Science Limited (B.H. 18009-78)
8. Efficacy evaluation of Flubendiamide 90 G/L + Deltamethrin 60 G/L (Fenos Quick) against fruit fly in mango Bayer Crop Science Limited (B.H. 18009-79)
9. Evaluation of bio-efficacy and phytotoxicity of Fipronil 15% + Flonicamid 15% WG against insect pests of cumin sponsored by UPL Sustainable Agri Solutions Limited (B.H. 18009-84)
8. Testing the bio-efficacy and phytotoxicity of PIX-20002 20% SC against fall armyworm (*S. frugiperda*) in maize sponsored by PI Industries Ltd. (B.H. 18009-85)

2024-25

1. Integrated Pest Management in seed spices sponsored by Govt. of Gujarat (B.H. 12032)
2. Research for Integrated Pest Management in fruit crops sponsored by Govt. of Gujarat (B.H. 12094)
3. Strengthening the facilities for Sericulture, Apiculture and Mushroom cultivation sponsored by Govt. of Gujarat (B.H. 12564)

4. Project for research in pest control and other entomological aspects sponsored by Govt. of Gujarat (B.H. 5026)
5. Establishment of apiculture unit for bee breeding and bee clinic sponsored by Govt. of Gujarat (B. H. 18009-80)
6. Strengthening of biocontrol research laboratory for promoting natural farming sponsored by Govt. of Gujarat (B. H. 12036)
7. Evaluation of bio-efficacy and phytotoxicity of Fipronil 15% + Flonicamid 15% WG against insect pests of cumin sponsored by UPL Sustainable Agri Solutions Limited (B.H. 18009-84)
8. Testing the bio-efficacy and phytotoxicity of PIX-20002 20% SC against fall armyworm (*S. frugiperda*) in maize sponsored by PI Industries Ltd. (B.H. 18009-85)
9. Evaluation of Spidoxamat 9.6% + Spinetoram 12% WG against insect pests of pomegranate sponsored by Bayer Crop Sciences Limited (B.H. 18009-88)
10. Evaluation of Fluxametamide 10% EC (Gracia 10% EC) against insect pests of cotton sponsored by Godrej Agrovet Limited (B.H. 18009-90)

RECOMMENDATIONS FROM THE DEPARTMENT OF AGRICULTURAL ENTOMOLOGY FOR FARMERS

2020-21:

1. Comparison of different colour sticky traps for monitoring of sucking pests in brinjal

The farmers of Gujarat are recommended to install yellow (RGB-255,255,0) or dark green (RGB-0,128,0) sticky traps (15 cm x 21 cm) @ 25/ha at crop height for the effective monitoring of jassid and whitefly in brinjal. The sticky trap is to be installed at one week after transplanting and it should be changed at weekly interval. Grease should be used as an adhesive material.

2. Comparison of different colour sticky traps for monitoring of sucking pests in seed spices

The farmers of Gujarat growing seed spices are recommended to install yellow (RGB-255, 255, 0) or dark green (RGB-0, 128, 0) sticky traps (15 cm x 21 cm) @ 25 traps/ha at crop height for the effective monitoring of aphids in coriander, cumin, fenugreek and fennel, while dark blue (RGB-0, 0, 255) and yellow (RGB-255, 255, 0) sticky traps (15 cm x 21 cm) @ 25 traps/ha at crop height for the effective monitoring of thrips in cumin, fennel and ajwain. The sticky trap is to be installed at one week after transplanting and it should be changed at weekly interval. Grease should be used as an adhesive material.

3. Bio-efficacy of different biopesticides against rugose spiralling whitefly in coconut

The farmers of Gujarat having coconut orchards are recommended to apply three sprays of *Beauveria bassiana* 1.15 WP (Min. 1 x 10^8 cfu/g) 0.009% (80 g/10 litre of water) or *Isaria fumosorosea* 1.15 WP (Min. 1 x 10^8 cfu/g) 0.009% (80 g/10 litre of water) along with starch 1% (10 g/lit), first spray at initiation of pest infestation, second and third spray at 10 days interval after first spray for effective management of rugose spiralling whitefly.

4. **Bio-efficacy of different insecticides against rugose spiralling whitefly in coconut**

The farmers of Gujarat having coconut orchards (1 to 3 year old palms) are recommended to apply three sprays of pyriproxyfen 10% + bifenthrin 10% EC 0.02% (10 ml/10 litre of water) or spiromesifen 22.9 SC 0.027% (12 ml/10 litre of water) or diafenthiuron 50 WP 0.05% (10 g/10 litre of water) along with 1% starch (10 g/litre of water), first spray at initiation of pest infestation, second and third spray at 10 days interval after first spray for effective management of rugose spiralling whitefly.

5. **Management of rugose spiralling whitefly through root feeding of insecticides in coconut**

The farmers of Gujarat having coconut orchards (>5 year old palms) are recommended to give root feeding (pencil size root) application of monocrotophos 36 SL @ 10 ml with 10 ml of water per palm, first at initiation of pest infestation and second at one month after first application for management of rugose spiralling whitefly. The interval between root feeding and harvesting of coconut should be 30 days.

6. **Effect of different schedule-based insecticides and biopesticides spray against fall army worm *Spodoptera frugiperda* (J. E. Smith) infesting maize**

The farmers of Gujarat growing maize are recommended to apply schedule spraying of chlorantraniliprole 18.5 SC 0.005% (3 ml/10 litre of water), emamectin benzoate 5 SG 0.0025% (5 g/10 litre of water) and thiodicarb 75 SP 0.09% (10 g/10 litre of water) at ten days interval after pest crosses ETL (5 egg masses or 1 mass of first instar larvae/20 plants) for the effective management of fall armyworm in maize. The interval between last spraying and harvesting of cobs should be 30 days.

The farmers interested in organic maize are recommended to apply schedule spraying of *Beauveria bassiana* 1.15 WP (1 x 108 cfu/g) 0.007 % (60 g/10 l of water), first at ETL and subsequent two sprays at 10 days interval for the effective management of fall armyworm in maize.

2021-22:

1. **Bio-efficacy of different biocides against aphid in coriander**

The farmers of Gujarat growing coriander are recommended to spray *Beauveria bassiana* 1.15 WP (Min. 1 x 10^8 cfu/g) 0.007 % (60 g/10 l of water) or *Lecanicillium lecanii* 1.15 WP (Min. 1 x 10^8 cfu/g) 0.009 % (80 g/10 l of water), first at ETL and subsequent three sprays at 10 days interval for effective and economical management of aphid.

2. **Bio-efficacy of *Beauveria bassiana* and different insecticides against insect pests of groundnut**

The farmers of Gujarat growing kharif groundnut are recommended to apply five sprays of bio-pesticide, *Beauveria bassiana* 1.15 WP (Min. 1 x 10^8 cfu/g), 0.007 % (60 g/10 l of water) at 15 days interval after initiation of any pest infestation for effective and economical management of sucking pests (jassid, aphid and thrips) and leaf eating caterpillars (*H. armigera* and *S. litura*).

2022-23

1. **Bio-efficacy of insecticides against leaf eating caterpillar, *Spodoptera litura* Fab. infesting soybean**

The farmers of Gujarat growing soybean are recommended to spray spinetoram 11.70 SC, 0.011% (9 ml/10 l of water) or emamectin benzoate 1.9 EC, 0.002% (8.5 ml/10 l of water), first at the initiation of pest infestation and second spray at 15 days after first spray, for effective and economical management of leaf eating caterpillar.

2023-24

1. **Effect of different poison baits against fall army worm *Spodoptera frugiperda* (J. E. Smith) infesting maize**

The farmers of Gujarat growing maize are recommended to apply poison baits of thiodicarb 75 WP 250 g or emamectin benzoate 5 SG 100 g mixed with 5 kg jaggery and 25 kg maize flour in 8 litres of water/ha in whorl of plants, first at the initiation of pest infestation and second application at 20 days after first application for effective management of fall armyworm.

2. **Standardization of number of pheromone traps for management of mango fruit fly, *Bactrocera dorsalis* (Hendel)**

The farmers of south Saurashtra having mango orchards are recommended to install 30 methyl eugenol parapheromone traps per hectare at pea sized fruit stage and three-meter height from ground level for effective management of fruit fly and the lure to be changed three times at an interval of 40 days.

2024-25

1. **Standardization of number of pheromone traps for shoot and fruit borer, *Leucinodes orbonalis* (Guenée) in brinjal**

Farmers of Gujarat growing brinjal are recommended to install 40 sex pheromone traps per hectare (equal distance between each trap) after 15 days of transplanting for effective management of brinjal shoot and fruit borer and the lure to be changed three times at an interval of 40 days.

2. **Effect of different sequence based insecticidal spray against shoot and fruit borer, *Leucinodes orbonalis* (Guenée) in brinjal**

Farmers of Gujarat growing brinjal are recommended to apply sequencebased spraying of emamectin benzoate 5 SG 0.002% (4 g /10 L water), chlorpyriphos 20 EC 0.04% (20 ml/10 L water), azadirachtin 1.0 EC 0.002% (20 ml/10 L water) and chlorantraniliprole 18.5 SC 0.007% (4 ml/10 L water) at 15 days interval after pest crosses ETL (5% fruit damage) for the effective management of brinjal shoot and fruit borer. A minimum pre-harvest interval (PHI) of 3 days for emamectin benzoate 5 SG 0.002%, azadirachtin 1.0 EC 0.002% and chlorantraniliprole 18.5 SC 0.007% should be kept.

3. **Standardization of operational procedures for application of biopesticides through drone against defoliators in groundnut**

Farmers of Gujarat growing groundnut are recommended to apply three sprays of *Beauveria bassiana* 1.15 WP (Min. $1x10^8$ cfu/g) @ 3 kg/ha. in 20 L water through drone at a speed of 2 m/sec. and 2 m above crop canopy during morning or evening time in windward direction, first spray at initiation of pest and second spray at 10 days after first spray for effective, economical and time saving management of *Helicoverpa armigera* and *Spodoptera litura*.

RECOMMENDATIONS MADE BY THE DEPARTMENT OF AGRICULTURAL ENTOMOLOGY FOR SCIENTIFIC COMMUNITY

2020-21

1. **Management of rugose spiralling whitefly through root feeding of insecticides in coconut**

   For effective management of rugose spiralling whitefly in coconut (>5 year old palms), root feeding (pencil size root) application of spiromesifen 22.9 SC @ 5 ml with 10 ml of water per palm, first at initiation of pest infestation and second at one month after first application.

2. **Monitoring of fall army worm, *Spodoptera frugiperda* (J. E. Smith) infesting maize in Saurashtra region**

   The infestation of fall armyworm, *Spodoptera frugiperda* (J. E. Smith) was monitored in different districts of North and South Saurashtra region of Gujarat in maize and the highest infestation was observed in Amreli (46.67-60.13%) followed by Rajkot (19.33-35.00%) and Junagadh (22.15-24.50%) districts. The infestation was comparatively higher in *Kharif* (3.33-60.13%) as compared to *Rabi* (3.79-58.33%).

2023-24

1. **Standardization of number of pheromone traps for pink bollworm, *Pectinophora gossypiella* (Saunders) in cotton**

   Installation of 50 sex pheromone traps per hectare at crop canopy level after 40 days of sowing for effective management of cotton pink bollworm and the lure to be changed three times at an interval of 40 days.

2. **Effect of different poison baits against fall army worm *Spodoptera frugiperda* (J. E. Smith) infesting maize**

   Two applications of poison baits in whorl of plants containing indoxacarb 15.8 EC 125 ml, 5 kg jaggery and 25 kg maize flour in 8 L of water/ha, first at the initiation of pest infestation and second application at 20 days after first application found effective against fall armyworm infesting maize.

3. **Effect of date of sowing and acaricides against yellow mite, *Polyphagotarsonemus latus* (Banks) infesting cluster bean**

   Sowing of cluster bean crop during fourth week of February and two sprays of diafenthiuron 50 WP 0.05% (10 g/10 lit of water) or fenpyroximate 5 EC 0.005% (10 ml /10 lit of water), first spray at initiation of the pest and second at 20 days after first spray found effective against mobile stage of yellow mite, Polyphagotarsonemus latus (Banks) infesting cluster bean.

2024-25

1. **Effect of different sequence based insecticidal spray against shoot and fruit borer, *Leucinodes orbonalis* (Guenée) in brinjal**

   Sequence based spraying of spinetoram 11.7 SC 0.01% (8.5 ml /10 L water), azadirachtin 1.0 EC 0.002% (20 ml/10 L water), lambda-cyhalothrin 4.9 CS 0.003% (6.0 ml/10 L water) and spinosad 45 SC 0.016% (3.5 ml/10 L water) at 15 days interval after pest crosses ETL (5% fruit damage) was found effective for the management of brinjal shoot and fruit borer.

Table 6.4.41 PG: Awards/recognition received by faculty members (Department of Agricultural Entomology)

Sr. No.	Name of Faculty	Name of Award	Authority	Year
1.	Dr. D. M. Jethva	Best Teacher Award in Agril. Higher Education	Junagadh Agricultural University, Junagadh	2020
2.		Dr. APJ Abdul Kalam Award for scientific excellence	Marina Labs Research and Development, Chennai	2022
3.		Dr. H. S. Pruthi Award	SGT University, Gurugram and Just Agriculture-the magazine	2023
4.		Best Agriculture extension work	The Gujarat Association for Agricultural Science (GAAS)	2023
5.		Contribution in Research work in biopesticide	Plant Protection Association of Gujarat (PPAG)	2023
6.		Best Associate Scientist Award	Plant Protection Association of Gujarat (PPAG)	2024
7.	Dr. K. D. Shah	Young Scientist Award	Plant Protection Association of Gujarat (PPAG)	2022
8.		Best Oral Presentation Award	National Symposium on Plant Health Management held at NAU, Bharuch	2022
9.		Best Oral Presentation Award	International Conference on Systems and Technologies for Smart Agriculture (ICSTA 2023) organized at Kolkata, India during 2023	2023
10.		Agriculture Extension Work Award	Gujarat Association for Agricultural Sciences (GAAS)	2023
11.		Technology Developed	AI-DISC (Artificial Intelligence-based Disease Identification System for Crops)" under technology No. ICAR-AED-IASRI-Technology-2023-04, published on 16/07/2023 by the Indian Council of Agricultural Research, New Delhi	2023

Sr. No.	Name of Faculty	Name of Award	Authority	Year
12.		Best Teacher Award in Agriculture Higher Education by JAU, Junagadh & ICAR, New Delhi	JAU, Junagadh & ICAR	2023
13.	Dr. S. R. Patel	Best Entomologist Award	International Conference on "Innovation to Transform Agriculture, Horticulture and Allied Science" at Malla Reddy University, Hydrabad	2023
14.		Young Entomologist Award	International Conference on "Current innovations and Technological Advances in Agriculture and Allied Science" organized at Noida	2024
15.		Best Poster Presentation Award	International Conference on "Trailblazing Trends in Sustainable Climate-Resilient Precision Agriculture Through Artificial Intelligence and Remote Sensing at JAU Junagadh.	2025

Table 6.4.42 PG: Year-wise NET qualified PG/Ph.D. Students in Agricultural Entomology

Sr. No.	Year	No. of students qualified NET
1.	2020-21	00
2.	2021-22	08
3.	2022-23	04
4.	2023-24	00
5.	2024-25	03
	Total	**15**

Table 6.4.43 PG: Research publications of faculty Members (Department of Agricultural Entomology)

Sr. No.	Particular	Number of publications during Last Five Years
1.	National/International Journal	55
	6.0 and above	02
	4.0-6.0	53
	< 4.0	00

Table 6.4.44 PG: Seminar / workshop / symposia organized by the Department Agricultural Entomology during 2020-21 to 2025-26

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2021-22				
1.	Transgenic crops- A future of plant protection	14-10-2021	Conference Hall, CoA, JAU, Junagadh	115
2.	Suraksha Hamesha and Diamide Insecticides- Recent approach in Insect management	26-10-2021	Seminar Hall, CoH, JAU, Junagadh	80
3.	Madhmakhi palan	21-10-20201 to 22-10-2021	Dept. of Ento., CoA, JAU, Junagadh	70
2022-23				
4.	Two days Training on "*Madhmakhi Palan- Rojgarni Ek Navi Tak*" under Directorate of Extension Education, JAU, Junagadh	27-28th September, 2022	Bio-control Research Laboratory, Department of Entomology	55
2023-24				
5.	Two days Training on "*Madhmakhi Palan- Ek Safal Vyvsay*" under HRT-2 programme of Directorate of Horticulture, Govt. of Gujarat and Directorate of Extension Education, JAU, Junagadh	21st to 22th June, 2023	Bio-control Research Laboratory, Department of Entomology	55
6.	Two days Training on "*Madhmakhi Palan- Ek Safal Vyvsay*" under HRT-2 programme of Directorate of Horticulture, Govt. of Gujarat and Directorate of Extension Education, JAU, Junagadh	07th to 08th November, 2023	Bio-control Research Laboratory, Department of Entomology	38
2024-25				
7.	*Madhmakhi palan- Ek safal vyavsay*	04/02/25 to 05/02/25	Dept. of Ento. & SSK, JAU, Junagadh	59

6.4.2. FACULTY STRENGTH AS ON (AS OF 31-07-2025) (AS PER ICAR NORMS)

The Department has sufficient sanctioned and filled up faculty position. Besides this, teaching and guiding the PG students are also given to the faculties from research stations and other offices.

Table 6.4.45 PG: Details of faculty strength (Department of Agricultural Entomology)

Sr. No.	Sanctioned Faculty for Ph. D.	Faculty in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Professor	01*	00	Not recommended by ICAR	01
2.	Associate Professor	01*	01		02
3.	Assistant Professor	01+2*	01		04
Total		01+04*	02		07

Note: *Faculty assigned for both teaching and research duties.

6.4.3 TECHNICAL /SUPPORTING STAFF (AS OF 31-07-2025)

The Department has sufficient sanctioned and filled up supporting staff positiona. Moreover, technical and administrative staff are outsourced as per the need.

Table 6.4.46 PG: Details of technical/supporting staff strength as of 31.07.2025

(Department of Agricultural Entomology)

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Technical/Supporting staff	07	00	Not recommended by ICAR	07
2.	Administrative staff	01	02		03
	Total	08	02		10

6.4.4. CLASSROOMS AND LABORATORIES

a) Number of classrooms

There is one PG classroom-cum-seminar hall at the Department of Agricultural Entomology for seminar/presentation purpose. Besides student synopsis and thesis presentations, the special lectures on the training attended by the faculty members are also organized in the seminar hall from time to time.

Table 6.4.47 PG: Classroom infrastructure in the department

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Agricultural Entomology					
1.	PG Class room cum Seminar Hall	88.35	30	PG Teaching and Practical Examination	Air condition, LCD Projector, Sound system, Computer with internet connectivity, UPS, Podium, *etc.*

Table 6.4.48 PG: Departmental PG laboratories established (As of 31-07-2025)

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Agricultural Entomology					
1.	PG Research Lab-1	132.60	10	Practical, research	Research equipment
2.	Storage Research Lab	38.43	05	Practical, research	Research equipment
3.	Bio-control Research Lab	1300	40	Practical, research	Living Biological material

Table 6.4.49 PG: List of major equipment available in the Department of Agricultural Entomology

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
Department of Agricultural Entomology, CoA, JAU, Junagadh				
1.	Biocontrol Research Laboratory	Comb foundation mill for *Apis mellifera*	1	1.10
2.		Comb foundation mill for *Apis cerena* indica	1	1.10
3.		Comb foundation mill for *Apis mellifera* drone	1	1.10
4.		Honey Processing Unit	1	4.37
5.		Bee Venom collector	1	0.31
6.		UV visible spectrometer	1	6.11
7.		Incubator	1	4.36
8.		Refrigerator	2	1.37
9.		Muffle Furnace	1	4.61
10.		Digital abbe refractometer	1	11.35
11.		Vortex	1	0.46
12.		Hot Plate	1	0.67
13.		Centrifuge with rotors	1	8.09
14.		Hot air oven	1	2.51
15.		Deep freezer	1	2.38
16.		Recirculating chiller	3	6.81
17.		Room Humidifier	1	0.84
18.		Refrigerator	1	0.89
19.		Hexacopter Dron	1	6.66
20.		Leica Microscope	1	18.96
21.		Greaves Generators	1	7.87
22.		Utility vehicles	1	8.14
23.		Digital v rotary evaporator	1	2.99
24.		Honey motorized extractor	1	3.64
25.		Semi-automatic one head auger filling machine	1	4.10
26.		Screw conveyor	1	2.75

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
Department of Agricultural Entomology, CoA, JAU, Junagadh				
27.		Mixer machine	1	1.14
28.		Pouch Packing Machine	1	2.93
29.		Table top winder machine	1	1.80
30.		Pest filling machine	1	0.93
31.		Pest filling machine with digital counting	1	0.98
32.		Autoclave	1	2.68
33.		Fume hood	1	3.57
34.		Deep freezer	1	4.79
35.		Shaking water bath	1	2.95
36.		Orbital shaking incubator	1	0.93
37.		Pouch packing machine	1	4.83
38.		Fermenter system with 10 L capacity with laptop	1	12.62
39.		Laminar air flow	1	0.52
40.		Vacuum packing machine	1	1.87
41.		Horizontal laminar air flow	1	1.79
42.		Digital procession wall oven	1	0.63
43.		Hot air oven	1	0.50

Major equipment available in department	
Name of equipment: Fermenter	**Name of equipment: Distillation Unit**

Name of equipment: BOD Incubator	**Name of equipment: Leica Microscope**

Table 6.4.50 PG: Farm facilities available with the Department Agricultural Entomology

Sr. No.	Name of Farm/ Cafeteria	Area (hectare)	No. of Experiments continue		Details of activities
			Departmental	Students	
Agricultural Entomology					
1.	Plot No. A-11	0.500	1	0	Departmental as well as Other Agency Experiments
2.	Plot No. B-11	0.500	2	0	
3.	Plot No. 7	0.135	1	0	
	Total	**1.135**	**04**	**0**	

Table 6.4.51 PG: Theory and practical batches for the PG program (AY 2024-25)

Sr. No.	Name of the Degree Programme	Semesters	Batch of students in theory class	Batch of students in practical class
1.	M.Sc. (Agri.) in Agricultural Entomology	Odd	01 per course (6-8 students)	01 per course (6-8 students)
2.		Even	01 per course (6-8 students)	01 per course (6-8 students)

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty members prepare comprehensive theory notes for each subject of the degree programme by referring to standard textbooks, research papers, and reference books, and distribute them to students free of cost. Practical manuals are also developed, published, and provided to students. The same study material is also uploaded to the Google Classroom accounts of courses for easier access.
- The students are also given assignments from reference books so as to develop their reading habit and improve their grasp in basic concepts of the courses.

- Many faculties with more than five years' experience in UG/PG teaching also contributed to ICAR E-learning portal as course creators, unit reviewers and course reviewers, and the links of which have been shared with the students.
- Students get practical exposure in the departmental laboratory and farms of various research stations.
- Classes, guest lectures and special lectures are also organized through online platforms such as Google Classroom, Microsoft Teams, and Zoom *etc*, complementing the offline sessions.
- PPT, lecture notes, practical manual *etc*. are uploaded in respective subject Google Class Room and WhatsApp groups for detail study.
- During the COVID-19 pandemic, examinations were also conducted by the department in online mode; subsequently, they transitioned back to the conventional offline mode post-pandemic.

PRACTICAL AND HANDS-ON-TRAINING

- Students are frequently exposed to farm visits in nearby farmer's field to study various pest and diseases prevalence as well as to collect samples and interact with the farmers.
- The department also offers hands-on-training exposure to students. PG students at the department gain expertise in mass production of biocontrol agents, traps and bio-products employed in integrated pest management. Further, the students are also trained for dissemination of the university technologies to farmers.

6.4.6. SUPERVISION OF STUDENTS IN PG DEGREE PROGRAM

Besides departmental faculty, scientists/faculty working in the various research stations and university offices are also allotted PG students for thesis guidance.

Table 6.4.52 PG: Number of students supervised (guided) by faculty in the last five years

Department	No. of students being supervised (guided) by faculty for PG Degree
Agricultural Entomology	12

- Teachers of the Department are actively involved in guiding postgraduate students as Major Guides and as members of advisory committees. Each advisory committee, besides the Major Guide, consists of three members—one from Agricultural Statistics and the others from minor and allied subjects.
- Seminar topic is finalized after discussion in meeting of advisory committee, faculties and PG students.
- Research works for students is finalized in the presence of all the faculty members of department, minor guide, statistician and students.
- Advisory committee takes frequent field visits to supervise and guide the students, besides arranging their preliminary viva.
- Head of Department arranges preliminary written examination of eligible candidates.

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*) (2020-21 TO 2025-26)

- Generally, healthy feedback is received from current and passed-out students as well as from parents, industries, employers, farmers, *etc.* (Annexure 6.4.7a)
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per the prescribed schedule, and comprises the Deans of all faculties, nominated Professors, Research Scientists from different faculties, and renowned academicians, who discuss the feedback received from different stakeholder during the meetings. Based on the recommendations of the Board of Studies, the Academic Council takes decisions on academic matters for implementation in the University and its constituent colleges.
- ***STUDENT ADVISORY COMMITTEE:*** It comprises a four-member advisory committee, chaired by the Major Guide, with the other members drawn from the minor subject, allied subject, and statistics. The committee guides the student in selecting the research problem, seminar topics, and related academic/research activities. The members also frequently visit the experimental fields and provide necessary guidance and feedback to the students.
- ***STUDENT REPRESENTATIVE COUNCIL (SRC) AND STUDENT COUNSELLING AND PLACEMENT CELL (SCPC):*** Feedback collected with student interactions is reviewed by the committee members and appropriate measures are implemented based on the feedback received.
- ***FACULTY GROUP OF SUBJECTS:*** Faculty Group of Subjects is a unique and robust mechanism of JAU, which is held once in a year wherein the workload of faculty and progress of the students are thoroughly discussed with suggestions for improvement. The suggestions received by the Department of Agricultural Entomology in the Faculty Group of Subjects during the last five years are given hereunder.

Table 6.4.53 PG: Year-wise Faculty Group of Subject Meetings of Crop Protection group

Sr. No.	Year	Convener	Faculties remain present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	Suggestions received from concerned FGS meeting; corresponding action taken report are submitted as ***Annexure 6.4.7b***
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal and Dean	
4.	2023-24	Professor and Head	Director of Research and Dean PG Studies, Registrar, Director of Extension Education, Associate Director of Research and Principal and Dean	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research and Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal and Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PG PROGRAM FOR THE LAST FIVE YEARS

Table 6.4.54 PG: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
M. Sc. (Agri.) in Agricultural Entomology	2020-21	07	03 + 04*	00
	2021-22	08	08	00
	2022-23	10	10	00
	2023-24	11	11	00
	2024-25	11	11	00
	2025-26	13	12+01*	00
* In-service candidates				

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY:

1. ***CERA AND OTHER ONLINE E-RESOURCES:*** The department actively encourages its faculty members and students to use the ICAR Consortium of e-resources in Agriculture (CeRA) besides One Nation, One Subscription (ONOS) of Ministry of Education, GoI. In this way, the research proposals and thesis referencing of the students is kept up-to-date.
2. ***E-BOOKS:*** The e-books available at the university central library and with the departmental faculty members are fully utilized for teaching and research needs of the students.
3. ***KRISHIKOSH:*** Junagadh Agricultural University is an active facilitator of Krishikosh, the national repository of theses submitted to Agricultural Universities and ICAR institutes. All postgraduate and doctoral theses submitted to the department are regularly uploaded to this repository for wider accessibility.
4. ***INTERNET:*** Digital library with computers and internet facility is available and used by the PG Degree students. Wi-Fi Internet facility is also provided at all the hostels which is available around the clock.
5. **JAU iKrushi Sanhita and Janvani FM:** Students are also given exposure to use JAU iKrushi Sanhita, a mobile application developed by the University, besides encouraging them to regularly listen to Junagadh Janvani 91.2 FM for information on crop-specific advisory and strategies.
6. **Anti-Plagiarism Policy of JAU:** The department also strictly adheres to the Anti-Plagiarism norms stipulated by the university.

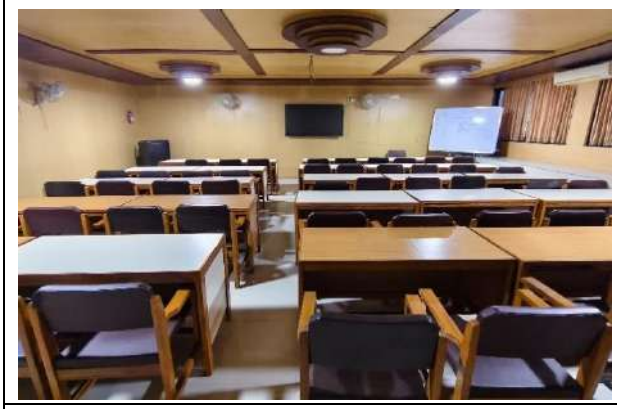
6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, CoA, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: 31.01.2026
Place: Junagadh

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Glimpses of activities at Department of Agricultural Entomology, CoA, JAU, Junagadh



Annexure 6.4.7a

Postgraduate Students' Feedback Report for AY 2024-25			
Department of Agricultural Entomology, CoA, JAU, Junagadh (n = 32)			
Particulars			**Average Score**
Departmental Teaching - Learning Process			
1. How do you rate Student- Teacher relations?			3.9
2. How do you rate for completion of courses by the teachers?			3.5
3. How do you rate fairness in internal assessment in the department?			3.8
4. How do you rate practical exposure from the department?			3.6
5. How do you rate for statical analysis facility provided by the department			3.2
6. Did teachers motivate /support you for solving your personal problems			3.8
P.G. Research facility			
1. How do you rate for your selection of research topic?			3.7
2. Did you get enough facilities for conducting experiment?			3.8
3. How do you rate material provided for conducting experiment?			3.7
4. How do you rate major guide for supporting in completion of seminar and thesis projects?			3.3
Library facilities			
1. Books related to your subject are available in the library			3.6
2. Internet facilities for learning and research purpose			3.1
3. Availability of research journals (online /offline) for review purpose			3.2
4. How do you rate the delivery of books system at the University Library?			3.5
Hostel Facility			
1. How do you rate Hostel facilities?			3.3
2. How do you rate wi-fi facility?			3.1
3. How do you rate for food quality in mess?			3.3
4. How do you rate cleanliness in the hostel?			3.1
Sports Facility			
1. How do you rate indoor sports facility?			3.6
2. How do you rate outdoor sports facility?			3.2
Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	**3**	**2**	**1**

Annexure 6.4.7b

Suggestions Received in the Faculty Group Meetings

Sr. No.	Year	Convener	Participants	Suggestions received
1.	2020-21	Dr. M. F. Acharya, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Dr. V. P. Chovatia, Hon'ble Vice Chancellor and Director of Research, JAU, Junagadh 2. Dr. K. A. Khunt, Principal, College of Agriculture, JAU, Junagadh. 3. Dr. M. F. Acharya, Convener of FGPP and Professor & Head, Department of Entomology, College of Agriculture, JAU, Junagadh 4. Dr. L. F. Akbari, Co-convener of FGPP and Professor & Head, Department of Pl. Pathology, College of Agriculture, JAU, Junagadh 5. Members of Faculty group of Entomology 6. Members of Faculty group of Plant Pathology	**i.** Even distribution of work load for the Assistant Professors, Associate Professor and Professor & Head of the respective Department should be formed. **ii.** Incorporate the list of seminars (summer /winter /short training, workshop, symposium, conference etc.) presented by the faculties of respective departments. **iii.** Incorporate the details about use of library, PG research visit, NET/JRF/SRF information of respective departments. **iv.** Faculty should visit campus library regularly and use CeRa/J-gate consortium. **v.** Practical Manuals of different subjects should be sent (SAU's of Gujarat and other states, research scientists and colleagues etc.) to review the content and try to get the good remarks. **vi.** Trainings on recent aspects (climate change, new insect /disease and its management etc.) should be organized by respective departments.
2	2021-22	Dr. M. F. Acharya, Professor & Head, Department of Entomology, COA, JAU, Junagadh	**1.** Prof. (Dr.) N. K. Gontia, Hon'ble Vice Chancellor, JAU, Junagadh **2.** Dr. P. M. Chauhan, Director of Research & Dean PG, JAU, Junagadh **3.** Dr. R. K. Mathukia, Registrar, JAU, Junagadh	**i.** Even distribution of work load for the Assistant Professors, Associate Professor and Professor & Head of the respective Department should be formed. **ii.** Faculty should visit campus library regularly and use CeRa/J-gate consortium.

Sr. No.	Year	Convener	Participants	Suggestions received
			4. Dr. S. G. Savalia, Principal & Dean, College of Agriculture, JAU, Junagadh. **5.** Dr. P. V. Patel, Professor & Head, Dept. of Ento., CoA, JAU, Junagadh **6.** Dr. D. S. Kelaiya, Professor & Head, Dept. of Pl. Patho., CoA, JAU, Junagadh **7.** Members of Faculty group of Entomology **8.** Members of Faculty group of Plant Pathology	**iii.** In undergraduate teaching, the microbiology course must be taken by microbiologist only. **iv.** Practical Manuals of different subjects should be sent (SAU's of Gujarat and other states, research scientists and colleagues etc.) to review the content and try to get the good remarks. **v.** Trainings on recent aspects (climate change, new insect /disease and its management etc.) should be organized by respective departments.
3	2022-23	Dr. M. F. Acharya, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Dr. V. P. Chovatia, Hon'ble Vice Chancellor, JAU, Junagadh 2. Dr. H. M. Gajipara, Director of Research & Dean PG, JAU, Junagadh 3. Dr. S. G. Savalia, Principal & Dean, College of Agriculture, JAU, Junagadh. 4. Dr. M. F. Acharya, Professor & Head, Dept. of Ento., CoA, JAU, Junagadh 5. Dr. D. S. Kelaiya, Professor & Head, Dept. of Pl. Patho., CoA, JAU, Junagadh 6. Members of Faculty group of Entomology 7. Members of Faculty group of Plant Pathology	**i.** Photos related to ELP, RAWEP, Student's Ready Program need to incorporate in presentation as well as report. **ii.** Need to display the needs of the trainings for the faculties. **iii.** Advanced courses for Ph.D. program are to be assigned to regular teachers. **iv.** Suggestions of books should be incorporated in report with detail. **v.** Teachers have to incorporate the new recommendations as well as information on new pests and diseases and its management to the UG /PG / Ph.D. students in different courses. **vi.** Strengthening of departmental activities should be incorporated. **vii.** Data on left out students at UG level should be submitted to placement officer. **viii.** Practical Manuals of different subjects should be

Sr. No.	Year	Convener	Participants	Suggestions received
				sent (SAU's of Gujarat and other states, research scientists and colleagues etc.) to review the content and try to get the good remarks.
4	2023-24	Dr. D. M. Jethva, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Dr. V. P. Chovatia, Hon'ble Vice Chancellor, JAU, Junagadh 2. Dr. B. D. Savaliya, Associate Director of Research, JAU, Junagadh 3. Dr. P. M. Chauhan, Registrar, JAU, Junagadh 4. Dr. P. D. Kumawat, Principal & Dean, College of Agriculture, JAU, Junagadh. 5. Dr. M. F. Acharya, Professor & Head, Dept. of Ento., CoA, JAU, Junagadh 6. Dr. D. S. Kelaiya, Professor & Head, Dept. of Pl. Patho., CoA, JAU, Junagadh 7. Members of Faculty group of Entomology 8. Members of Faculty group of Plant Pathology	**i.** Add the details of each supplementary /mean improvement courses in the report. **ii.** Practical Manuals of different subjects should be sent (SAU's of Gujarat and other states, research scientists and colleagues etc.) to review the content and try to get the good remarks. **iii.** Data on left out students at UG level should be submitted to convener of Student Council and Placement Cell (SCPC). **iv.** Recommendation of the subject books for the purchase in library should be incorporated in report with detail information. **v.** Advanced /Basic courses for M.Sc. /Ph.D. program are to be assigned to regular teachers. **vi.** Placement records of PG students should be maintained and submitted to SCPC. **vii.** Add the name of entrepreneurs /startups from the departments in the report, if any. **viii.** Incorporate the slide numbers in presentation **ix.** Staff position should be having equivalent position

Sr. No.	Year	Convener	Participants	Suggestions received
				i.e., Assistant Professor & its equivalent rather than Assistant Research Scientist. **x.** Add the information about Published /Sanctioned patents or any other significant achievement in the report.
5	2024-25	Dr. D. M. Jethva, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Dr. R. B. Madariya, Director of Research, JAU, Junagadh 2. Dr. N. B. Jadav, Director of Extension, JAU, Junagadh 3. Dr. Y. H. Ghelani, Registrar, JAU, Junagadh 4. Dr. P. D. Kumawat, Principal & Dean, College of Agriculture, JAU, Junagadh. 5. Dr. D. M. Jethva, Professor & Head, Dept. of Ento., CoA, JAU, Junagadh 6. Dr. D. S. Kelaiya, Professor & Head, Dept. of Pl. Patho., CoA, JAU, Junagadh 7. Members of Faculty group of Entomology 8. Members of Faculty group of Plant Pathology	**i.** Action Taken should be bind in the report. **ii.** All the faculties of Plant Protection group must have to attend the meeting. **iii.** Add the details of out sourcing staff in remarks of the table related to staff position. **iv.** Details of working technical assistants & Research Fellows should be incorporated. **v.** Add the total as well as percentage of staff position in the Department /Unit. **vi.** Mention Polytechnic teaching instead of UG teaching in report. **vii.** Details of Fellowships (SHODH, PM Fellowship etc.) earned by PG /Ph.D. students should be incorporated in report. **viii.** Awards received by students (PG /Ph.D.) should be incorporated in report. **ix.** Individual faculty reports should be forwarded through proper channel. **x.** Faculty wise requirement of training should be incorporated. **xi.** Don't include research workshops (Mandatory works)

Sr. No.	Year	Convener	Participants	Suggestions received
				attended by faculties in report. **xii.** Mention the mode of training /workshop /seminar (Online /Offline) etc. in report. **xiii.** Add the name of the reviewers in the UG /PG journal review process. **xiv.** Add the list of entrepreneurs in report and send to SCPC Cell.
6	2025-26	Dr. D. M. Jethva, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Dr. V. P. Chovatia, Hon'ble Vice Chancellor, JAU, Junagadh 2. Dr. A. G. Pansuriya, Director of Research, JAU, Junagadh 3. Dr. Y. H. Ghelani, Registrar, JAU, Junagadh 4. Dr. P. D. Kumawat, Principal & Dean, College of Agriculture, JAU, Junagadh 5. Dr. D. S. Kelaiya, Principal, College of Agriculture, JAU, Mota Bhandariya 6. Dr. D. M. Jethva, Professor & Head, Dept. of Entomology, CoA, JAU, Junagadh 7. Dr. S. V. Undhad, Associate Professor, Dept. of Pl. Patho., CoA, JAU, Junagadh 8. Members of the Faculty group of Entomology 9. Members of the Faculty group of Plant Pathology	**i.** All the faculty members of the Plant Protection group must attend the meeting. **ii.** Add the details of all outsourced staff as filled post in the staff position. **iii.** Individual faculty reports should be compiled at the unit level and forwarded through the proper channel (e-mail). **iv.** Add the list of books and journals purchased by the library, which were recommended by the department. **v.** The orientation program should be arranged for the newly admitted PG students for awareness of the various activities of JAU. **vi.** The faculty must upload their publications timely on Google Scholar and so also on the IRS online JAU portal.

Action Taken by the Department of Agricultural Entomology, CoA, JAU, Junagadh:

All the suggestions given in the group of subject meeting are implemented in the Department of Agricultural Entomology, CoA, JAU, Junagadh from time to time.

6.4
Self-Study Report for M. Sc. (Agri.) in Plant Pathology

6.4. SELF-STUDY REPORT FOR M.SC. (AGRI.) IN PLANT PATHOLOGY AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PG DEGREE PROGRAM

The Department of Plant Pathology at the College of Agriculture, Junagadh, has been functioning since the establishment of the college in 1960. From its inception, the department has been entrusted with the core responsibility of imparting education to both undergraduate and postgraduate students. The Saurashtra region of Gujarat is renowned for the cultivation of several important agricultural and horticultural crops such as groundnut, cotton, castor, cumin, coriander, onion, garlic, mango, pomegranate, and guava. Department of Plant Pathology situated in Junagadh district which is surrounded by diverse cropping areas encompassing vegetables, fruits, plantation, cash, and oilseed crops. The productivity of these crops is influenced by various abiotic and biotic factors, among which diseases caused by microorganisms-including fungi, bacteria, viruses, and nematodes-pose major challenges to crop production. To address these challenges and to promote region-specific research on plant diseases, the Department of Plant Pathology initiated the M. Sc. (Agri.) program in Plant Pathology in 1964, utilizing the potential of student-led research.

At present, the department comprises 6 faculty members and 19 postgraduate students pursuing their M. Sc. degrees. Over the years, the department has successfully guided 179 Master's degree scholars. Its alumni are serving in diverse sectors, including academia, banking, government departments, private enterprises and non-governmental organizations. Beyond academic teaching, the department is actively engaged in agricultural research and the dissemination of farm technologies. Since its inception, it has conducted numerous field experiments and research studies while maintaining close collaboration with the farming community through activities such as *Krushi Mahotsavs*, Training of Trainers (ToT) programs, and *Khedut Shibirs*. Additionally, the department contributes to sustainable agriculture by producing and distributing bioagents and biofertilizers to farmers, thereby supporting eco-friendly crop protection and productivity enhancement across the region.

Department of Plant Pathology, College of Agriculture, JAU, Junagadh

STEPPING-STONES OF THE DEPARTMENT

- The Department of Plant Pathology, College of Agriculture, Junagadh started functioning since the inception of College of Agriculture in 1960.
- For the development of entrepreneurship and empowerment of youth in agriculture students, total 514 students successfully trained for mass production of bioagents and biofertilizers under Experiential Learning Program (ELP) since program started.
- In last five years *i.e.*, 12.956 during 2020-21 to 2024-25 and 2.459 during 2025-26, total tonnes of bioagent Trichoderma produce and distributed to the farmer for the first line demonstration and university research centres.
- As an alternative source of chemical fertilizers, total 14435 litre during 2020-21 to 2024-25 and 709 litre during 2025-26 of bio-fertilizers like as; Rhizobium, Azotobacter, PSB, KMB developed and sold to the farmer during last five years.
- Recently NPK consortia launched by department
- Similarly, 3309 bag during 2020-21 to 2024-25 and 714 bag during 2025-26 mushroom spawns are produced and distributed among the interested farmers.
- During 2020 to 2025, a total of 12 recommendations/technologies developed for the management of plant diseases in different crops for the farmers of Saurashtra region.
- The department has successfully organized three training program and two seminars/workshops/symposium on plant disease management/plant pathology for the scientist, students, faculty members and farmers in last five year.
- In 2024-25, the Department of Plant Pathology, came up with its unique consortia of liquid bio-fertilizer in the trade name 'Gir Sawaj Bio NPK Culture' for farmers.

MISSION, GOALS AND OBJECTIVES

MISSION:

To provide high quality education, training and skills to students for professionally competent in the field of Plant Pathology.

GOALS:

To develop technologies for crop disease management for food security for sustainable agriculture and assured environmental protection.

OBJECTIVES:

- To enhance the competence of the faculty to undertake advanced education, research and extension activities in the field of Plant Pathology.
- To train the students in the field of Plant Pathology with maximum practical exposure and produce qualified specialists in the discipline who can cater to the needs of farmer.
- To development of eco-friendly and low-cost technologies for the plant disease management.
- Production of bio agents as well as biofertilizer for the farmers.
- Evaluation of newer pesticides against the plant diseases.
- To uplift the agricultural status of farmers through solving disease related problems by phone, discussions, demonstrations and field visits.

ACCOMPLISHMENTS/ ACHIEVEMENTS OF THE LAST FIVE YEARS

EXTERNAL FUNDED PROJECTS IN THE DEPARTMENT OF PLANT PATHOLOGY *(AS OF 31-07-2025)*

2020-21:

- Evaluation of bio-efficacy and phytotoxicity of fungicide Fluxapyroxad 167 g/1 + pyraclostrobin 333 g/1 500 SC against alternria and powdery mildew disease of cumin at Junagadh by **BASF India Limited Navi Mumbai-400 705.**
- Evaluation of Rallis fungicide Pre-mixture sarthak 71% WQ (kresoximmethyl 15% phytotoxictictiy on cumin against cumin blight (*Alternaria* sp.) and powdery mildew (*Erysiphe polygoni*) diseases at Junagadh by **Rallis India Limited Bangalore-560 091.**
- Evaluation of bio-efficacy and phytotoxicity of Fluopyram 250 g/L+ Trifloxystrobin 250 g/L SC (Luna Sensation) against Anthracnose, Powdery Mildew and post-Harvest Disease of Mango at Junagadh by **Bayer CropScience Limited Kondwa, Pune - 411040**.
- Bio-efficacy And Phytotoxicity of Tebuconazole 430 SC (Buonos) against Anthracnose and Powdery Mildew Disease in Mango at Junagadh by **Bayer CropScience Limited Kondwa, Pune -411 040**.

2024-25

- Evaluation of bio-efficacy and phytotoxicity of Inpyrfluxam (Indifin) 6% + Tebuconazole 20% SC against tikka leaf spots (early leaf spot and late leaf spot) and rust in groundnut at Junagadh by **Sumitomo Chemical India Ltd., Goregaon, East Mumbai - 400063**.

2025-26

- Evaluation of bio efficacy and phytotoxicity of Tribasic Copper Sulfate 34.5 % SC against Bacterial blight (*Xanthomonas axonopodis* pv. *punicae*) disease in Pomegranate at Junagadh by **Sumitomo Chemical India Ltd., Goregaon, East Mumbai - 400063**.

RECOMMENDATIONS MADE BY THE DEPARTMENT OF PLANT PATHOLOGY FOR FARMERS

2020-21:

1. **Efficacy of fluorescens producing Pseudomonas against collar rot (*Aspergillus niger*) of groundnut**

   Farmers of South Saurashtra Agro-climatic Zone growing *kharif* groundnut are advised to treat the seeds with talc-based *Pseudomonas fluorescens* 1% WP (2 x 10^6 cfu/g) @ 20 g/kg seed and soil application of *Pseudomonas fluorescens* 1% WP (2 x 10^6 cfu/g) @ 2.5 kg in 250 kg of castor cake/ha at the time of sowing and one month after germination for effective and economical management of collar rot of groundnut.

2. **Efficacy of fluorescens producing pseudomonas against foliar diseases (leaf spots and rust) of groundnut**

   The farmers of South Saurashtra Agroclimatic Zone growing *kharif* groundnut are advised for foliar spray of hexaconazole 5% SC (10 ml/10 lit water) at 40 DAS + foliar spray of talcum powder based *P. fluorescens* 1% WP (2 x 10^6 cfu/g) (100 g/10 lit water) at 60 and 80 DAS OR foliar spray of hexaconazole 5% SC (10 ml/10 litre water) at 40, 60 and 80 DAS for effective and economical management of leaf spots of groundnut.

3. **Chemical control of early and late leaf spot and rust diseases of groundnut**

   The farmers of South Saurashtra Agro-climatic Zone growing *kharif* groundnut are advised to spray pyraclostrobin 12.5% + epoxiconazole 4.7% SE 0.025% (15 ml/10 litre of water) or carbendazim 12% + mancozeb 63% WP 0.15% (20 g/10 litre of water) first at 50 days after sowing and subsequent two at 20 days interval for managing the early and late leaf spot and rust diseases.

4. **Effect of biofertilizers on the yield of oyster mushroom (*Pleurotus sajor caju*)**

   The Oyster mushroom (*Pleurotus sajor-caju*) growers of South Saurashtra Agro-climatic Zone are advised to treat wheat straw substrate with Azotobacter (10^8 cfu) and PSB (108 cfu) each at 0.2 per cent using spawn rate of three per cent in three kg of substrate for higher sporophore production and biological efficiency.

5. **Effect of different substrates on nutritional and biochemical properties of oyster mushroom (*Pleurotus sajor caju*).**

   The Oyster mushroom (*Pleurotus sajor-caju*) growers are advised to advocate wheat or chick pea substrate for higher production, better nutritional and biochemical properties.

2022-23:

1. **Efficacy of ready-mix formulation of fungicides against foliar diseases of cumin**

   The farmers of Saurashtra region growing cumin are recommended to spray metiram 55% + pyraclostrobin 5% WG @ 0.180% (30 g /10 l of water) or pyraclostrobin 13.3% + epoxiconazole 5% SE @ 0.027% (15 ml /10 l of water), first at 30 days after sowing and subsequent two sprays at an interval of 20 days for effective and economical management of blight disease.

2. Efficacy of ready-mix formulation of fungicides against foliar diseases of cumin

The farmers of Saurashtra region growing cumin are recommended to spray metiram 55% + pyraclostrobin 5% WG @ 0.180% (30 g /10 l of water), first at 30 days after sowing and subsequent two sprays at an interval of 20 days for effective and economical management of powdery mildew disease

3. Chemical control of die-back of mango

For the effective and economical management of die-back of mango, apply three spray of azoxystrobin 18.2% + difenoconazole 11.4% SC @ 0.037% (12.50 ml/10 litre of water) or azoxystrobin 18.2% + difenoconazole 11.4% SC @ 0.030% (10 ml/10 litre of water) or tebuconazole 50% + trifloxystrobin 25% WG @ 0.094% (12.50 ml/10 litre of water), first spray at just before monsoon and subsequent sprays at 30 days interval after first spray

2024-25:

1. **Management of post-harvest diseases of mango**

The farmers of south Saurashtra agro-climatic zone growing mango are recommended to treat harvested mango fruits with hot water (52 ± 1°C for 5 minutes) or hot water (52 ± 1°C) treated with sodium hypochlorite (NaOCl) 5% solution @ 200 ppm (2 ml in 10 litre water) for 5 minutes for effective and economical management of stem end rot and fruit rot.

2. Effect of different substrate mixture on growth, yield and nutritional value of oyster mushroom (*Pleurotus ostreatus*)

Farmers of Gujarat growing oyster mushroom [*Pleurotus ostreatus* (Jacq.ex.fr) P. kumm] are recommended to use wheat straw + cocopeat + lime + gypsum + sucrose (70:27:1:1:1) or wheat straw + tea waste + lime + gypsum + sucrose (70:27:1:1:1) as substrate for higher production of mushroom.

RECOMMENDATIONS MADE BY THE DEPARTMENT OF PLANT PATHOLOGY FOR SCIENTIFIC COMMUNITY

2022-23:

1. Efficacy of ready-mix formulation of fungicides against foliar diseases of cumin

For the effective and economical management of blight and powdery mildew diseases of cumin, spray azoxystrobin 11% + tebuconazole 18.3% SC @ 0.044 (15 ml/10 litre water), first at 30 days after sowing and subsequent two sprays at an interval of 20 days

2. Efficacy of different fungicides against powdery mildew diseases of fenugreek

For the effective and economical management of powdery mildew of fenugreek, apply three sprays of Difenoconazole 25% EC @ 0.013 (5 ml/10 l of water) or tebuconazole 50% + trifoxytrobin 25% WG @ 0.038 (5 g/10 l of water) or tebuconazole 10% + sulphur 65% WDG @ 0.150 (20 g/10 l of water), first spray at 30 days after sowing and subsequent two sprays at 20 days interval after first spray

3. **Utilization of different wastes on the yield of oyster mushroom (*Pleurotus sajor caju*)**

Sugarcane bagasse can be used as substrate with 5 per cent spawn rate for the higher sporophore production (biological efficiency) with better nutritional and biochemical properties of oyster mushroom (*Pleurotus sajor-caju*).

2023-24:

1. **Effect of different fungicides for the management of blight and powdery mildew in fennel**

Three sprays of azoxystrobin 11 + tebuconazole 18.30 SC 0.044% (15 ml/10 L water) or metiram 55 + pyraclostrobin 5 WP 0.18% (30 g/10 L water) or tebuconazole 50 + trifloxystrobin 25 WG 0.045% (6 g/10 L water) first spray at initiation of disease and subsequent two sprays at an interval of 20 days for the management of Alternaria blight of fennel.

2024-25:

1. **Management of twister disease complex in onion**

For effective management of twister disease complex in onion, apply chlorantraniliprole 0.4 G (10 kg/ha) + copper oxychloride 50 WP (1.25 kg/ha) in soil at the time of transplanting along with two foliar applications of tebuconazole 50 + trifloxystrobin 25 WG 0.075% (10 g/10 L water) or azoxystrobin 18.2 + difenoconazole 11.4 SC 0.03% (10 ml/10 L water), first spray at initiation of disease and second spray at 15 days after first spray.

Table 6.4.55 PG: Awards/recognition received by faculty members (Department of Plant Pathology)

Sr. No.	Name of the Faculty	Name of the Award	Awarding Authority	Year
1.	Dr. K. K. Kanzaria	Scientist Associate Award	Agro Environmental Development Society (AEDS), Rampur, Uttar Pradesh	2021-22
2.	Dr. S. V. Lathiya	Young Scientist Award	Agro Environmental Development Society (AEDS), Rampur, Uttar Pradesh	2021-22
3.	Prof. J. C. Dhingani	Young Scientist Award	Society for scientific Devp. in Agri. & Tech., Meerut (U.P.)	2021-22
4.	Dr. J. R. Talaviya	Best Poster Presentation Award	Maharaja Krishnakumarsinhji Bhavnagar University, Bhanagar	2021-22
5.	Dr. C. M. Bhaliya	Best Oral Paper Presented Award	Indian Phytopathological Society-ICAR New Delhi	2021-22
6.	Dr. C. M. Bhaliya	Best Vernacular Article Award	Anand Agricultural University, Anand	2022-23
7.	Dr. J. R. Talaviya	Best Oral Presentation	PKM, Junagadh	2022-23

Sr. No.	Name of the Faculty	Name of the Award	Awarding Authority	Year
8.	Dr. J. R. Talaviya	B. B. Mundkar Award	Mally Reddy University, Hyderabad & ISAHRD, Chandigarh	2022-23
9.	Dr. S. V. Lathiya	Best Oral Presentation	BKNMU, Junagadh	2022-23
10.	Dr. J. R. Talaviya	National Best Teacher Award	Avishakar foundation	2022-23
11.	Dr. J. R. Talaviya	Best Poster Presentation Award	Society of Zoologist, Gujarat and MK University, Bhavnagar	2022-23
12.	H. A. Shekhda, Dr. D. S. Kelaiya, Dr. C. M. Bhaliya	Best Vernacular Article Award	Anand Agricultural University, Anand	2022-23
13.	Dr. K. K. Kanzaria	Scientist of the year award	RVSKYV Gwalior M.P. & Agri Meet Foundation U.P.	2023-24
14.	Dr. D. S. Kelaiya	Best Oral Presentation Award (First Rank)	Indian Society of Mycology & Plant Pathology-Udaipur & SDAU, S. K. Nagar	2023-24
15.	Dr. C. M. Bhaliya, Dr. H. J. Kapadiya, Dr. D. S. Kelaiya, Dr. L. F. Akbari	Best Oral Presentation Award	Indian Society of Mycology & Plant Pathology-Udaipur & SDAU, S. K. Nagar	2023-24
16.	Dr. C. M. Bhaliya	PP Singhal Memorial PI Industries Award & Cash Prize (Rs. 25000/-)	Indian Society of Mycology & Plant Pathology-Udaipur	2023-24
17.	Dr. C. M. Bhaliya	Best Oral Presentation Award	Indian Society of Mycology & Plant Pathology-Udaipur & SDAU, S. K. Nagar	2023-24
18.	Dr. C. M. Bhaliya	Best Article Award published in Krushi-Go -Vidhya Monthly magazine	Anand Agricultural University, Anand	2023-24
19.	Dr. C. M. Bhaliya	Best Oral Presentation Award	Indian Society of Mycology & Plant Pathology-Udaipur & AAU, Anand	2023-24
20.	Dr. S. V. Lathiya	Best Oral Presentation Award	Indian Society of Mycology & Plant Pathology-Udaipur & AAU, Anand	2023-24

Sr. No.	Name of the Faculty	Name of the Award	Awarding Authority	Year
21.	Dr. C. M. Bhaliya	Best Oral Presentation Award	Indian Society of Mycology & Plant Pathology-Udaipur & AAU, Anand	2023-24
22.	Dr. J. R. Talaviya, Dr. S. V. Lathiya and Dr. D. S. Kelaiya	Best Vernacular Article Award	Anand Agricultural University, Anand	2023-24
23.	Dr. C. M. Bhaliya	Late Dr. R. C. Patel Best Thesis Award - 2023	PPAG, SDAU, S. K. Nagar	2024-25

Table 6.4.56 PG: Awards received by PG degree students (Department of Plant Pathology)

Sr. No.	Name of Student	Name of Award	Year
1.	Kotadiya Urvashi S.	Best M. Sc. Thesis for outstanding work in Plant Pathology	2021-22

Table 6.4.57 PG: Year-wise NET qualified PG/Ph.D. Students in Plant Pathology

Sr. No.	Year	No. of students qualified NET
1.	2020-21	Exam not Conducted
2.	2021-22	01
3.	2022-23	01
4.	2023-24	Exam not Conducted
5.	2024-25	Exam not Conducted
6.	2025-26	00
	Total	**02**

Table 6.4.58 PG: Research publications of faculty Members (Department of Plant Pathology)

Sr. No.	Particular	Number of publications during Last Five Years
1.	National/International Journal	45
	6.0 and above	03
	4.0-6.0	41
	< 4.0	01
2.	Books Published/Book Chapter	03
3.	Practical Manuals	09

Table 6.4.59 PG: Seminar / workshop / symposia organized by the Department Plant Pathology during 2020-21 to 2025-26)

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2020-21				
1.	Biofertilizer Production Technology (Online Webinar)	28/10/2020	JAU, Junagadh	170
2.	Trichoderma Production Technology (Online Webinar)	06/03/2021	JAU, Junagadh	150
2021-22				
1.	Mushroom production technology: A step towards entrepreneurship development	07/03/2022 to 11/03/2022	JAU, Junagadh	50
2022-23				
1.	Combating the Diseases of Field and Horticultural Crops: Past and Future Strategies	29/08/2022 To 03/09/2022	JAU, Junagadh	50
2.	Endophytes: A Potential Bioagent for Plant Health and Nutrition	02/03/2023 To 04/03/2023	JAU, Junagadh	50
3.	Bio fertilizer: A Key tool for Sustainable Agriculture	26/06/2023 To 30/06/2023	JAU, Junagadh	100

6.4.2. FACULTY STRENGTH (AS OF 31-07-2025)

The Department has sufficient sanctioned and filled in faculty positions. Besides, scientists from research stations and other offices also support in teaching and research.

Table 6.4.60 PG: Details of faculty strength (Department of Plant Pathology)

Sr. No	Sanctioned Faculty for PG	Faculty in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Professor	01	00	Not recommended by ICAR	01
2.	Associate Professor	01	01		02
3.	Assistant Professor	04	01		05
Total		06	02		08

6.4.3 TECHNICAL /SUPPORTING STAFF (AS OF 31-07-2025)

The Department has sufficient sanctioned and filled up supporting staff position. Moreover, technical and administrative staff are also outsourced as and when required.

Table 6.4.61 PG: Details of technical/supporting staff strength as of 31.07.2025 (Department of Plant Pathology)

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Recommended by ICAR	Staff sanctioned by the GoG
1.	Technical/Supporting staff	04+01*	03	Not recommended by ICAR	08
2.	Administrative staff	01	00		01
	Total	05+01*	03		09

*Pooled from other departments

6.4.4. CLASSROOMS AND LABORATORIES

Table 6.4.62 PG: Classroom infrastructure in the department

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Plant Pathology					
1.	Conference Hall	85.18	40	Teaching, Seminar, Meeting	AC, Projector, Computer, UPS, Podium along with sound system etc.

PG Classroom

Table 6.4.63 PG: Departmental PG laboratories established (As of 31-07-2025)

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Plant Pathology					
1.	East wing Lab-1	37.088	15	For PG Degree Practical and Research	Different scientific equipment, as listed in Table 6.4.64, ACs, PCs, lab chemicals, glasswares, UPS, *etc.*
2.	East wing Lab-2	85.192	15		
3.	West wing Lab-1	171.2	10		
4.	West wing Lab-2	125.10	25		

East wing Lab	West wing Lab

Table 6.4.64 PG: List of major equipment available in the Department of Plant Pathology

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
1.	East wing Lab-1	Leminar Air Flow (Horizontal)	1	0.61
2.		Hot Air Oven: 40 l	1	0.65
3.		Hot Air Oven: 18" x 18" x 24"	1	0.27
4.		Autoclave Vertical: 135 Litre	1	4.5
5.		Autoclave Vertical: 30 x 50 cm height	1	0.52
6.	East wing Lab-2	Refrigerator-687 Litre	1	0.91
7.		Refrigerator-230 Litre	1	0.14
8.		BOD Incubator: 400 litre	1	2.55
9.		Leica Trinocular Microscope (Leica DM)	1	8.09
10.		Binocular Stereo Zoom Microscope CAT Scope	1	2.25
11.		Portable Generator	1	1.91
12.	West Wing Lab-1	B.O.D Incubator 400L (Equitron)	1	2.55
13.		LED Television (Sony Bravia)	1	1.24
14.		Fermenter 200 L (Bio-Age)	1	19.95
15.		Fermenter 50 L (Bio-Age)	1	15.74
16.		Bulk Centrifuge (Hitachi)	1	6.00
17.		Tubular Centrifuge (Sharplex)	1	7.67
18.		Pouch Packing Machine (Packmake)	1	4.83
19.		Auger Filler Screw Conveyor (Packmaker)	1	2.99
20.		Portable Generator	1	1.73

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
21.	West wing Lab-2	Soxhlet Extraction System (Gerhardt)	1	9.98
22.		Transilluminator (JSGW)	1	0.40
23.		Slide Scanner (Catalyst Biotech)	1	2.59
24.		Water Bath (Equitron)	1	0.24
25.		Double Distillery Unit (TKA)	1	2.00
26.		Magnetic Stirrer With Hot Plate (MAC)	1	0.08
27.		Chilled Water Circulator 25 L (Equitron)	1	1.32
28.		Cintex Quick Freezer (Electroquip)	1	0.45
29.		Hot Air Oven 200 L (Thermolab)	1	1.15
30.		Refrigerator Centrifuge (REMI)	1	1.51
31.		Water Purification System	1	2.00
32.		Gel Electrophoresis Unit (Genei)	1	1.70
33.		Stereo Binocular Microscope (Magnus)	1	0.55
34.		Trinocular Microscope (Leica)	1	8.99
35.		pH Meter (Horiba)	1	1.05
36.		Conductivity Meter (Horiba)	1	0.84
37.	West wing Lab-2	Digital Colony Counter (Lapiz)	1	0.11
38.		RT- PCR (Thermofisher)	1	12.50
39.		Spectrophotometer Nanodrop (Thermoscientific)	1	8.46
40.		Digital Flame Photometer (Relitech)	1	0.45
41.		Gel Documentation System (Biotop)	1	7.46
42.		Table Top Refrigerator Centrifuge (Hitachi)	1	4.25
43.		B.O.D. Incubator 200 L (Thermolab)	1	1.65
44.		Deep Freezer (Remi)	1	0.97
45.		Refrigerator 596 L (Sharp)	1	0.55

Major equipment available in the Department of Plant Pathology, CoA, JAU, Junagadh	
Name of equipment: Soxtherm Extraction Unit	Name of equipment: Gel Documentation System
Name of equipment: Binocular Microscope	Name of equipment: Nanodrop Spectrophotometer

Table 6.4.65 PG: Farm Facilities available with the Department Plant Pathology

Sr. No.	Name of Farm / Cafeteria	Area (hectare)	No. of Experiments continue		Details of activities
			Departmental	Students	
1	A-1	0.15	01	01	Micro Plot
2	A-2	0.20	02	02	NADEP Compost Unit and Glass House
3	A-3	0.40	03	02	Compost Yard and Mushroom House
4	A-4	0.12	-	01	Net House

Name of the farm: NADEP Compost Unit, Glass House	**Name of the farm: Net House**

Table 6.4.66 PG: Theory and practical batches for the PG program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semesters	Batch of students in theory class	Batch of students in practical class
1.	M. Sc. (Agri.) in Plant Pathology	Odd	1 (19 students)	1 (19 students)
2.		Even	1 (19 students)	1 (19 students)

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty prepares theory note from various books, research papers, reference books, and practical manuals for each subject of the degree program and the same are distributed to students at free of cost.
- Many faculties with five years experiences in UG/PG teaching also contributed to ICAR E-learning portal as course creator, unit reviewer and course reviewer.
- Students also get regular exposure and information about various diseases of crops through field and museum visits.

PRACTICAL AND HANDS-ON-TRAINING

The PG students are practically exposed on the following aspects.

1. Instrumentations
2. Seasonal survey for disease incidence
3. Preservation of diseased specimen
4. Diagnosis of plant diseases
5. Preparation of bio-control agents
6. Preparation of fungicidal mixture
7. Awareness regarding safety use of pesticides
8. Study on host pathogen interaction

9. Testing the bio-efficacy of fungicides, bactericides and nematicides against plant pathogens
10. screening of different germplasm against to different diseases
11. Mushroom production
12. Exposure visits to nearby institutions

The students are instructed about collection and preservation of diseased specimens. The collected disease specimens are used to study the external symptoms and utilized for microscopic observations. The students are encouraged to isolate and purify various plant pathogens under laboratory to know their identity, physiology and other characters. Hands on training on isolation and formulation of bio-control agents. The PG students are encouraged to develop or design the strategies for disease management.

6.4.6. SUPERVISION OF STUDENTS IN PG DEGREE PROGRAM

Apart from the faculty of the Department, scientists/faculty working in the various research stations and university offices are also allotted PG students for guiding.

Table 6.4.67 PG: Number of students supervised (guided) by faculty in the last five years in Plant Pathology PG degree program

Department	No. of students being supervised (guided) by faculty for PG Degree	No. of qualified faculty members
Plant Pathology	19	14

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*) (2020-21 TO 2025-26)

- Feedback from students, parents, state representatives, farmers and industrialists are being taken from time to time. Overall, the feedback reveal that students are getting education as per academic schedule and sufficient facilities are available at hostels, mess, gym and sports ground **(Annexure 6.4.7a).** Parents who visited hostels, college and department also convery satisfaction with the existing facilities. The famers of the surrounding villages also readily discuss their problems with staff and PG Degree students and obtain solutions. Staff and PG students participate rigorously in "*krishimahotsavas*", the flagship programme of GoG.
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per the prescribed schedule, and comprises the Deans of all faculties, nominated Professors, Research Scientists from different faculties, and renowned academicians, who discuss the feedback received from different stakeholder during the meetings. Based on the recommendations of the Board of Studies, the Academic Council takes decisions on academic matters for implementation in the University and its constituent colleges.
- ***STUDENT ADVISORY COMMITTEE:*** It comprises a four-member advisory committee, chaired by the Major Guide, with the other members drawn from the minor subject, allied subject, and statistics. The committee guides the student in selecting the research problem, seminar topics, and related academic/research activities. The members also frequently visit the experimental fields and provide necessary guidance and feedback to the students.

- ***STUDENT REPRESENTATIVE COUNCIL (SRC) AND STUDENT COUNSELLING AND PLACEMENT CELL (SCPC):*** Feedback collected with student interactions is reviewed by the committee members and appropriate measures are implemented based on the feedback received.
- ***FACULTY GROUP OF SUBJECTS:*** Faculty Group of Subjects is a unique and robust mechanism of JAU, which is held once in a year wherein the workload of faculty and progress of the students are thoroughly discussed with suggestions for improvement. The suggestions received by the Department of Plant Pathology in the Faculty Group of Subjects during the last five years are given hereunder.

Table 6.4.68 PG: Year-wise Faculty Group of Subject Meetings of Crop Protection

Sr. No.	Year	Convener	Faculties remain present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	Suggestions received from concerned FGS meeting; corresponding action taken report are submitted as ***Annexure 6.4.7b***
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal and Dean	
4.	2023-24	Professor and Head	Director of Research and Dean PG Studies, Registrar, Director of Extension Education, Associate Director of Research and Principal and Dean	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research and Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal and Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR THE LAST FIVE YEARS

Table 6.4.69 PG: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
M. Sc. (Agri.) in Plant Pathology	2020-21	08	08	00.00
	2021-22	07	06	14.28
	2022-23	07	06	14.28
	2023-24	08	07	12.5
	2024-25	10	09	10
	2025-26	10	09	10

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

1. ***CERA AND OTHER ONLINE E-RESOURCES:*** The department actively encourages its faculty members and students to use the ICAR Consortium of e-resources in Agriculture (CeRA) along with the One Nation, One Subscription (ONOS) of Ministry of Education, GoI. In this way, the research proposals and thesis referencing of the students is kept up-to-date in the plant pathology domain.
2. ***E-BOOKS:*** The e-books available at the university central library and with the departmental faculty members are fully utilized for teaching and research needs of the students.
3. ***KRISHIKOSH:*** Junagadh Agricultural University is an active facilitator of Krishikosh, the national repository of theses, in which the theses are submitted by Agricultural Universities and ICAR institutes. All postgraduate and doctoral theses submitted to the department are regularly uploaded to this repository for wider accessibility.
4. ***INTERNET:*** Digital library with computers and internet facility is available and used by the PG Degree students. Wi-Fi Internet facility is also provided at all the hostels, which is available around the clock.
5. ***JAU IKRUSHI SANHITA AND JANVANI FM:*** Students are also given exposure to use JAU iKrushi Sanhita, a mobile application developed by the University, besides encouraging them to regularly listen to Junagadh Janvani 91.2 FM for information on crop-specific advisory and strategies. In addition, faculty members also give regular radio and TV talks and the links of which are shared for wider dissemination.
6. ***ANTI-PLAGIARISM POLICY OF JAU:*** The department also strictly adheres to the Anti-Plagiarism norms stipulated by the university and keeps a tab on AI content use.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, CoA, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: 31.01.2026
Place: Junagadh

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Annexure 6.4.7a

Postgraduate Students' Feedback Report for AY 2024-25	
Department of Plant Pathology, CoA, JAU, Junagadh (n = 18)	
Particulars	**Average Score**
Departmental Teaching - Learning Process	
1. How do you rate Student- Teacher relations?	3.9
2. How do you rate for completion of courses by the teachers?	3.3
3. How do you rate fairness in internal assessment in the department?	3.7
4. How do you rate practical exposure from the department?	3.5
5. How do you rate for statical analysis facility provided by the department	3.5
6. Did teachers motivate /support you for solving your personal problems	3.4
P.G. Research facility	
1. How do you rate for your selection of research topic?	3.8
2. Did you get enough facilities for conducting experiment?	3.6
3. How do you rate material provided for conducting experiment?	3.6
4. How do you rate major guide for supporting in completion of seminar and thesis projects?	3.9
Library facilities	
1. Books related to your subject are available in the library	3.5
2. Internet facilities for learning and research purpose	3.2
3. Availability of research journals (online /offline) for review purpose	3.4
4. How do you rate the delivery of books system at the University Library?	3.2
Hostel Facility	
1. How do you rate Hostel facilities?	3.1
2. How do you rate Wi-Fi facility?	3.0
3. How do you rate for food quality in mess?	3.1
4. How do you rate cleanliness in the hostel?	3.4
Sports Facility	
1. How do you rate indoor sports facility?	3.5
2. How do you rate outdoor sports facility?	3.3

Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	**3**	**2**	**1**

Annexure 6.4.7b

Suggestions Received in the Faculty Group Meetings of Crop Protection

Sr. No.	Year	Convener	Participants	Suggestions received
1.	2020-21	Dr. M. F. Acharya, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Dr. V. P. Chovatia, Hon'ble Vice Chancellor and Director of Research, JAU, Junagadh 2. Dr. K. A. Khunt, Principal, College of Agriculture, JAU, Junagadh. 3. Dr. M. F. Acharya, Convener of FGPP and Professor & Head, Department of Entomology, College of Agriculture, JAU, Junagadh 4. Dr. L. F. Akbari, Co-convener of FGPP and Professor & Head, Department of Pl. Pathology, College of Agriculture, JAU, Junagadh 5. Members of Faculty group of Entomology 6. Members of Faculty group of Plant Pathology	i. Even distribution of work load for the Assistant Professors, Associate Professor and Professor & Head of the respective Department should be formed. ii. Incorporate the list of seminars (summer /winter /short training, workshop, symposium, conference etc.) presented by the faculties of respective departments. iii. Incorporate the details about use of library, PG research visit, NET/JRF/SRF information of respective departments. iv. Faculty should visit campus library regularly and use CeRa/J-gate consortium. v. Practical Manuals of different subjects should be sent (SAU's of Gujarat and other states, research scientists and colleagues etc.) to review the content and try to get the good remarks. vi. Trainings on recent aspects (climate change, new insect /disease and its management etc.) should be organized by respective departments.
2.	2021-22	Dr. M. F. Acharya, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Prof. (Dr.) N. K. Gontia, Hon'ble Vice Chancellor, JAU, Junagadh 2. Dr. P. M. Chauhan, Director of Research & Dean PG, JAU, Junagadh 3. Dr. R. K. Mathukia, Registrar, JAU, Junagadh	i. Even distribution of work load for the Assistant Professors, Associate Professor and Professor & Head of the respective Department should be formed. ii. Faculty should visit campus library regularly and use CeRa/J-gate consortium. iii. In undergraduate teaching, the microbiology course must be

Sr. No.	Year	Convener	Participants	Suggestions received
			4. Dr. S. G. Savalia, Principal & Dean, College of Agriculture, JAU, Junagadh. 5. Dr. P. V. Patel, Professor & Head, Dept. of Ento., CoA, JAU, Junagadh 6. Dr. D. S. Kelaiya, Professor & Head, Dept. of Pl. Patho., CoA, JAU, Junagadh 7. Members of Faculty group of Entomology 8. Members of Faculty group of Plant Pathology	taken by microbiologist only. iv. Practical Manuals of different subjects should be sent (SAU's of Gujarat and other states, research scientists and colleagues etc.) to review the content and try to get the good remarks. v. Trainings on recent aspects (climate change, new insect /disease and its management etc.) should be organized by respective departments.
3.	2022-23	Dr. M. F. Acharya, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Dr. V. P. Chovatia, Hon'ble Vice Chancellor, JAU, Junagadh 2. Dr. H. M. Gajipara, Director of Research & Dean PG, JAU, Junagadh 3. Dr. S. G. Savalia, Principal & Dean, College of Agriculture, JAU, Junagadh. 4. Dr. M. F. Acharya, Professor & Head, Dept. of Ento., CoA, JAU, Junagadh 5. Dr. D. S. Kelaiya, Professor & Head, Dept. of Pl. Patho., CoA, JAU, Junagadh 6. Members of Faculty group of Entomology 7. Members of Faculty group of Plant Pathology	i. Photos related to ELP, RAWEP, Student's Ready Program need to incorporate in presentation as well as report. ii. Need to display the needs of the trainings for the faculties. iii. Advanced courses for Ph.D. program are to be assigned to regular teachers. iv. Suggestions of books should be incorporated in report with detail. v. Teachers have to incorporate the new recommendations as well as information on new pests and diseases and its management to the UG /PG / Ph.D. students in different courses. vi. Strengthening of departmental activities should be incorporated. vii. Data on left out students at UG level should be submitted to placement officer. viii. Practical Manuals of different subjects should be sent (SAU's of Gujarat and

Sr. No.	Year	Convener	Participants	Suggestions received
				other states, research scientists and colleagues etc.) to review the content and try to get the good remarks.
4.	2023-24	Dr. D. M. Jethva, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Dr. V. P. Chovatia, Hon'ble Vice Chancellor, JAU, Junagadh 2. Dr. B. D. Savaliya, Associate Director of Research, JAU, Junagadh 3. Dr. P. M. Chauhan, Registrar, JAU, Junagadh 4. Dr. P. D. Kumawat, Principal & Dean, College of Agriculture, JAU, Junagadh. 5. Dr. M. F. Acharya, Professor & Head, Dept. of Ento., CoA, JAU, Junagadh 6. Dr. D. S. Kelaiya, Professor & Head, Dept. of Pl. Patho., CoA, JAU, Junagadh 7. Members of Faculty group of Entomology 8. Members of Faculty group of Plant Pathology	**i.** Add the details of each supplementary /mean improvement courses in the report. **ii.** Practical Manuals of different subjects should be sent (SAU's of Gujarat and other states, research scientists and colleagues etc.) to review the content and try to get the good remarks. **iii.** Data on left out students at UG level should be submitted to convener of Student Council and Placement Cell (SCPC). **iv.** Recommendation of the subject books for the purchase in library should be incorporated in report with detail information. **v.** Advanced /Basic courses for M.Sc. /Ph.D. program are to be assigned to regular teachers. **vi.** Placement records of PG students should be maintained and submitted to SCPC. **vii.** Add the name of entrepreneurs /startups from the departments in the report, if any. **viii.** Incorporate the slide numbers in presentation **ix.** Staff position should be having equivalent position *i.e.*, Assistant Professor & its equivalent rather than

Sr. No.	Year	Convener	Participants	Suggestions received
				Assistant Research Scientist. **x.** Add the information about Published /Sanctioned patents or any other significant achievement in the report.
5.	2024-25	Dr. D. M. Jethva, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Dr. R. B. Madariya, Director of Research, JAU, Junagadh 2. Dr. N. B. Jadav, Director of Extension, JAU, Junagadh 3. Dr. Y. H. Ghelani, Registrar, JAU, Junagadh 4. Dr. P. D. Kumawat, Principal & Dean, College of Agriculture, JAU, Junagadh. 5. Dr. D. M. Jethva, Professor & Head, Dept. of Ento., CoA, JAU, Junagadh 6. Dr. D. S. Kelaiya, Professor & Head, Dept. of Pl. Patho., CoA, JAU, Junagadh 7. Members of Faculty group of Entomology 8. Members of Faculty group of Plant Pathology	**i.** Action Taken should be bind in the report. **ii.** All the faculties of Plant Protection group must have to attend the meeting. **iii.** Add the details of out sourcing staff in remarks of the table related to staff position. **iv.** Details of working technical assistants & Research Fellows should be incorporated. **v.** Add the total as well as percentage of staff position in the Department /Unit. **vi.** Mention Polytechnic teaching instead of UG teaching in report. **vii.** Details of Fellowships (SHODH, PM Fellowship etc.) earned by PG /Ph.D. students should be incorporated in report. **viii.** Awards received by students (PG /Ph.D.) should be incorporated in report. **ix.** Individual faculty reports should be forwarded through proper channel. **x.** Faculty wise requirement of training should be incorporated. **xi.** Don't include research workshops (Mandatory works) attended by faculties in report. **xii.** Mention the mode of training /workshop /seminar (Online

Sr. No.	Year	Convener	Participants	Suggestions received
				/Offline) etc. in report. **xiii.** Add the name of the reviewers in the UG /PG journal review process. **xiv.** Add the list of entrepreneurs in report and send to SCPC Cell.
6.	2025-26	Dr. D. M. Jethva, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Dr. V. P. Chovatia, Hon'ble Vice Chancellor, JAU, Junagadh 2. Dr. A. G. Pansuriya, Director of Research, JAU, Junagadh 3. Dr. Y. H. Ghelani, Registrar, JAU, Junagadh 4. Dr. P. D. Kumawat, Principal & Dean, College of Agriculture, JAU, Junagadh 5. Dr. D. S. Kelaiya, Principal, College of Agriculture, JAU, Mota Bhandariya 6. Dr. D. M. Jethva, Professor & Head, Dept. of Entomology, CoA, JAU, Junagadh 7. Dr. S. V. Undhad, Associate Professor, Dept. of Pl. Patho., CoA, JAU, Junagadh 8. Members of the Faculty group of Entomology 9. Members of the Faculty group of Plant Pathology	**i.** All the faculty members of the Plant Protection group must attend the meeting. **ii.** Add the details of all outsourced staff as filled post in the staff position. **iii.** Individual faculty reports should be compiled at the unit level and forwarded through the proper channel (e-mail). **iv.** Add the list of books and journals purchased by the library, which were recommended by the department. **v.** The orientation program should be arranged for the newly admitted PG students for awareness of the various activities of JAU. **vi.** The faculty must upload their publications timely on Google Scholar and so also on the IRS online JAU portal.

Action Taken by the Department of Plant Pathology, CoA, JAU, Junagadh:

All the suggestions given in the group of subject meeting are implemented in the Department of Plant Pathology, CoA, JAU, Junagadh from time to time.

6.4

Self-Study Report for M. Sc. (Agri.) in Agricultural Extension Education

6.4. SELF-STUDY REPORT FOR M.SC. (AGRI.) IN AGRICULTURAL EXTENSION EDUCATION AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PG DEGREE PROGRAM

The department started M. Sc. (Agri.) program in the year 1964 under the jurisdiction of College of Agriculture, JAU, Junagadh. The department is committed to providing quality education to the students admitted to the M. Sc. (Agri.) degree program.

STEPPING-STONES OF THE DEPARTMENT:

- The department was established during June, 1960 under the College of Agriculture, Junagadh.
- The postgraduate program was started in the year 1964 and a total of 172 students have completed their master's degree till date at the department.
- The department renders the services of teaching across the faculties of agriculture and horticulture in UG curriculum.
- The major areas of research include adoption of agricultural technology, impact of technology, training needs, socio economic condition of farmers, technological gap, ICT, ITK, AI adoption, *etc*.

MISSION, GOALS AND OBJECTIVES:

MISSION:

- The department is committed to provide excellence, innovation and effectiveness in education, research and transfer of technology programs.

GOALS:

- Goal of Department of Agricultural Extension Education is to develop agricultural professionals with managerial excellence through quality education and strategic research with socio-cultural sensitivity, ethical responsibility and concern for environment with aspirations of the farming community in particular.

OBJECTIVES:

- To carry out basic and strategic research in the areas of agricultural extension education.
- To carry out post-graduate education programs leading to the degree of M. Sc. (Agri.) and Ph.D. in agricultural extension education to meet the trained man-power requirements of agricultural universities, research institutes and other development departments.
- To render expertise support and advisory and consultancy services to extension activities of the university.
- To implement direct recommendations of the Deans' Committee Report of ICAR in terms of course content, credit requirement, examination system, guidelines for under post graduate education.
- To strengthen the practical and work experience content in the course curriculum.
- To provide integrated agricultural extension education at all levels to develop efficiency and effectiveness in skill, attitude and knowledge among students and to provide necessary placement support to the students.

Department of Agricultural Extension Education, CoA, JAU, Junagadh

ACCOMPLISHMENTS/ ACHIEVEMENTS OF LAST FIVE YEARS:

RECOMMENDATIONS FROM THE DEPARTMENT OF AGRICULTURAL EXTENSION EDUCATION, COA, JAU, JUNAGADH FOR SCIENTIFIC COMMUNITY

2023-24

1) **Farmers Adoption of Cotton Production Technologies Recommended by JAU, Junagadh**

The extension functionaries are advised to conduct training programmes, field demonstrations and exhibition of pests and diseases sample for cotton growing farmers in line with the recommended cotton production technologies of Junagadh Agricultural University to ensure their maximum adoption by farmers.

2024-25

2) **Sensitization level of farmers about safe usage of pesticides in Junagadh district of Saurashtra region**

Recommendation for Extension Functionaries:

To promote safe usage of pesticide among farmers, it is recommended that extension functionaries need to increase their knowledge and safe usage pattern of pesticides through trainings and providing farm literature to select correct pesticide along with its dosage as well as safe handling and disposal techniques.

3) **Adoption of natural farming in Saurashtra region**

Recommendation for Extension Functionaries:

The adoption level of natural farming farmers was found to be medium to low. The farmers got low yield during initial period. Trainings are required regarding the natural

farming practices and to organize method demonstrations for the preparation of different natural farming inputs. Besides, it is suggested to government institutions to enhance marketing facilities for farmers produce and provide subsidy to farmers in the initial period of natural farming adoption.

Table 6.4.70 PG: Awards/recognition received by faculty members (Department of Agricultural Extension Education)

Sr. No.	Name of Faculty	Name of Award	Authority	Year
1.	Dr. B. N. Kalsariya	Best Extension Scientist Award, Year-2025	Society of Extension Education, Gujarat	2024
		Best Lead Paper Presentation Award	Society of Extension Education, Gujarat	2024
		Certificate of Appreciation for Oral paper presentation	ASM Foundation, New Delhi and Junagadh Agricultural University, Junagadh	2024
		Best Oral Paper Presentation Award, 2024	Society of Extension Education, Gujarat	2024
		Best Oral Paper Presentation Award, 2025	JAU, Junagadh	2025
		Best Oral Presentation Award	CAET, JAU, Junagadh	2025
2.	Dr. S. J. Parmar	Best Young Scientist Award	Society of Extension Education, Gujarat	2022
		Young Scientist Award	Agri Meet Foundation, Bharat	2024
3.	Dr. J. V. Chovatiya	Best Thesis GAAS Award	Gujarat Association for Agricultural Science, Ahmedabad	2020
		Young Scientist Award	Society of Extension Education, Agra	2023

Table 6.4.71 PG: Awards received by PG degree students (Department of Agricultural Extension Education)

Sr. No.	Name of the Student	Name of the Award	Year
1.	Zala Prashant H.	Best post Graduate Researcher Award	2020
2.	Jay V. Chovatoya	Best Thesis GAAS Award	2020
3.	Diksha Sharma	Best Thesis Award on "Training Need of Farm Women About Improved Animal Husbandry Practices in Saurashtra Region"	2021
4.	P. B. Raviya	Best Ph. D Thesis Award	2021
5.	P. B. Raviya	International Researcher Award 2020-21	2021

Sr. No.	Name of the Student	Name of the Award	Year
6.	Radhika Bani	Best undergraduate award student in subject of Agricultural Extension Education	2023
7.	P. B. Raviya	Best Research Paper Award	2023
8.	Khushbuba M. Jadeja	Best Thesis Award	2024
9.	Padaliya Darshana Arvindbhai	Dr. T. L. Dholariya Best Postgraduate Student Award	2024
10.	Padaliya Darshana Arvindbhai	Second Rank in Oral Presentation Award	2024
11.	Rathod Rajshinh B.	Oral Presentation Award	2024
12.	Zala Prashant H.	Best Thesis GAAS Award	2024

Table 6.4.72 PG: Year-wise NET qualified PG/Ph.D. Students in Agricultural Extension Education

Sr. No.	Year	No. of students qualified NET
1.	2020-21	---
2	2021-22	08
3	2022-23	02 (UGC NET)
4	2023-24	04 (UGC NET)
5	2024-25	01
	Total	**15**

Table 6.4.73 PG: Research publications of faculty Members (Department of Agricultural Extension Education)

Sr. No.	Particular	Number of publications during Last Five Years
1.	National/International Journal	25
	6.0 and above	00
	4.0-6.0	25
	< 4.0	00
2.	Books Published/Book Chapter	01
3.	Practical Manuals	10

Table 6.4.74 PG: Seminar / workshop / symposia organized by the Department Agricultural Extension Education during 2020-21 to 2025-26

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2020-21				
1	Next Generation Extension Tools and Techniques for	19/10/2020 to	Dept. of Agril. Extension Education,	95

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
	Upcoming Agricultural Professionals.	23/10/2020	JAU, Junagadh	
2021-22				
2	SEEG National Seminar-2022 on "Synergetic Extension Approaches for Livelihood Improvement and Agricultural Development"	24/06/2022 to 25/06/2022	Dept. of Agril. Extension Education, JAU, Junagadh and SEEG, Anand	350

6.4.2. FACULTY STRENGTH (AS OF 31-07-2025)

The Department has sufficient sanctioned and filled in faculty positions. Besides, scientists from the Office of the Directorate of Extension Education of the university also render their support in teaching and research.

Table 6.4.75 PG: Details of faculty strength (Department of Agricultural Extension Education)

Sr. No	Sanctioned Faculty for PG	Faculty in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Professor	01	00	Not recommended by ICAR	**01**
2.	Associate Professor	02	00		**02**
3.	Assistant Professor	02	00		**02**
Total		05	**00**		05

6.4.3 TECHNICAL/SUPPORTING STAFF AS OF 31/03/2021

The Department has sufficient sanctioned and filled up supporting staff position. Moreover, technical and administrative staff are also outsourced as and when required.

Table 6.4.76 PG: Details of technical/supporting staff strength as of 31.07.2025 (Department of Agricultural Extension Education)

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1	Technical/Supporting staff	01	00	Not recommended by ICAR	01
2	Administrative staff	00	00		00
Total		01	00		01

6.4.4. CLASSROOMS AND LABORATORIES

The Department has two functional classrooms for UG and PG teaching with state-of-the-art infrastructure that is comparable with the top-performing SAUs in the country as far as the domain of Agricultural Extension Education is concerned.

Table 6.4.77 PG: Classroom infrastructure in the department

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Department of Agricultural Extension Education					
1.	Classroom-1 (Conference Hall)	51.68	42	Teaching, seminar, meeting	AC, Projector, Computer
2.	Classroom-2 (PG smart classroom)	32.53	25	Teaching, meeting	AC, Projector, Computer

A view of the Conference Hall

Facilities at the PG smart classroom

Table 6.4.78 PG: Departmental PG laboratories established (As of 31-07-2025)

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Agricultural Extension					
1.	Audio-Visual Lab	34.84	25	Teaching	Computer, LCD Projector

The department has one audio-visual lab, wherein the practical sessions of the respective UG and PG courses are being taken by using the aids of computer, LCD projector, charts, *etc.* to improve the understanding of the students.

Table 6.4.79 PG: Theory and practical batches for the PG program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semesters	Batch of students in theory class	Batch of students in practical class
1	M. Sc. (Agriculture) in Agricultural Extension Education	Odd	1 (17 students)	1 (17 students)
		Even	1 (17 students)	1 (17 students)

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty members of the department prepare comprehensive theory notes for each subject of the degree programme by referring to standard textbooks, research papers, reference books, and practical manuals, adhereing to the BSMA guidelines. These materials are distributed to students free of cost and are also shared with the departmental WhatsApp Group of the students for easy access.
- Faculty members with more than eight years experiences in PG teaching have also contributed to ICAR E-learning portal as course creator, unit reviewer and course reviewer, and the links of the courses developed are shared with the PG students.
- The students are provided with substantial hands-on exposure to data analysis and decision-support tools relevant to agricultural extension and rural development. Training is imparted using trial versions of commonly used statistical and analytical tools to strengthen students' competencies in data handling, impact assessment, and socio-economic analysis.
- As part of the curriculum, students are also introduced to important agricultural and extension-related digital and other online databases.
- Assignments are given to train students in retrieving relevant literature, datasets, and secondary information for extension planning, policy analysis, and research.
- Special lectures also arranged for the students to gain interest and acquire hands-on experience not only in the use of extension eduction related concepts but also gain expertise in the use and application of other key concepts of social science disciplines, such as economics, statistics, and agri-business management.

PRACTICAL AND HANDS-ON-TRAINING

- Students are exposed to real farm situations to fill in their thesis questionnaire as a partial fulfilment of their degree and interact with farmers to get their feedback regarding their research topics undertaken.

6.4.6. SUPERVISION OF STUDENTS IN PG PROGRAM

Apart from UG teaching, faculties are involved in PG teaching/guiding of students. The details of the students guided (supervised) for the last five years, from 2020-21 to 2024-25, are given below. It is also to be noted that the department has guided all the students to complete and submit their theses on time in all the assessment years.

Table 6.4.80 PG: Number of PG students supervised (guided) by faculty in the last five years in Agricultural Extension Education

Department	No. of students supervised (guided) by faculty
	M. Sc. (Agri.)
Agricultural Extension Education	18

During the accreditation cycle, from 2020-21 to 2024-25, ten faculty members with Agricultural Extension Education specialization were recognized for postgraduate teaching and student supervision. Among them, five faculty members were approved to guide doctoral research, while the remaining five were recognized for supervising master's students. With respect to faculty credentials, all members of the extension faculty hold doctoral degrees, and five of them have additionally qualified the NET.

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*) (2020-21 TO 2025-26)

- Feedback from students, parents, state representatives, farmers and industrialists are being taken from time to time. Overall, the feedback reveal that students are getting education as per academic schedule and sufficient facilities are available at hostels, mess, gym and sports ground **(Annexure 6.4.7a).** Parents who visited hostels, college and department also conveyed satisfaction with the existing facilities. The famers of the surrounding villages also readily discuss their problems with staff and PG Degree students and obtain solutions. Staff and PG students participate rigorously in "*krishimahotsavas*", the flagship programme of GoG, and obtain their feedback on the technological recommendations from the university.
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per the prescribed schedule, and comprises the Deans of all faculties, nominated Professors, Research Scientists from different faculties, and renowned academicians, who discuss the feedback received from different stakeholder during the meetings. Based on the recommendations of the Board of Studies, the Academic Council takes decisions on academic matters for implementation in the University and its constituent colleges.
- ***STUDENT ADVISORY COMMITTEE:*** It comprises a four-member advisory committee, chaired by the Major Guide, with the other members drawn from the minor subject, allied subject, and statistics. The committee guides the student in selecting the research problem, seminar topics, and related academic/research activities. The members also frequently visit the experimental fields and provide necessary guidance and feedback to the students.
- ***STUDENT REPRESENTATIVE COUNCIL (SRC) AND STUDENT COUNSELLING AND PLACEMENT CELL (SCPC):*** Feedback collected with student interactions is reviewed by the committee members and appropriate measures are implemented based on the feedback received.
- ***FACULTY GROUP OF SUBJECTS:*** The Faculty Group Meeting (FGM) of Social Science group is held once a year wherein the social science discipline, including Agricultural Extension Education, present their teaching and research progress of

the previous year before the house consisting of Hon'ble Vice Chancellor, Director of Research, Principal and Dean, and other University Officers. The Ph. D. students are also made to present their thesis research objectives in this meeting. At the end of each department-wise presentations, the Vice-Chancellor and other members of the house render their suggestions to improve the overall academic and research mandates.

- The details of the FGMs of Social Science Science group conducted during the last five years are as follows:

Table 6.4.81 PG: Year-wise Faculty Group of Subject Meetings of Social Science

Sr. No.	Year	Convener	Dignitaries remaining present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	Suggestions received from concerned FGS meeting; corresponding action taken report are submitted as ***Annexure 6.4.7b on pgs. 173 to 174.***
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal and Dean	
4.	2023-24	Professor and Head	Director of Research and Dean PG Studies, Registrar, Director of Extension Education, Associate Director of Research and Principal and Dean	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research and Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal and Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR THE LAST FIVE YEARS

During the last five years, none of the students who joined Agricultural Extension Education in M. Sc. (Agri.) left their degree program after joining. The department also ensure the on-time completion of master's thesis of the in-service student as well.

Table 6.4.82 PG: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
M. Sc. (Agri.) in Agricultural Extension Education	2020-21	6 +1*	07	00.00
	2021-22	07	07	00.00
	2022-23	09	09	00.00
	2023-24	09	09	00.00
	2024-25	08	08	00.00

* In-Service candidate

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

1. ***CERA AND OTHER ONLINE E-RESOURCES:*** The department actively encourages its faculty members and students to use the ICAR Consortium of e-resources in Agriculture (CeRA) along with the One Nation, One Subscription (ONOS) of Ministry of Education, GoI. In this way, the research proposals and thesis referencing of the students is kept up-to-date in the plant pathology domain.
2. ***E-BOOKS:*** The e-books available at the university central library and with the departmental faculty members are fully utilized for teaching and research needs of the students.
3. ***KRISHIKOSH:*** Junagadh Agricultural University is an active facilitator of Krishikosh, the national repository of theses, in which the theses are submitted by Agricultural Universities and ICAR institutes. All postgraduate and doctoral theses submitted to the department are regularly uploaded to this repository for wider accessibility.
4. ***INTERNET:*** Digital library with computers and internet facility is available and used by the PG Degree students. Wi-Fi Internet facility is also provided at all the hostels, which is available around the clock.
5. ***JAU IKRUSHI SANHITA AND JANVANI FM:*** Students are also given exposure to use JAU iKrushi Sanhita, a mobile application developed by the University, besides encouraging them to regularly listen to Junagadh Janvani 91.2 FM for information on crop-specific advisory and strategies. In addition, faculty members also give regular radio and TV talks and the links of which are shared for wider dissemination.
6. ***ANTI-PLAGIARISM POLICY OF JAU:*** The department also strictly adheres to the Anti-Plagiarism norms stipulated by the university and keeps a tab on AI content use.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, CoA, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Date: 31.01.2026
Place: Junagadh

Annexure 6.4.7a

Postgraduate students' feedback report for AY 2024-25

Department of Agricultural Extension Education, CoA, JAU, Junagadh (n = 25)	
Particulars	**Average Score**
Departmental Teaching - Learning Process	
1. How do you rate Student- Teacher relations?	3.6
2. How do you rate for completion of courses by the teachers?	3.2
3. How do you rate fairness in internal assessment in the department?	3.5
4. How do you rate practical exposure from the department?	3.4
5. How do you rate for statical analysis facility provided by the department	3.1
6. Did teachers motivate /support you for solving your personal problems	3.6
P.G. Research facility	
1. How do you rate for your selection of research topic?	3.5
2. Did you get enough facilities for conducting experiment?	3.2
3. How do you rate material provided for conducting experiment?	3.4
4. How do you rate major guide for supporting in completion of seminar and thesis projects?	3.6
Library facilities	
1. Books related to your subject are available in the library	3.8
2. Internet facilities for learning and research purpose	3.6
3. Availability of research journals (online /offline) for review purpose	3.5
4. How do you rate the delivery of books system at the University Library?	3.1
Hostel Facility	
1. How do you rate Hostel facilities?	3.0
2. How do you rate Wi-Fi facility?	3.1
3. How do you rate for food quality in mess?	3.0
4. How do you rate cleanliness in the hostel?	3.3
Sports Facility	
1. How do you rate indoor sports facility?	3.7
2. How do you rate outdoor sports facility?	3.2

Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	**3**	**2**	**1**

Annexure 6.4.7b

Feedback received in the Faculty Group Meetings of Social Science

Sr. No.	Year	Convener	Delegates	Feedback received
1.	2020-21	Professor and Head, Deptt. of Agril. Statistics	Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• The research topics of P.G. students should give on impact assessment of different technology. • Increase the visits of central library. • The work loads of all Extension Education faculties of JAU should consider in presentation. • The department should come forward to initiate the efforts for commencing JAU Research Journal.
2.	2021-22		Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• Ensure on-time submission of synopsis of in-service students. • Include the number of students who discontinued the study within parentheses in the space allotted for 'Failed Students' under respective courses. • Mention the total contact hours of each faculty along with their semester-wise workload. • Tabulate placement details of the graduated students. • Add a feedback section on faculty teaching as received from the students.
3.	2022-23		Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• Follow specific format of FGSS while preparing the report. • As suggested in 8th FGSS meeting, give due weightage to the journey time in direct contact hours while calculating workload of the teachers undertaking UG courses at CoA, Khapat. • Add placement and students feedback section in the report. • Ensure correcting errors before presenting the report.
4.	2023-24		Hon'ble Vice Chancellor, Director of Research, Registrar and	• Present the strengthening of the department in terms of current year requirements. • Incorporate all the extension activities carried out by the department, including

Sr. No.	Year	Convener	Delegates	Feedback received
			Principal	the department's contributions in facilitating the exposure visits of the school students. • Furnish the budget head for the projects mentioned. • Include the h-index and i-10 index of the faculty members along with their total citations.
5.	2024-25		Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• Include the activities/works of all the extension scientists working at the DEE office, Principal office, Polytechnics, and other unit heads. • Use the proper terminology of 'left' instead of 'cancelled' for students who discontinued their degree programs.

Action taken:

All the suggestions given in the group of subject meeting are implemented by the Department of Agricultural Extension Education from time to time.

6.4:

Self-Study Report for M. Sc. (Agri.) in Agricultural Economics

6.4. SELF-STUDY REPORT FOR M.SC. (AGRI.) IN AGRICULTURAL ECONOMICS AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PG DEGREE PROGRAM

The Department of Agricultural Economics had its beginning along with the establishment of the College. The department commenced its M. Sc. (Agri.) degree program in Agricultural Economics in 1964-65. The major areas of research of the department include cost of cultivation, farming systems, impact assessment of technology and policy, agricultural marketing, price behaviour of major commodities, international trade and other region specific and policy related research studies. The department also maintains its dedicated webpage on the university website (www.jau.in) wherein all key particulars about its academic, research, and publication activities are regularly updated and significant accomplishments are highlighted. The department also houses a WTO Cell for conducting research studies related to international economics and an in-house research project on 'Price forecasting and marketing intelligence' is also functional at the department with its bi-monthly price forecasts being made available at the University website and published in all the vernacular and national dailies for larger outreach. As of 2024-25, 103 students have completed their master's degree from the department.

Department of Agricultural Economics, College of Agriculture, JAU, Junagadh

STEPPING-STONES OF THE DEPARTMENT

- Genesis of the Department of Agricultural Economics in 1960-61 along with the establishment of College of Agriculture, JAU, Junagadh.
- Functioning of the 'Scheme for Research in Agricultural Economics' in 1962-63.
- Commencement of M. Sc. (Agriculture) in Agricultural Economics in 1964-65.
- Introduction of Ph. D. in Agricultural Economics in 1966-67.
- Starting of the 'Scheme for Farm Cost Studies' in 1970-71.
- Establishment of the WTO Cell in 2005-06.
- Beginning of the in-house scheme on 'Price Forecasting of Selected Crops' under the 'Scheme for Research in Agricultural Economics' from 2020-21 onwards.
- Modernization of the Departmental Library to Departmental Library-cum-Reading Hall in 2020-21 with updated books, journals, STATA econometric software package and other infrastructural facilities.

MISSION, GOALS AND OBJECTIVES

MISSION:

- To become a student-centric learning centre of excellence in agricultural economics.

GOALS:

- To strive for high quality education, research and publications from faculties and students; not just in terms of publication in high impact-factor journals but also in terms of their gross readability and net usability to all the stakeholders, especially farming community.

OBJECTIVES:

- To emerge as a leading department of students' choice at the state and national levels and get recognized for its student friendly ambience and learning facilities;
- To impart students a strong domain knowledge and boost their capability and competitiveness in order to nurture a future ready passionate talent-pool;
- To hone research skills of the students by providing constant exposure to the latest developments in economic analysis and econometric/statistical software packages;
- To conduct a variety of region-specific research studies meeting the local needs of farming community and other stakeholders

ACCOMPLISHMENTS/ ACHIEVEMENTS OF THE LAST FIVE YEARS

RECOMMENDATIONS FROM THE DEPARTMENT OF AGRICULTURAL ECONOMICS, COA, JAU, JUNAGADH FOR SCIENTIFIC COMMUNITY

2020-21:

1. **Spatial and temporal integration analysis and price discovery mechanism of major potato wholesale markets in Gujarat**

The benefits of market integration of potato wholesale markets in Gujarat can be harnessed to realize the producer surplus potential by strengthening the existing market information and dissemination infrastructure. The real-time market intelligence inputs, including that of price forecasting, should be made available throughout the potato supply chain either through training programmes or by hosting literature in public domain, thereby, enabling the producers to take proper production, storage and marketing related decisions.

2021-22:

2. **Analyzing India's comparative advantage in world cumin (*Cuminum cyminum* L.) exports: An application of Gravity model**

The comparative advantage of India, and particularly Gujarat, can be enhanced in cumin exports and the country can emerge as a price setter in the world cumin trade only when the issues around yield, quality, and prices are addressed institutionally. Higher yield levels should be sustained, through widespread adoption of improved cultivars and micro-irrigation practices, for reducing production and export instabilities and to cool down domestic prices. Mandating large-scale IPM strategies and pre-shipment quality

checks are needed for curtailing export rejections. Above all, production and export incentives should be channelized through FPOs for upscaling residue management practices leading to a genuine exportable surplus.

2022-23:

3. Growth, Instability and Decomposition Analysis of Major Nutri-cereals Production in Gujarat

It is advised to the policy markers that as per the evidence from the satisfactory yield growth rate of bajra and jowar about 2 to 4 per cent during last two decades in Gujarat was due to the JAU/SAUs and others research varieties, beside less reduction in area and production as well as its low medium instabilities in major nutri-cereals growing districts. To enhance area and yield of bajra, jowar and ragi in Gujarat, sustained focus needs to be given on the following districts as given below in particular season.

2023-24:

4. Changing Cost Structure and Total Factor Productivity Growth of Onion in Gujarat

It is recommended to the scientific community that onion yield growth rate remained low about 0.46 per cent per annum during last three decades in Gujarat. As high increase in labour and seed prices, the negative growth in TFP (-1.01%) can be seen in production growth, hence RCP increased by 2.75 per cent per annum over FHP (2.35%). This indicates the needs of further improvement in technological breakthrough to increase productivity by evolving HYVs.n Proper management of agronomical practices to keep low production cost and the proper price incentive to keep pace with other crops.

5. Performance and determinants of Plant Varietal Protection (PVP) behaviour in Indian agriculture with special reference to Gujarat

It is recommended that targeted sensitization drives through training and workshops be scaled up to increase the grassroots awareness of PVPFRA and enhance the registration of farmers' varieties across the field and horticultural crops. Promoting location-specific hand-holding sessions for filing the applications of farmers will also address the imbalances in crop-wise and region-wise registrations. In addition, it is recommended that the applications under PVPFRA also be invited under PPP mode, whereby both public and private agencies would be enabled to share their infrastructure and technical knowledge, leading to the enhanced prospects of registration and commercialization of improved varieties or hybrid cultivars in such a way that a major share of the benefits of commerce also trickle down to the farming community in the form of reduced seed costs or a higher compensation stake in case of crop loss.

6. India's balance of trade in agriculture with SAARC nations: An econometric analysis

It is recommended that concerted efforts be put forth to enable India to assume the pivotal position of accelerating the inter-regional agricultural trade among SAARC nations to exceed 20 per cent by 2030. A trade performance of such scale is vital for India to harness the full potential of its comparative advantage in agricultural commodities. Besides, SAFTA should focus more on reducing the non-tariff barriers and logistical issues between the nations to improve overall farm trade volume and value. Efforts should also be on the anvil to leverage India's performance in the SAARC bloc to its advantage in world trade forums.

2024-25:

7. Credit flow and its utilization behaviour among farmers in Saurashtra region, Gujarat

It is recommended to the policymakers that the financial institutions and other professional associations should focus on improving the return on equity ratio, working capital ratio, and asset turnover ratio of the farmers to enhance their repayment capacity. Besides, farm income levels need to be given more weightage than income from other sources while risk rating the loan applications of farmers and making a priori distinction between potential defaulters and non-defaulters. As information asymmetricity on loan products is found to be a major constraint leading to defaults, crop-specific strategies need to be ensured to improve awareness and utilization of loans.

Table 6.4.83 PG: Awards/recognition received by faculty members (Department of Agricultural Economics)

Sr. No.	Name of Faculty	Name of Award	Authority	Year
1.	Dr. N. J. Ardeshna	Dvitiy Uttam Lekh Award	Krushi govidya magazine, AAU, Anand	2021
2.	Dr. B. Swaminathan	Second prize in BAU AGRI-HACKATHON Competition	Bihar Agricultural University, Sabour	2021
3.	Dr. B. Swaminathan	Young Achiever Award-2022	The Society for Advancement of Human and Nature (SADHNA), Dr YS Parmar University of Horticulture and Forestry, Solan	2022
4.	Dr. B. Swaminathan	Outstanding Academician Award 2023	Kamarajar Institute of Education and Research, Tamil Nadu, India, conferred in May 2023	2023
5.	Dr. B. Swaminathan	Best Speaker Award	India Stata Conference 2023 organized by SYSTECH, Mumbai on November 30, 2023	2023
6.	Dr. N. J. Ardeshna	Best poster presentation	25th National Conference on "Innovations and entrepreneurship for rural prosperity: an agricultural perspective", MPKV, Rahuri	2025
7.	Dr. B. Swaminathan	Best oral presentation	25th National Conference on "Innovations and entrepreneurship for rural prosperity: an agricultural perspective", MPKV, Rahuri	2025
8.	Dr. B. Swaminathan	Best poster presentation	25th National Conference on "Innovations and entrepreneurship for rural prosperity: an agricultural perspective", MPKV, Rahuri	2025

Table 6.4.84 PG: Awards received by PG degree students (Department of Agricultural Economics)

Sr. No.	Name of Student	Name of Award	Year
1.	Ms. Sneha S Ketali	Best Master's Thesis Award	2021
2.	Makwana Rutvika	Best Poster Presentation	2025
3.	Vora Krishna	Best Poster Presentation	2025
4.	S. R. Lavanya	Best Poster Presentation	2025
5.	Sneha Murugesan	Best Oral Presentation	2025
6.	Alpa B. Karmur	Best Oral Presentation	2025

Table 6.4.85 PG: Year-wise NET qualified PG/Ph.D. Students in Agricultural Economics

Sr. No.	Year	No. of students qualified ASRB NET/UGC NET/GSET
1.	2020-21	00
2.	2021-22	05
3.	2022-23	02
4.	2023-24	01
5.	2024-25	06
	Total	14

Table 6.4.86 PG: Research publications of faculty Members (Department of Agricultural Economics)

Sr. No.	Particular	Number of publications during the last five years
1.	National/International Journal	48
	6.0 and above	00
	4.0-6.0	43
	< 4.0	05
2.	Books Published/Book Chapters	06
3.	Practical Manuals	04

Table 6.4.87 PG: Seminar / workshop / symposia organized by the Department Agricultural Economics during 2020-21 to 2025-26

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2020-21				
1.	Sensitization Workshop on CMIE's Commodities Database	24/07/2020	Deptt. of Agril. Econ., CoA, JAU, Junagadh	100

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2.	Emerging Dimensions in Agribusiness Development and Trade under IDP, NAHEP sponsored by ICAR, New Delhi and World Bank	28/09/2020 to 02/10/2020	Deptt. of Agril. Econ., CoA, JAU, Junagadh	100
2022-23				
3.	Training on "Commodity Marketing Analysis"	15/02/2023	Deptt. of Agril. Econ., CoA, JAU, Junagadh	50
4.	One-day awareness workshop "Development of Soft Skills for Entrepreneurship among Agri-Graduates" in collaboration with ICAR-NAARM, Hyderabad	24/02/2023	Deptt. of Agril. Econ., CoA, JAU, Junagadh	175
2024-25				
5.	Guest lecture on "Emerging Global Economic Scenario and its Implications for Trade and Agribusiness in India"	19/09/2024	Deptt. of Agril. Econ., CoA, JAU, Junagadh	110
6.	Towards vikshit bharat@2047 Workshop on "How FPO can transition agri graduates to become job creators?	28.09.2024	Deptt. of Agril. Econ., CoA, JAU, Junagadh	105
7.	Guest lecture on "From Books to Fields: Startup and Entrepreneurship Development in the Agriculture Sector"	20/11/2024	Deptt. of Agril. Econ., CoA, JAU, Junagadh	135
2025-26				
8.	ICAR-sponsored National Seminar on 'Jumpstarting Agricultural Initiatives for Sustainable Agriculture, Rural Development, and Augmenting Regional Collaborations (JAI-SARDAR)'	23/12/2025	Deptt. of Agril. Econ., CoA, JAU, Junagadh	352

6.4.2. FACULTY STRENGTH (AS OF 31-07-2025)

Table 6.4.88 PG: Details of faculty strength (Department of Agricultural Economics)

Sr. No.	Sanctioned Faculty for PG	Faculty in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Professor	01	00	Not recommended by ICAR	01
2.	Associate Professor	02	02		04
3.	Assistant Professor	02	03		05
	Total	05	05		10

6.4.3 TECHNICAL /SUPPORTING STAFF (AS OF 31-07-2025)

Table 6.4.89 PG: Details of technical/supporting staff strength as of 31.07.2025 (Department of Agricultural Economics)

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Recommended by ICAR	Staff sanctioned by the GoG
1.	Technical/Supporting staff	18	42	Not recommended by ICAR	60
2.	Administrative staff	02	04		06
	Total	20	46		66

6.4.4. CLASSROOMS AND LABORATORIES

Table 6.4.90 PG: Classroom infrastructure in the department

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Department of Agricultural Economics					
1.	Conference Hall	46.75	33	For conducting Ph.D. credit seminars of Social Science group students For organizing workshops and training programmes For conducting Social Science Research Committee and Faculty Group meetings	AC hall, LCD Projector, Computer, Ethernet, UPS, Wireless Audio system, Podium
2.	Reading hall/ Library	29.80	10	Reading, lending books and back-volumes of journals	AC Library with 325 PG reference books
3.	PG Classroom	47.25	30	Theory lectures, practical sessions, hands-on training sessions	AC classroom with projector, Computer, Ethernet, UPS
4.	Seminar Hall	95.46	75	Synopsis and credit seminar presentations and for organizing research, trainings and placement orientations	AC hall, LCD Projector, LaptComputer, Ethernet, UPS, Wireless Audio system, Podium

Infrastructural facilities in the Seminar Hall

A view of the Conference Hall

Departmental library-cum-reading hall

Facilities in the PG smart classroom

Table 6.4.91 PG: Departmental PG laboratories established (As of 31-07-2025)

Sr. No.	Name of the Laboratory	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
1.	WTO Cell	31.30	10	Departmental research and PG student guidance	Econometric software packages for data analysis, *viz.*, SPSS, EVIEWS, R, Lingo, AMOS, *etc.*

Table 6.4.92 PG: List of major equipment/facilities available in the Department of Agricultural Economics

Sr. No.	Name of Laboratory	Name of Equipment / facility	No. of equipment / facility	Purchase price (Rs. in Lakh)
Department of Agricultural Economics				
1.	UG/PG classroom-cum-practical lab	LED Projector	3	0.90
		Smart TV	1	1.25
		STATA Statistical software package with perennial licence	5	2.50
		Educational Charts	36	0.60

Table 6.4.93 PG: Theory and practical batches for the PG program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semester	Batch of students in theory class	Batch of students in practical class
1.	M. Sc. (Agriculture) in Agricultural Economics	Odd	1 (6 students)	1 (6 students)
		Even	1(6 students)	1(6 students)

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty members of the department prepare comprehensive theory notes for each subject of the degree programme by referring to standard textbooks, research papers, reference books, and practical manuals, adhereing to the BSMA guidelines. These materials are distributed to students free of cost and are also shared with the departmental WhatsApp Group of the students for easy access.
- Faculty members with more than eight years experiences in PG teaching have also contributed to ICAR E-learning portal as course creator, unit reviewer and course reviewer, and the links of the courses developed are shared with the PG students.

PRACTICAL AND HANDS-ON-TRAINING

- The Department follows strict adherence to the regular conduct of classes in both online and offline formats. A theory lecture session is conducted for one hour duration, whereas a practical session lasts for two hours. Apart from striving for a strong domain knowledge among their wards, the faculties make sure that the students stand updated when it comes to the aspect of economic analysis. The practical sessions are conducted focusing on conceptual clarity dovetailed with hypothetical / practice datasets. The students are also taught to retrieve data from public domains such as AGMARKNET, FAOSTAT, UNCTAD and other open-access sites which are often used in teaching pedagogy.
- Further, the students are given considerable exposure to all the open-access econometric software packages available such as GRETL and R. The students are also given hands-on training with other trial versions of the statistical software packages such as SPSS, AMOS, E-Views, STATA, *etc*. Often, during the practical classes, hands-on training sessions are conducted in both offline and online platforms for the students to grasp the nuances related to the application of these packages. As a part of lectures, the students are also exposed to CeRA, CMIE's Commodities, ICRISAT's DLD and other online databases and are given assignments for retrieving literature and datasets from these sites. Walking the extra mile, the faculties also come up with videos related to MS Excel applications and the use of other software packages. The links / urls of the videos are shared to the semester-wise student WhatsApp groups maintained at the Department.
- Special guest lectures and workshops are also arranged for the students to gain interest and acquire hands-on experience not only in the use of econometric/ statistical software packages but also in the applications of theory concepts for their theses research needs. The training manuals on the use of SPSS-AMOS and STATA have also been circulated among the students.

6.4.6. SUPERVISION OF STUDENTS IN PG DEGREE PROGRAM

During the accreditation cycle from 2020-21 to 2024-25, the department has guided 30 master's students to complete their degree programs. Every year, at least 1-2 students take up their degree programs at the departments from other states in ICAR quota.

Table 6.4.94 PG: Number of PG students supervised (guided) by faculty in the last five years in Agricultural Economics

Department	No. of students supervised (guided) by faculty for PG Degree	No. of qualified faculty members
Agricultural Economics	30	05

The PG students are supervised by the Advisory Committee for their credit seminar presentations, thesis synopsis presentation, thesis research analysis, discussion, presentation, and final submission. The Advisory Committee comprises a team of 4-5 members, with the faculty member from the department serving as the major guide, while the minor guide is drawn from the discipline of Agricultural Extension Education and the other two/three members are constituted from Agricultural Economics, Agricultural Statistics and Agri-Business Management disciplines. In case of interdisciplinary research, the advisory committee also includes a member from biological sciences as and when the need arises.

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*) (2020-21 TO 2025-26)

- Feedback from students, parents, state representatives, farmers and industrialists are being taken from time to time. Overall, the feedback reveal that students are getting education as per academic schedule and sufficient facilities are available at hostels, mess, gym and sports ground **(Annexure 6.4.7a).** Parents who visited hostels, college and department also conveyed satisfaction with the existing facilities. The famers of the surrounding villages also readily discuss their problems with staff and PG Degree students and obtain solutions. Staff and PG students participate rigorously in "*krishimahotsavas*", the flagship programme of GoG, and obtain their feedback on the technological recommendations from the university.
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per the prescribed schedule, and comprises the Deans of all faculties, nominated Professors, Research Scientists from different faculties, and renowned academicians, who discuss the feedback received from different stakeholder during the meetings. Based on the recommendations of the Board of Studies, the Academic Council takes decisions on academic matters for implementation in the University and its constituent colleges.
- ***STUDENT ADVISORY COMMITTEE:*** It comprises a four-member advisory committee, chaired by the Major Guide, with the other members drawn from the minor subject, allied subject, and statistics. The committee guides the student in selecting the research problem, seminar topics, and related academic/research activities. The members also frequently visit the experimental fields and provide necessary guidance and feedback to the students.

- ***STUDENT REPRESENTATIVE COUNCIL (SRC) AND STUDENT COUNSELLING AND PLACEMENT CELL (SCPC):*** Feedback collected with student interactions is reviewed by the committee members and appropriate measures are implemented based on the feedback received.
- ***FACULTY GROUP OF SUBJECTS:*** The Faculty Group Meeting (FGM) of Social Science group is held once a year wherein the social science discipline, including Agricultural Extension Education, present their teaching and research progress of the previous year before the house consisting of Hon'ble Vice Chancellor, Director of Research, Principal and Dean, and other University Officers. The Ph. D. students are also made to present their thesis research objectives in this meeting.
- The details of the FGMs of Social Science Science group conducted during the last five years are as follows:

Table 6.4.95 PG: Year-wise Faculty Group of Subject Meetings of Social Science

Sr. No.	Year	Convener	Dignitaries remaining present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	Suggestions received from concerned FGS meeting; corresponding action taken report are submitted as ***Annexure 6.4.7b on pgs. 190 & 191.***
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal and Dean	
4.	2023-24	Professor and Head	Director of Research and Dean PG Studies, Registrar, Director of Extension Education, Associate Director of Research and Principal and Dean	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research and Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal and Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PG PROGRAM FOR THE LAST FIVE YEARS

Table 6.4.96 PG: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
M. Sc. (Agri.) (Agricultural Economics)	2020-21	03+1*	04	00
	2021-22	02	02	00
	2022-23	07	07	00
	2023-24	03+02*	05	00
	2024-25	06	06	00
	2025-26	04	04	00

Note: *In-service candidates

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

1. ***CERA AND OTHER ONLINE E-RESOURCES:*** The department actively encourages its faculty members and students to use the ICAR Consortium of e-resources in Agriculture (CeRA) along with the One Nation, One Subscription (ONOS) of Ministry of Education, GoI. In this way, the research proposals and thesis referencing of the students is kept up-to-date in the plant pathology domain.
2. ***E-BOOKS:*** The e-books available at the university central library and with the departmental faculty members are fully utilized for teaching and research needs of the students.
3. ***TIME SERIES AND PANEL DATABASES:*** The department intensively utilizes the time series and panel open-access databases available in public domain related to trade, market prices, crop production and consumption pattern , including APEDA, NSSO, RBI, UPAg, AGMARKNET, World Bank, and FAOSTAT.
4. ***KRISHIKOSH:*** Junagadh Agricultural University is an active facilitator of Krishikosh, the national repository of theses, in which the theses are submitted by Agricultural Universities and ICAR institutes. All postgraduate and doctoral theses submitted to the department are regularly uploaded to this repository for wider accessibility.
5. ***INTERNET:*** Digital library with computers and internet facility is available and used by the PG Degree students. Wi-Fi Internet facility is also provided at all the hostels, which is available around the clock.
6. ***JAU IKRUSHI SANHITA AND JANVANI FM:*** Students are also given exposure to use JAU iKrushi Sanhita, a mobile application developed by the University, besides encouraging them to regularly listen to Junagadh Janvani 91.2 FM for information on crop-specific advisory and strategies. In addition, faculty members also give regular radio and TV talks and the links of which are shared for wider dissemination.
7. ***ANTI-PLAGIARISM POLICY OF JAU:*** The department also strictly adheres to the Anti-Plagiarism norms stipulated by the university and keeps a tab on AI content use.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: 31.01.2026
Place: Junagadh

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Annexure 6.4.7a

Postgraduate students' feedback report for AY 2024-25

Department of Agricultural Economics, CoA, JAU, Junagadh (n = 25)	
Particulars	**Average Score**
Departmental Teaching - Learning Process	
1. How do you rate Student- Teacher relations?	3.8
2. How do you rate for completion of courses by the teachers?	3.6
3. How do you rate fairness in internal assessment in the department?	3.6
4. How do you rate practical exposure from the department?	3.9
5. How do you rate for statical analysis facility provided by the department	3.9
6. Did teachers motivate /support you for solving your personal problems	3.7
P.G. Research facility	
1. How do you rate for your selection of research topic?	3.7
2. Did you get enough facilities for conducting experiment?	3.3
3. How do you rate material provided for conducting experiment?	3.6
4. How do you rate major guide for supporting in completion of seminar and thesis projects?	3.8
Library facilities	
1. Books related to your subject are available in the library	3.7
2. Internet facilities for learning and research purpose	3.5
3. Availability of research journals (online /offline) for review purpose	3.4
4. How do you rate the delivery of books system at the University Library?	3.2
Hostel Facility	
1. How do you rate Hostel facilities?	3.0
2. How do you rate Wi-Fi facility?	3.0
3. How do you rate for food quality in mess?	3.2
4. How do you rate cleanliness in the hostel?	3.1
Sports Facility	
1. How do you rate indoor sports facility?	3.6
2. How do you rate outdoor sports facility?	3.5

Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	**3**	**2**	**1**

Annexure 6.4.7b

Feedback received in the Faculty Group Meetings of Social Science

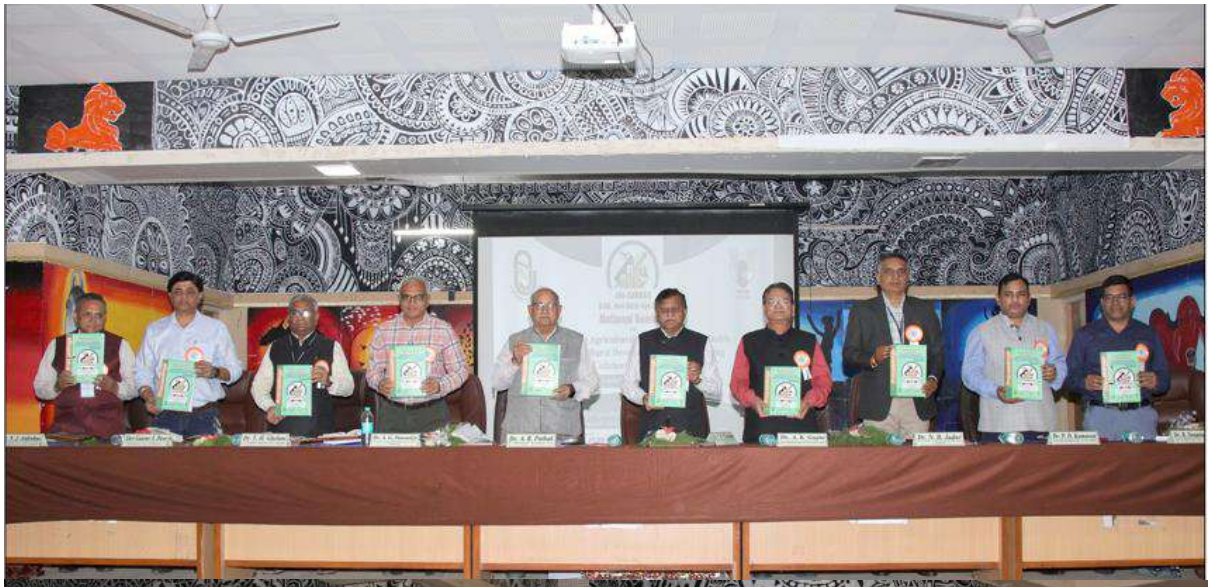
Sr. No.	Year	Convener	Delegates	Feedback received
1.	2020-21	Professor and Head, Deptt. of Agril. Statistics	Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• The research topics of P.G. students should give on impact assessment of different technology. • Increase the visits of central library. • The work loads of all Extension Education faculties of JAU should consider in presentation. • The department should come forward to initiate the efforts for commencing JAU Research Journal.
2.	2021-22		Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• Ensure on-time submission of synopsis of in-service students. • Include the number of students who discontinued the study within parentheses in the space allotted for 'Failed Students' under respective courses. • Mention the total contact hours of each faculty along with their semester-wise workload. • Tabulate placement details of the graduated students. • Add a feedback section on faculty teaching as received from the students.
3.	2022-23		Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• Follow specific format of FGSS while preparing the report. • As suggested in 8th FGSS meeting, give due weightage to the journey time in direct contact hours while calculating workload of the teachers undertaking UG courses at CoA, Khapat. • Add placement and students feedback section in the report. • Ensure correcting errors before presenting the report.
4.	2023-24		Hon'ble Vice Chancellor, Director of Research, Registrar and	• Present the strengthening of the department in terms of current year requirements. • Incorporate all the extension activities carried out by the department, including

Sr. No.	Year	Convener	Delegates	Feedback received
			Principal	the department's contributions in facilitating the exposure visits of the school students. • Furnish the budget head for the projects mentioned. • Include the h-index and i-10 index of the faculty members along with their total citations.
5.	2024-25		Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• Include the activities/works of all the extension scientists working at the DEE office, Principal office, Polytechnics, and other unit heads. • Use the proper terminology of 'left' instead of 'cancelled' for students who discontinued their degree programs.

Action taken:

All the suggestions given in the form of feedback in the respective Faculty Group of Subject Meetings of Social Sciences during the accreditation cycle, from 2020-21 to 2024-25, are implemented by the Department of Agricultural Economics from time to time.

Glimpses of the ICAR-Sponsored National Seminar on 'JAI-SARDAR' Organized by the Department of Agricultural Economics, CoA, JAU, Junagaadh on Dec. 23, 2025



6.4:

Self-Study Report for M. Sc. (Agri.) in Agricultural Statistics

6.4. SELF-STUDY REPORT FOR M.SC. (AGRI.) IN AGRICULTURAL STATISTICS, AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PG DEGREE PROGRAM

The department of Agricultural Statistics was established in 1977. In 1979, the PG centre was commenced in Junagadh Campus of the erstwhile Gujarat Agricultural University. With the sanctioning of the plan scheme on "Creating Computer and Communication Facilities", the computer cell was established in 1987 under this project. The department undertakes premier research projects under agricultural statistics and allied sciences and is known for its well-known works related to price forecasting. The department boasts faculty members who have programmed a number of R packages. The expertise of the departmental faculty members is utilized across the faculties of agriculture, horticulture, agricultural engineering and agri-business management.

Department of Agricultural Statistics, College of Agriculture, JAU, Junagadh

STEPPING-STONES OF THE DEPARTMENT

- Within the Junagadh Zone of Gujarat Agricultural University, the Department of Agricultural Statistics was established in 1977 under College of Agriculture, Junagadh.
- In 1979, Post Graduate Centre for the discipline of Agricultural Statistics was started and Dr. M. R. Vaishnav was appointed as the first Head of Department 1/6/1979.
- The plan scheme on 'Creating Computer and Communication Facilities', which led to the establishment of a full-fledged, state-of-the-art computer lab in 1987.
- In 1990, the Ph.D. programme in the discipline of Agricultural statistics was started and the first in service student of the department, Prof. P. R. Vaishnav, obtained his Ph.D. degree under the guidance of Dr. S. K. Dixit in 1994.
- The department came under the jurisdiction of Junagadh Agricultural University from May 01, 2004 after the quadfurcation of the erstwhile Gujarat Agricultural Univeristy.
- The department has come up with its own software, JOSARDA, for data analysis.
- The department successfully published a patent on "A System and Method for Agricultural Research Data Analysis", Patent Application No. 202521066495 in the Patent Office Journal No.31, dated 01/08/2025.

MISSION, GOALS AND OBJECTIVES:

Mission:

- The Department is committed to provide excellence, innovative and effective services in education, research and transfer of technology programs.
- The mission of the Department is to be a one of the premier departments in the discipline of Agricultural Statistics

Goal:

- To provide human resources, skills and technology required for sustainable development in the discipline of agricultural statistics by integrating education, research and extension activities.

Objectives:

- To provide under graduate education in agriculture, horticulture and allied sciences for the courses related to Agricultural Statistics and Computer Application.
- To guide the PG students in the Discipline of Agricultural Statistics
- To provide human resources, skills and technology required for teaching of various PG courses of Agricultural Statistics as well as other disciplines
- To provide facility for statistical analysis and advisory services to the PG students and scientists on various aspects of statistical analysis

ACCOMPLISHMENTS/ ACHIEVEMENTS OF THE LAST FIVE YEARS

RECOMMENDATIONS FROM THE DEPARTMENT OF AGRICULTURAL STATISTICS, COA, JAU, JUNAGADH FOR THE SCIENTIFIC COMMUNITY

2020-21:

1. **A comparative study on groundnut yield forecasting models for Junagadh district**

The groundnut productivity can be forecasted at the 10th week after sowing and use multiple linear regression models having generated weather variables with correlation coefficient between groundnut productivity and weather variables as weight and original weather variables using week wise approach with higher predictability and lower deviations between forecasted and observed productivity.

2. **Business performance analysis of Farmer Producer Organizations of Saurashtra region**

The Farmer Producer Organizations (FPOs) in Saurashtra region are advised to increase the number of business activities *vis a vis* improve the members' involvement for better business performance

2022-23:

1. **Forecasting area, production and productivity of cotton and groundnut in Gujarat**

It is advised to scientific community that the area, production and productivity of cotton and groundnut can be precisely predicted using the hybrid model in comparison to ARIMA and TDNN for Gujarat state

2023-24:

1. **Hectarage Prediction Models for Major Oilseed Crops of Gujarat: An Empirical Investigation**

It is recommended to the scientific community that area under selected crops can be precisely predicted using the single equation models rather than simultaneous equation models as single equation model gives maximum R^2 and $\bar{R}^2$ with low values of MAPE, RMSE and MAE.

2. Development of Statistical Analysis Programme using Python Machine Learning and Data Visualization

The scientists/researchers of SAUs are recommended to use new computer programs developed by the Junagadh Agricultural University which are requirement specific, unique, user friendly with the important features of descriptive auto conclusion and auto data visualization for Individual, pooled, control vs rest CRD, RBD, FCRD and FRBD analysis respectively, simple linear, multiple linear and polynomial regression as well as one, two and pair sample T tests. It is also recommended to JAU to develop & design open-source user interface, so SAUs of the Gujarat can be used these computer programs without any charges.

3. Value chain analysis of Kesar mango in Saurashtra region

Stakeholders and policymakers involved in the Kesar mango value chain in the Saurashtra region are advised to strengthen crop management system, develop post-harvest infrastructure and improve post-harvest operations to maintain better quality of Kesar mango for the remunerative farming and consumer satisfaction.

4. Effect of micro irrigation system on livelihood in Saurashtra region

Extension functionaries are recommended to advise farmers of the Saurashtra region to adopt and use micro irrigation system in their farm to reduce their poverty.

2024-25:

1. Time series forecasting of area and production of vegetable crops in Gujarat

It is recommended to the scientific community that area and production of the selected vegetable crops viz., okra, tomato, potato, brinjal and onion can be precisely predicted using the following models with reasonable RMSE, MAE and MAPE.

Crop	Selected forecasting model	
	Area	Production
Okra	TDNN 3:3s:1l	TDNN 4:3s:1l
Tomato	5 YMA Cubic	TDNN 4:3s:1l
Potato	Hybrid 3:3s:1l	Hybrid 3:4s:1l
Brinjal	TDNN 3:3s:1l	TDNN 4:3s:1l
Onion	Hybrid 2:4s:1l	Hybrid 4:3s:1l

2. Strengthening Statistical Analysis Programmes using Python Machine Learning and Data Visualization

The scientists/researchers of SAUs are recommended to use new computer programs developed by the Junagadh Agricultural University using the Python Machine Learning and Data Visualization techniques for the data analysis of three types of experiments conducted in Latin Square Design (LSD), Split Plot Design and Strip Plot Design which are requirement specific, unique, user friendly with the important features of descriptive auto conclusion and auto data visualization.

Table 6.4.97 PG: Awards/recognition received by faculty members (Department of Agricultural Statistics)

Sr. No.	Name of Faculty	Name of Award	Authority	Year
1.	A.P. Prajapati, Dr. D.V. Patel & Dr. M.S. Shitap	Patent on "A System and Method for Agricultural Research Data Analysis"	The Office of the Controller General of Patents, Designs & Trade Marks (CGPDTM), Kolkata (Patent Application No. 202521066495 was filed on 11/07/2025 and published in "The Patent Office Journal N0.31, Dated 01/08/2025 Page: 74118, No. of Pages-27)	2025

Table 6.4.98 PG: Awards received by PG degree students (Department of Agricultural Statistics)

Sr. No.	Name of Student	Name of Award	Year
1.	Devra Sneh Jayantibhai	Outstanding Master's Thesis Award in 6th International Conference on Advances in Agriculture Technology and Allied Sciences organized by SARSD, New Delhi	2022-23

Table 6.4.99 PG: Year-wise NET qualified PG/Ph.D. Students in Agricultural Statistics

Sr. No.	Year	No. of students qualified NET
1.	2022-23 (ASRB NET)	01
2.	2023-24 (UGC NET)	01
	Total	02

Table 6.4.100 PG: Research publications of faculty Members (Department of Agricultural Statistics)

Sr. No.	Particular	Number of publications during last five years
1.	National/International Journal 6.0 and above 4.0-6.0 < 4.0	10 2 7 1
2.	Books Published/Book Chapter	2
3.	Practical Manuals	4

Table 6.4.101 PG: Seminar / workshop / symposia organized by the Department Agricultural Statistics during 2020-21 to 2025-26

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2022-23				
1.	TIPS and TRICKS to succeed in ICAR AIEEA (PG) for Statistical Sciences	17/03/2023 to 18/03/2023	College of Agriculture, JAU, Junagadh	50

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2024-25				
2.	Demonstration-cum-Training on JOSARDA	13/03/2025	College of Agriculture, JAU, Junagadh	100
2025-26				
3.	Training-cum-launching workshop on JOSARDA	05/08/2025	College of Agriculture, JAU, Junagadh	210
4.	Analysis of Design of Experiments using R Software	11th & 12th Sep. 2025	UG Lab, Dep. of Ag. Stat., CoA, JAU, Junagadh	100

6.4.2. FACULTY STRENGTH (AS OF 31-07-2025)

The department has faculty members who undertake PG research and teaching activities to such an extent that all the discipline, across the faculties at the university, mandatorily include one faculty member from Agricultural Statistics as a member/minor guide of the thesis advisory committee of their master's and doctoral students.

Table 6.4.102 PG: Details of faculty strength (Department of Agricultural Statistics)

Sr. No	Sanctioned Faculty for PG	Faculty in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Professor	01*	00	Not recommended by ICAR	01
2.	Associate Professor	00	02		02
3.	Assistant Professor	03* (02+01#)	00		02
	Total	04	02		05

Note:
* Faculty assigned for both teaching and research works
#Faculty member appointed at College of Agriculture, JAU, Morbi, but undertakes teaching and research at the department

1.4.3 TECHNICAL /SUPPORTING STAFF (AS OF 31-07-2025)

Table 6.4.103 PG: Details of technical/supporting staff strength as of 31.07.2025 (Department of Agricultural Statistics)

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Recommended by ICAR	Staff sanctioned by the GoG
1.	Technical/Supporting staff	01+01*	03	Not recommended by ICAR	04
2.	Administrative staff	00	00		00
	Total	01	03		04

* Pooled from other departments

6.4.4. CLASSROOMS AND LABORATORIES

Table 6.4.104 PG: Classroom infrastructure in the department

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Agricultural Statistics					
1.	PG Classroom	68.00	56	Theory and practical classes of the courses related to the discipline	2 AC, 1 Projector, computer with Internet/Wi-Fi
2.	Digital Classroom	45.00	55	Seminar, workshop and teaching	Smart Board, Projector, 2 AC and computer with internet

Table 6.4.105 PG: Departmental PG laboratories established (As of 31-07-2025)

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Agricultural Statistics					
1.	UG Computer Laboratory	81	50	This laboratory also useful to the PG Students for training on Data Analysis & use of other software like JOSARDA, R Studio & Python	50 computer systems, 6 AC, Computer furniture, software required for practical work, Internet and LAN, Intranet & Projector
2.	PG Computer Laboratory	35	20	Statistical Analysis Work	20 computer systems, 2 AC, Computer furniture, statistical software (BASICA, MICROSTAT, SPAR 1, SPSS, R studio, Python) Internet and LAN, Intranet
3.	Hardware & Network Laboratory	24	10	Demonstration of computer hardware and network devices	Hardware and networking devices and parts for demonstration, Optical Fiber Network, Internet and LAN, Intranet

PG lab

UG Lab

Interface of JOSARDA, an open-access expert system for data analysis developed by the Department of Agricultural Statistics, CoA, JAU, Junagadh (www.josarda.jau.in)

Table 6.4.106 PG: List of major equipment/facilities available in the Department of Agricultural Statistics

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
1.	Hardware & Network Lab	Diesel Generator 15 KVA	1	3.85
		Online UPS 10 KVA	1	1.60
2.	UG Computer Lab	Computer System	50	21.22
3.	PG Computer Lab	Computer System	20	8.30
4.	Hardware & Network Laboratory	1. All in One desktop	2	4.25
		2. All in One (Print/Scan/Xerox)	1	
		3. Color laser Jet printer	1	
		4. OMR Scanner	1	
		5. Digitizing tablet	1	
		6. Network devices	1	
		7. Multifunction digital copier		

Major equipment available in department	
Diesel Generator 15 KVA	Online UPS 10 KVA
Multifunction digital copier	Color laser Jet printer

Table 6.4.107 PG: Theory and practical batches for the PG program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semesters	Batch of students in theory class	Batch of students in practical class
1.	PG	Odd	1 (6 students)	1 (6 students)
2.		Even	1 (6 students)	1 (6 students)

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty involves in the preparation of theory notes from various books, research papers and reference books and practical manuals for each subject of degree program, which is then distributed to students free of cost to serve as a reference material.

PRACTICAL AND HANDS-ON-TRAINING

- PG laboratory is equipped with 20 desktop computers, which are available for PG students for their research and thesis work. The statistical analysis software such as SPSS, SPAR 1, MICROSTA, BASICA, Python and R, *etc.* are installed in computers for hands-on-training of PG students in statistical analysis.

6.4.6. SUPERVISION OF STUDENTS IN PG DEGREE PROGRAM

During the accreditation cycle from 2020-21 to 2024-25, the department has guided 12 master's students to complete their degree programs. Every year, at least 1-2 students take up their degree programs at the departments from other states in ICAR quota. All the students are well-guided by the advisory committee members, with a faculty member from the department serving as the major guide.

Table 6.4.94 PG: Number of PG students supervised (guided) by faculty in the last five years in Agricultural Statistics

Department	No. of students supervised (guided) by faculty for PG Degree	No. of qualified faculty members
Agricultural Statistics	12	3

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*) (2020-21 TO 2025-26)

- Feedback from students, parents, state representatives, farmers and industrialists are being taken from time to time. Overall, the feedback reveal that students are getting education as per academic schedule and sufficient facilities are available at hostels, mess, gym and sports ground **(Annexure 6.4.7a).**

- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per the prescribed schedule, and comprises the Deans of all faculties, nominated Professors, Research Scientists from different faculties, and renowned academicians, who discuss the feedback received from different stakeholder during the meetings. Based on the recommendations of the Board of Studies, the Academic Council takes decisions on academic matters for implementation in the University and its constituent colleges.

- ***STUDENT ADVISORY COMMITTEE:*** It comprises a four-member advisory committee, chaired by the Major Guide, with the other members drawn from the minor subject, allied subject, and statistics. The committee guides the student in selecting the research problem, seminar topics, and related academic/research activities. The members also frequently visit the experimental fields and provide necessary guidance and feedback to the students.

- ***STUDENT REPRESENTATIVE COUNCIL (SRC) AND STUDENT COUNSELLING AND PLACEMENT CELL (SCPC):*** Feedback collected with student interactions is reviewed by the committee members and appropriate measures are implemented based on the feedback received.

- ***JOSARDA SOFTWARE FEEDBACK:*** During the training-cum-Launching Workshop on JOSARDA (JAU Online System for Agricultural Research Data Analysis), totally 203 feedback forms were received from the end users. The highlights of the reviews of the users are given below:

- **Usefulness of JOSARDA:** Majority of respondents (almost 100%) agreed that JOSARDA will be useful for agricultural researchers.
- **Alignment with Needs:** Majority of respondents (almost 100%) felt that the features of JOSARDA matched their research requirements.
- **Effectiveness in Tasks:** All respondents confirmed that JOSARDA performs its intended tasks effectively.
- **Intention to Use:** More than 99.5% of participants are either already using or plan to use JOSARDA in their research.
- **Recommendation:** Majority of respondents (almost 100%) of respondents indicated they would recommend JOSARDA to others.
- **Average rating:** Overall Experience 4.8/5, User Interface & Design 4.7/5.

➢ ***FACULTY GROUP OF SUBJECTS:*** The Faculty Group Meeting (FGM) of Social Science group is held once a year wherein the social science discipline, including Agricultural Extension Education, present their teaching and research progress of the previous year before the house consisting of Hon'ble Vice Chancellor, Director of Research, Principal and Dean, and other University Officers. The Ph. D. students are also made to present their thesis research objectives in this meeting.

➢ The details of the FGMs of Social Science Science group conducted during the last five years are as follows:

Table 6.4.109 PG: Year-wise Faculty Group of Subject Meetings of Social Science

Sr. No.	Year	Convener	Dignitaries remaining present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	Suggestions received from concerned FGS meeting; corresponding action taken report are submitted as ***Annexure 6.4.7b on pgs. 190 & 191.***
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal and Dean	
4.	2023-24	Professor and Head	Director of Research and Dean PG Studies, Registrar, Director of Extension Education, Associate Director of Research and Principal and Dean	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research and Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal and Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR LAST FIVE YEARS

Table 6.4.110 PG: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
PG (Agricultural Statistics)	2020-21	3	2	33.33
	2021-22	3	1	66.66
	2022-23	3	2	33.33
	2023-24	5	4	20.00
	2024-25	3	3	-
	2025-26	3	2	33.33

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

1. The students are taught by power point presentations and audio-visual aids, including video during lectures and practical.
2. The statistical analysis software such as SPSS, SPAR 1, BASICA, MICROSTA, Python and R etc. are installed in Some of computer systems for hands on training of PG students for the work of statistical analysis.
3. In PG computer laboratory, 20 computer systems areequipped with internet, intranet and LAN facilities, which are useful to the PG students for the preparation of thesis, seminar, research papers and assignments.
4. Crop simulation open-source software such as Wofost, CropSys, CropWat are also installed in PG laboratory for their research work as well as hands on training.
5. Digital classroom is equipped with smart board, audio-visual aids and video conferencing facility, which are utilized by students.
6. Digital class room, UG and PG computer laboratories are under vigilance of CCTV IP camera which can be accessed through online software by privileged authorities.
7. JOSARDA, the department's very own statistical expert system for data analysis, is also being widely used by all the PG students in the university across the disciplines of crop production, crop protection, natural resource management, *etc.*

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Date: 31.01.2026
Place: Junagadh

Annexure 6.4.7a

Postgraduate students' feedback report for AY 2024-25

Department of Agricultural Statistics, CoA, JAU, Junagadh (n = 10)	
Particulars	**Average Score**
Departmental Teaching - Learning Process	
1. How do you rate Student- Teacher relations?	3.7
2. How do you rate for completion of courses by the teachers?	3.5
3. How do you rate fairness in internal assessment in the department?	3.6
4. How do you rate practical exposure from the department?	3.8
5. How do you rate for statical analysis facility provided by the department	3.5
6. Did teachers motivate /support you for solving your personal problems	3.4
P.G. Research facility	
1. How do you rate for your selection of research topic?	3.8
2. Did you get enough facilities for conducting experiment?	3.4
3. How do you rate material provided for conducting experiment?	3.5
4. How do you rate major guide for supporting in completion of seminar and thesis projects?	3.2
Library facilities	
1. Books related to your subject are available in the library	3.6
2. Internet facilities for learning and research purpose	3.5
3. Availability of research journals (online /offline) for review purpose	3.3
4. How do you rate the delivery of books system at the University Library?	3.1
Hostel Facility	
1. How do you rate Hostel facilities?	3.0
2. How do you rate Wi-Fi facility?	3.1
3. How do you rate for food quality in mess?	3.2
4. How do you rate cleanliness in the hostel?	3.3
Sports Facility	
1. How do you rate indoor sports facility?	3.3
2. How do you rate outdoor sports facility?	3.4

Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	**3**	**2**	**1**

Annexure 6.4.7b

Feedback received in the Faculty Group Meetings of Social Science

Sr. No.	Year	Convener	Delegates	Feedback received
1.	2020-21	Professor and Head, Deptt. of Agril. Statistics	Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• The research topics of P.G. students should give on impact assessment of different technology. • Increase the visits of central library. • The work loads of all Extension Education faculties of JAU should consider in presentation. • The department should come forward to initiate the efforts for commencing JAU Research Journal.
2.	2021-22		Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• Ensure on-time submission of synopsis of in-service students. • Include the number of students who discontinued the study within parentheses in the space allotted for 'Failed Students' under respective courses. • Mention the total contact hours of each faculty along with their semester-wise workload. • Tabulate placement details of the graduated students. • Add a feedback section on faculty teaching as received from the students.
3.	2022-23		Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• Follow specific format of FGSS while preparing the report. • As suggested in 8th FGSS meeting, give due weightage to the journey time in direct contact hours while calculating workload of the teachers undertaking UG courses at CoA, Khapat. • Add placement and students feedback section in the report. • Ensure correcting errors before presenting the report.
4.	2023-24		Hon'ble Vice Chancellor, Director of Research, Registrar and	• Present the strengthening of the department in terms of current year requirements. • Incorporate all the extension activities carried out by the department, including

Sr. No.	Year	Convener	Delegates	Feedback received
			Principal	the department's contributions in facilitating the exposure visits of the school students. • Furnish the budget head for the projects mentioned. • Include the h-index and i-10 index of the faculty members along with their total citations.
5.	2024-25		Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• Include the activities/works of all the extension scientists working at the DEE office, Principal office, Polytechnics, and other unit heads. • Use the proper terminology of 'left' instead of 'cancelled' for students who discontinued their degree programs.

Action taken:

All the suggestions given in the form of feedback in the respective Faculty Group of Subject Meetings of Social Sciences during the accreditation cycle, from 2020-21 to 2024-25, are implemented by the Department of Agricultural Statistics from time to time.

6.4:

Self-Study Report for M. Sc. (Agri.) in Genetics and Plant Breeding

6.4. SELF-STUDY REPORT FOR M.SC. (AGRI.) IN GENETICS AND PLANT BREEDING AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PG DEGREE PROGRAM

- The Department of Genetics and Plant Breeding (formerly known as Agricultural Botany) was established along with the College of Agriculture, Junagadh in 1960.
- Initially, the activities of the department were restricted to teaching mainly with a limited staff only up to the level of Assistant Professor.
- The work in the department got momentum and diversified into Teaching, Research and Extension activities from 1964, which led to the introduction of PG and doctoral degree programs as well.

Department of Genetics and Plant Breding, College of Agriculture, JAU, Junagadh

STEPPING-STONES OF THE DEPARTMENT

- Establishment of a post-graduation degree programme for Genetics and Plant Breeding and Plant Physiology disciplines, sheltered under the umbrella of 'Agricultural Botany' which was commenced at the College of Agriculture, Junagadh of Gujarat Agricultural University, during the academic year 1964.
- The work got momentum and diversified into Teaching, Research and Extension activities from 1967 and strengthen after establishment of GAU in 1972.
- The research programs were intensified with the sanction of the Botanical Research Schemes aimed at the development of three Botanical Gardens namely, *Motibaug, Paritalav and Laldhori*.
- The pPlan Research scheme entitled "Department of Plant Physiology, Tissue Culture and Biotechnology" came into existence in the year 1997-98.
- The department of Seed Science & Technology came into existence in the year 2007-08, however the same was separated and become functional as a separate department from 2012.
- GSBTM scheme entitled "Use of molecular markers in testing genetic purity of dwarf and tall coconut population at Mangrol and Mahuva" came into existence during the year 2017-18 to 2018-19, which contributed to the strengthening of molecular research facilities for genetic purity testing in coconut on a massive scale.

- RKVY scheme entitled "Commercial exploitation of date palm through tissue culture at botany, J.A.U., Junagadh" came into existence during the year 2019-20 to 2021-22, which helped to strengthen PTC with good facilities and initiated the standardization of date palm protocol for benefit of the farmers.

MISSION, GOALS AND OBJECTIVES

MISSION:

The Department of Genetics and Plant Breeding is committed to provide excellence, innovation and effectiveness in PG degree programme, research and transfer of technology in the field of Genetics and Plant Breeding and Plant Physiology for the benefit of farmers.

GOALS:

The goal of the Department of Genetics and Plant Breeding is to develop quality human resources in the field of Genetics and Plant Breeding and Plant Physiology with award of PG Degree that will lead to managerial excellence through quality higher education and research with socio-cultural sensitivity, ethical responsibility and concern for environment with aspirations of the farming community in particular.

OBJECTIVES:

1. To provide the intellectually and trained human resource for the public and private sector to develop the strategies of agricultural crops breeding and development of varieties/hybrids suitable to climate change, biotic and abiotic stresses, better quality and productivity to meet the demands and requirements of the farmers and consumers.
2. To conduct applied research in the field of Genetics and Plant Breeding and Plant Physiology taking care of basic and translational biotechnology and fosters interactions and collaboration among faculties, researchers, seed industries and farmers.
3. To conserve plant biodiversity of Medicinal and Aromatic plants.
4. To develop, implement and evaluate the curriculum of Genetic and Plant Breeding and Plant Physiology with a strong commitment to be aligned and comply with the national standards both offline and online under Covid-19 pandemic situation.

ACCOMPLISHMENTS/ ACHIEVEMENTS OF THE LAST FIVE YEARS

EXTERNAL FUNDED PROJECTS IN THE DEPARTMENT OF GENETICS & PLANT BREEDING *(AS OF 31-07-2025)*

Sr. No.	Title of the Project (Budget Head)	Period of project	Total Amount Sanctioned (In Rupees)
2020-21			
1.	Evaluation of Bio efficiency and phytotoxicity of Humesol on growth, yield and quality of cotton **(B. H. 18802-04)**	2 years	5,18,140/-

2.	Commercial exploitation of date palm through tissue culture at botany, J.A.U., Junagadh under RKVY **(B. H. 1824741)**	2 years	36,89,000/-
2021-22			
3.	Evaluation of Bio XGR on growth and yield para of cumin (Budget Head: 18802-06)	1 year	4,38,600/-
4.	Evaluation of Rapi Granule on growth, yield and quality and crop safety parameter of cumin **(Budget Head: 18802-07)**	1 year	4,03,300/-
2022-23			
5.	Evaluation of humesol for growth and yield parameter of soyabean **(Budget Head: 18802-08)**	1 year	4,56,700/-
6.	Evaluation of biovita XL for growth and yield parameter of soyabean **(Budget Head: 18802-09)**	1 year	4,56,700/-
7.	Evaluation of biovita XL for growth and yield parameter of cotton **(Budget Head: 18802-10)**	1 year	4,28,400/-
8.	Evaluation of biovita XGr for growth and yield parameter of cotton **(Budget Head: 18802-11)**	1 year	4,46,500/-
9.	Evaluation of biovita XL for growth and yield parameter of tomato **(Budget Head: 18802-12)**	1 year	4,23,600/-
10.	Evaluation of humesol for growth and yield parameter of cumin at botany **(Budget Head: 18802-13)**	1 year	4,99,000/-
2024-25			
11.	Tissue culture technology, Micropropagation of important crop of Saurashtra Regions **(B. H. 2260-07)**	1 year	31,00,000/-

RECOMMENDATIONS FROM THE DEPARTMENT OF GENETICS AND PLANT BREEDING FOR FARMERS

Sr. No.	Recommendation
2022-23	
1.	**Title: Assessment of best practices for storage of turmeric planting material** **Farmers Recommendation:** The farmers of South Saurashtra agroclimatic zone growing turmeric are recommended to store the rhizomes of turmeric from their produce to be used as planting material in next season should be stored in soil pit storage as it showed maximum germination per cent with minimum loss in weight and more number of healthy rhizomes
2023-24	
2.	**Propagation of a rare and medicinally important declining shrub species Agnimantha (*Premna serratifolia* L.) by hardwood cuttings**

Sr. No.	Recommendation
	Recommendation for Nurseryman: The nurserymen of Gujarat are recommended to use plant growth regulator either IBA @ 450 ppm (73.33 % sprouting) or IAA @ 450 ppm (70.67 % sprouting) [*i.e.* 450 mg in one litre water] for 15 minutes dipping for better propagation in hardwood cuttings of Agnimantha (*Premna serratifolia* L.)

RECOMMENDATIONS MADE BY THE DEPARTMENT OF GENETICS AND PLANT BREEDING FOR SCIENTIFIC COMMUNITY

Sr. No.	Recommendation
2020-21	
1.	**Application of brassinolide to mitigate saline stress during germination and growth period in chickpea** It is recommended to scientific community that pre-soaking of chickpea seed with 0.25 ppm brassinolide (B_2) for 2 hrs before sowing helps to mitigate salinity stress up to 6.0 dS/m with 50 % yield reduction as compared to control.
2.	**Micropropagation in Kankoda (*Momordica dioica* Roxb.)** **For micro-propagation of Kankoda, the following protocol is used** 1. **Surface sterilization:** Internodal explant of kankoda to be used after surface sterilization with carbendazim for 30 minutes followed by 0.1 % Mercuric chloride treatment for 15 minutes and washed with sterilized distilled water for four to five times for removing traces of the chemicals. 2. **Shoot multiplication:** Low concentration of kinetin (MS + K1) is effective for getting early shoot initiation and maximum number of shoots. 3. **In-vitro rooting:** Half strength MS media supplemented with high concentration of IBA (IBA3) is effective for getting early root initiation. **Hardening:** A pot mixture of soil: sand (1: 1 volume basis) is effective for getting 60-65% and 90-95% survival rate of plantlets for primary and secondary hardening, respectively under greenhouse condition.
2024-25	
3.	**Synchronization of flowering in parental lines of released hybrids of pearl millet *viz.*, GHB 1129 and GHB 1225** The scientists involved in hybrid seed production of pearl millet are informed that to avoid staggered planting of parental lines of hybrid GHB 1129, apply foliar spray of 2 % Urea to female line (ICMA 99222) at boot leaf stage along with recommended dose of fertilizers for getting higher hybrid seed yield. In case of hybrid GHB 1225, to avoid staggered planting apply foliar spray of 2 % DAP to female line (ICMA 98222) at boot leaf Stage along with recommended dose of fertilizers for getting higher hybrid seed yield.

Sr. No.	Recommendation
4.	**Effect of different storage temperature on pollen viability of coconut cv. Green Dwarf** The pollen grains of coconut var. Green Dwarf can be stored up to 303 days with good viability at -40⁰ C temperature, 272 days with good viability at -20 ⁰C temperature, 226 days with good viability at 50 % RH in Desiccators at room temperature 194 days with good viability at -4°C temperature and 135 days with good viability at room temperature.

Table 6.4.111 PG: Awards/recognition received by faculty members (Department of Genetics and Plant Breeding)

Sr. No.	Name of Faculty	Name of Award	Authority	Year
1.	Dr. D. R. Mehta	Reviewer Excellence Award	Journal of Experimental Agricultural International	2020-21
2.	Dr. R. J. Patel	Best Thesis Award	Gujarat Society of Genetics and Plant Breeding, SDAU, Sardarkrushinagar	2021-22
3.	Dr. L. J. Raval	Bharat Shiksha Gaurav Purashkar	KTK Outstanding Achievers and Education Foundation	2022-23
4.	Dr. H. B. Limbani	Thesis Award	Society for Scientific Development in Agriculture and Technology	2022-23
5.	Dr. H. B. Limbani	Best Poster Presentation	Aastha Foundation, Meerut	2022-23
6.	Dr. D. R. Mehta	Reviewer Excellence Award	Indian Journal of Agricultural Research	2023-24
7.	Dr. D. R. Mehta	Reviewer Excellence Award	International Journal of Agricultural Science	2023-24
8.	Dr. D. R. Mehta	Certificate of contribution	Content Creator Unit-III (Principles of Quantitative Genetics)	2023-24
9.	Dr. D. R. Mehta	Certificate of contribution	Content Creator Unit-IV (Principles of Quantitative Genetics)	2023-24
10.	Dr. D. R. Mehta	Certificate of contribution	Unit Reviewer (Unit-III) Principles of Cytogenetics	2023-24
11.	Dr. D. R. Mehta	Certificate of contribution	Course Reviewer (Intellectual Property Rights)	2023-24
12.	Dr. D. R. Mehta	Certificate of contribution	Unit Reviewer (Unit-II) Principles of Quantitative Genetics	2023-24
13.	Dr. K. V. Rathava	Thesis Award	Society for Scientific Development in Agriculture and Technology	2023-24
14.	Dr. T. H. Borkhatariya	Best Oral Presentation	ICTPAIRS (International Conference, JAU, Junagadh)	2024-25

Table 6.4.112 PG: Awards received by PG degree students (Department of Genetics and Plant Breeding)

Sr. No.	Name of Student	Name of Award	Year
1.	Mr. G. P. Karthikeya Reddy	Dr. Ramniklal Manilal Shah Memorial Gold Plated Silver Medal	2020-21
2.	Miss Oza Hely Navinchandra	Dr. Ramniklal Manilal Shah Memorial Gold Plated Silver Medal	2021-22
3.	Mr. Kansagara Jay Rameshbhai	Chancellor's Gold Medal in M. Sc. (Agri.)	2022-23
4.		Dr. Ramniklal Manilal Shah Memorial Gold Plated Silver Medal	
5.	Miss. Urvi Jakasania	Dr. Ramniklal Manilal Shah Memorial Gold Plated Silver Medal	2023-24
6.	Mr. Chirag Savjibhai Radadiya	Chancellor's Gold Medal in M. Sc. (Agri.)	2024-25
7.		Dr. Ramniklal Manilal Shah Memorial Gold Plated Silver Medal	

Table 6.4.113 PG: Year-wise NET qualified PG/Ph.D. students in Genetics and Plant Breeding

Sr. No.	Year	No. of students qualified NET
1.	2020-21	ICAR ASRB-NET not conducted
2.	2021-22	11
3.	2022-23	10
4.	2023-24	ICAR ASRB-NET not conducted
5.	2024-25	1 (CSIR NET)
	Total	**22**

Table 6.4.114 PG: Research publications of faculty Members (Department of Genetics and Plant Breeding)

Sr. No.	Particular	Number of publications during Last Five Years
1.	National/International Journal	294
	6.0 and above	62
	4.0-6.0	210
	< 4.0	22
2.	Books Published/Book Chapter	15
3.	Practical Manuals	07

Table 6.4.115 PG: Seminar / workshop / symposia organized by the Department Genetics and Plant Breeding during 2020-21 to 2025-26

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2020-21				
1.	Online Vocational Training Programme on "Recent trends in Crop Improvement"	15/02/2021 to 19/02/2021	IT Cell, JAU, Junagadh	314
2021-22				
2.	Training Programme on "Commercial Plant Tissue Culture as Business Entrepreneurship"	26/10/2021 to 31/10/2021	Department of Genetics and Plant Breeding, COA, JAU., Junagadh	50
3.	One Day workshop on "Commercial Exploitation of Date Palm through Tissue Culture"	24/08/2021	Department of Genetics and Plant Breeding, COA, JAU., Junagadh	>50 farmers
2022-23				
4.	Training Programme on "Medicinal and Aromatic Plants: Opportunities for New Startup"	12/09/2022 to 16/09/2022	Department of Genetics and Plant Breeding,	53
5.	Exhibition on different Geographical Indications (GI) of India	22/09/2022	Conference Hall. CoA, JAU, Junagadh	>500 (Students and Faculties)
6.	Training Programme on "Recent Advances in Vegetable Breeding"	20/02/2023 to 24/02/2023	Department of Genetics and Plant Breeding,	50

6.4.2. FACULTY STRENGTH (AS OF 31-07-2025)

Table 6.4.116 PG: Details of faculty strength (Department of Genetics & Plant Breeding)

Sr. No	Sanctioned Faculty for PG	Faculty in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Professor	01	00	Not recommended by ICAR	01
2.	Associate Professor	02+01*	01		04
3.	Assistant Professor	05+03*	03		08
	Total	**08+04***	**04**		**13**

* Faculty assigned for both Teaching and Research mandates.

6.4.3 TECHNICAL /SUPPORTING STAFF (AS OF 31-07-2025)

Table 6.4.117 PG: Details of technical/supporting staff strength as of 31.07.2025

(Department of Genetics and Plant Breeding)

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Recommended by ICAR	Staff sanctioned by the GoG
1.	Technical/Supporting staff	05+01*	01	-	07
2.	Administrative staff	01	02	-	03
	Total	**06+01***	**03**	**-**	**10**

* Pooled from other departments

6.4.4. CLASSROOMS AND LABORATORIES

Table 6.4.118 PG: Classroom infrastructure in the department

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Genetics and Plant Breeding					
1.	Seminar Hall	111.02	54	Teaching	PG

PG Class room

PG Class room

Table 6.4.119 PG: Departmental PG laboratories established (As of 31-07-2025)

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
1.	Bio-Tech -1 (Instrumentation Room)	37.08	10	For PG and UG Practical	PG Research and Practical
2.	Bio-Tech-2 (Preparation room)	55.66	10	For PG and UG Practical	PG Research and Practical
3.	Plant Tissue Culture	110.83	20	For Tissue- culture	PG Research

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
	-1 (Media preparation room)			Research and Banana micro-Propagation	and Practical
4.	Plant Tissue Culture -2 (Inoculation I)	12.74	2	For Inoculation of explant	PG Research and Practical
5.	Plant Tissue Culture -2 (Inoculation II)	13.80	3	For Inoculation of explant	PG Research and Practical
6.	Plant Tissue Culture -2 (Inoculation III)	35.70	4	For Inoculation of explant	PG Research and Practical
7.	Plant Tissue Culture -2 (Inoculation IV)	22.38	2	For Inoculation of explant	PG Research and Practical
8.	Plant Tissue Culture -2 (Culture Room I)	33.34	---	For Incubation of culture	PG Research and Practical
9.	Plant Tissue Culture -2 (Culture Room II)	81.00	---	For Incubation of culture	PG Research and Practical
10.	Plant Tissue Culture -3 (Autoclave Room cum washing room)	37.08	---	For Autoclaving media and glassware washing	PG Research and Practical

Bio-Tech -1 (Instrumentation Room)

Bio-Tech-2 (Preparation Room)

Plant Tissue Culture -1
(Media Preparation Room)

Plant Tissue Culture -2
(Inoculation)

Plant Tissue Culture -2
(Culture Room)

Plant Tissue Culture -3
(Autoclave Room cum Washing Room)

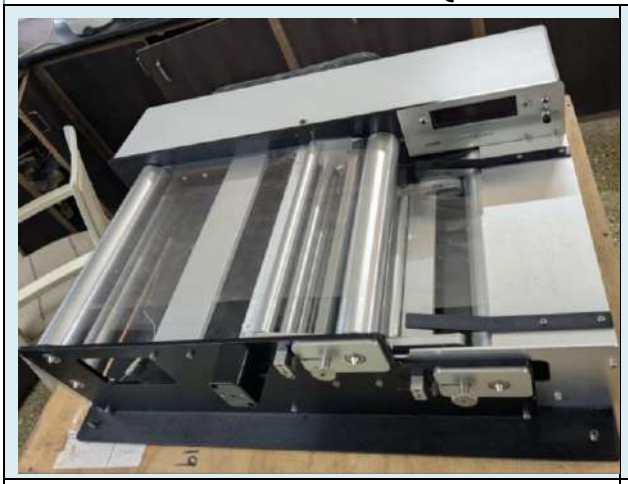
Table 6.4.120 PG: List of major equipment available in the Department of Genetics and Plant Breeding

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
Genetics and Plant Breeding and Plant Physiology				
1.	*Bio-Tech-1*	EZ-lyzer (Tissue- Lyzer)	1	4.49
2.		UPS with Battery rack	1 unit	1.03
3.		Leaf area meter	1	12.85
4.		Centrifuge Incl Rotor 5418000.017	1 unit	1.08
5.		Cryo cane	1	1.09
6.		Spectro photometer Model: UV1800	1	3.89

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
7.		Refrigerated Centrifuge	1	6.00
8.		Hybridization chamber	1	5.45
9.	*Bio-Tech-2*	Maxi -2-D system (electrophoresis unit	1 unit	1.09
10.		Electrical analytical balance	1	1.05
11.		Genetic Analyzer	1	8.75
12.		Chlorophyll /SPADMETER	1	1.89
13.		Ulter Deep Freezer GEL Germany make chest Freezer model-6384	1	7.48
14.		Nano-Drop (spectrophotometer)	1	4.30
15.		Orbital Shaker incubator	1	1.10
16.		Refrigerated Laboratory Centrifuge Model-MPW-65	1	2.20
17.		Table Top High Speed Colling centrifuge Model-C-24-BL	1 unit	1.07
18.		Plant Growth Chamber	1	2.03
19.		Maxi submarin system with power supply	1 unit	1.37
20.		UPS with Battery rack	1 unit	1.03
21.		Seed Germinator	1	1.20
22.		LCD display orbital shaking incubator	1	1.90
23.		Seed germinator	1	1.49
24.	*Plant Tissue-Culture -1*	Telescopic Binocular	1	1.63
25.		Electronic balance	1	1.18
26.		Environmental shaker	1	1.13
27.		Peristaltic pump	1	2.71
28.		SHIMADZU Electronic Weighing Scale	1	1.69
29.		IMOS stereo microscope trinocular	1	1.21
30.	*Plant Tissue-Culture -2*	Laminar Air Flow cabinet (Horizontal)	3	3.72
31.		Laminar Flow unit (Horizontal)	4	5.00
32.		Air Handling Unit with Auxiliary (AHU)	1	12.25
33.		Canon 30MP DSLR	1	1.22
34.		Creative lab world vertical air flow	1	1.71

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
		cabinet		
35.	*Plant Tissue-Culture -3 (Autoclave Room)*	Horizontal Cylindrical Steam Sterilizer (Autoclave)	1	12.59
36.		Autoclave self-top loading	1	2.69
37.		Autoclave vertical	2	2.70
38.	*Green house*	Generator set	1	2.46
39.		Generator (Harison 62.5 KVA, Three phase	1	4.97
40.	*Seminar Hall*	LG Professional large format display	1	3.40

MAJOR EQUIPMENT AVAILABLE IN DEPARTMENT

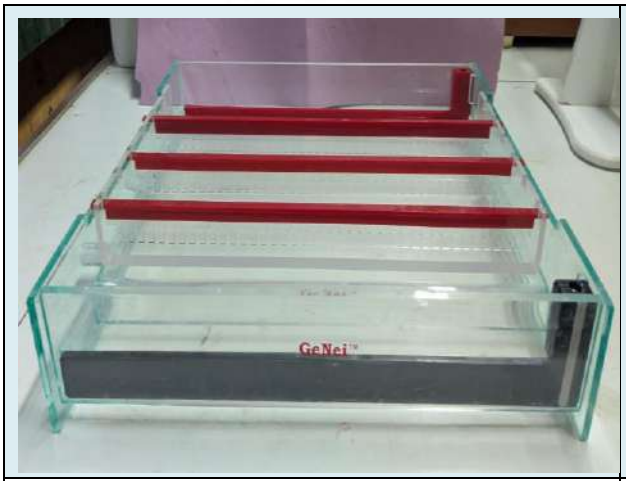


Name of equipment: Leaf area meter

Name of equipment: Ultra Deep Freezer GEL Germany make chest freezer

Name of equipment: Centrifuge Incl Rotor 5418000.017

Name of equipment: Nano-Drop Spectrophotometer

	
Name of equipment: Maxi 2-D system (Electrophoresis Unit)	Name of equipment: Gel Document System
Name of equipment: Chlorophyll/SPADMETER	Name of equipment: Genetic Analyzer
Name of equipment: Spectrophotometer Model: UV 1800	Name of equipment: Refrigerated Laboratory Centrifuge Model: MPW-65

Name of equipment: Teaching Olympus Microscope	Name of equipment: Seed Germinator
Name of equipment: Environmental shaker	Name of equipment: Peristaltic Pump
Name of equipment: Autoclave self-top loading	Name of equipment: Laminar Air Flow Unit (Horizontal)

Table 6.4.121 PG: Farm facilities at the Department of Genetics and Plant Breeding

Sr. No.	Name of Farm/ Cafeteria	Area (hectare)	No. of Experiments continue		Details of activities
			Departmental	Students	
Genetics and Plant Breeding					
1.	Botanical Garden Motibaug	12-62-63	03	Research work of PG students of department of Genetics and Plant Breeding was carried out at Instructional Farm as well as concerned Research Stations of JAU, Junagadh	PG Degree students frequently visited all the three gardens for conservation of plant biodiversity and identification of plant and morphological and taxonomical studies.
2.	Botanical Garden Paritalav	12-16-00	01		
3.	Botanical Garden Laldhori	12-60-60	00		
4.	Botanical Garden Dudheshwar	03-40-94	00		Conservation of Plant Biodiversity in both gardens

Botanical Garden, Motibaug

Botanical Garden, Paritalav

Botanical Garden, Laldhori

PG research work of GPB students at Research Station

Table 6.4.122 PG: Theory and practical batches for the PG program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semesters	Batch of students in theory class	Batch of students in practical class
1.	PG (M. Sc. (Agri.)	Odd	1 (24 students)	1 (24 students)
2.		Even	1 (24 students)	1(24 students)

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty prepares theory lectures from standard review articles and related books and practical manuals for each subject of PG Degree program and distributed to students free of cost. The same material is uploaded to university website also.

PRACTICAL AND HANDS-ON-TRAINING

- Following practical manuals have been prepared by the concerned course teachers and distributed to the PG students for practical exposure.

Sr. No.	Course Code	Course Title
1.	GPB 501	Principles of Genetics
2.	GPB 502	Principles of Plant Breeding
3.	GPB 503	Fundamentals of Quantitative Genetics
4.	GPB 505	Principles of Cytogenetics

Sr. No.	Course Code	Course Title
5.	GPB 506	Molecular Breeding and Bioinformatics
6.	GPB 509	Hybrid Breeding
7.	GPB 511	Crop Breeding-I (*Kharif* crops)
8.	GPB 512	Crop Breeding-II (*Rabi* Crops)

6.4.6. SUPERVISION OF STUDENTS IN PG DEGREE PROGRAM

During the accreditation cycle from 2020-21 to 2024-25, the department has guided 114 master's students to complete their PG degree programs. Every year, at least 3-4 students take up their degree programs at the departments from other states in ICAR quota. All the students are well-guided by the advisory committee members, with a faculty member from the department serving as the major guide.

Field experiments of PG Degree students are conducted either on Instructional farm or on respective crop research station, while lab trials are set either in the Departments of Genetics and Plant Breeding and Seed Science and Technology or at the Department of Biotechnology.

Table 6.4.123 PG: Number of PG students supervised (guided) by faculty in the last five years in Genetics and Plant Breeding

Department	No. of students supervised (guided) by faculty for PG Degree	No. of qualified faculty members
Genetics and Plant Breeding	114	20

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*) (2020-21 TO 2025-26)

- Feedback from students, parents, farmers and industrialists are being taken from time to time. It reveals that students are getting education as per academic schedule and sufficient facilities are available at hostels, mess, gym., sport ground. Wi-fi are being provided to PG Degree students. Parents who visited hostels college and department are quietly satisfied with the existing facilities. The famers of the surrounding villages, whenever meet the students at department are excited to discuss their problems with staff and PG Degree students and get satisfaction. Staff and PG Degree student participated in rigorously "*krishimahotsav*", a state government flagship programme. PG students' feedback report of the department is given in Appendix ***6.4.7a***.
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per schedule wherein, Deans of all faculties, nominated Professors and Research Scientists of different faculties and renowned academicians are members. Based on the Board of Study recommendation, the Academic Council takes the decision on academic matter for implementation in the university/college.
- ***STUDENT ADVISORY COMMITTEE:*** It is framed in the college in which four to five students are allotted to each faculty. More than 20 faculties of Genetics and Plant Breeding involved as major guide, minor guide as well as committee member.

They frequently discuss the educational problems as well as the hostel related problems and authorities are implementing accordingly.

- ***STUDENT REPRESENTATIVE COUNCIL:*** It is working in the college and frequently discussing the teaching and learning process with students, getting their feedback and implementing accordingly. The following faculty members have been contributing to sports and its related activities of the SRC through leadership in various domains:

Sr. No.	Name of Faculty	Designation	Engagement in different activities as SRC member since last five years
1.	Dr. D. R. Mehta	Professor and Head	Literary
2.	Dr. L. J. Raval	Professor	Cultural programs, literary competitions, women's athletics and volleyball
3.	Dr. G. U. Kulkarni	Professor	Chess competition
4.	Dr. S. B. Chaudhari	Assistant Res. Scientist	Kho-kho and athletics
5.	Dr. Rajiv Kumar	Associate Professor	Badminton
6.	Dr. M. H. Sapovadiya	Associate Res. Scientist	Cricket tournament

Through their dedicated involvement, the SRC plays a vital role in fostering student engagement, leadership, and holistic development on campus.

- **Faculty Group of Subjects:** The board of studies for Crop Improvement groups of subjects meets under the convenorship of Professor and Head, Dept. of Genetics and Plant Breeding every year. The meeting is also attended by Hon'ble Vice Chancellor, Director of Research, Registrar and Principal.

- **PG Board of Studies:** The Faculty Research Committee operates at the faculty level and is responsible for evaluating and guiding the research proposals and progress of both faculty members and research scholars. It comprises senior professors, subject matter experts, and representatives from related departments. The committee ensures that research work aligns with the academic and ethical standards of the university. Recommendations made by the FRC are forwarded to the Board of Studies or Academic Council for further consideration and approval.

Table 6.4.124 PG: Year-wise Faculty Group of Subject Meetings of Crop Improvement

Sr. No.	Year	Convener	Dignitaries remaining present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	Suggestions received from concerned FGS meeting; corresponding action taken report are
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	

Sr. No.	Year	Convener	Dignitaries remaining present	Suggestions received
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal and Dean	submitted in ***Annexure 6.4.7b.***
4.	2023-24	Professor and Head	Director of Research and Dean PG Studies, Registrar, Director of Extension Education, Associate Director of Research and Principal and Dean	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research and Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal and Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR THE LAST FIVE YEARS

Table 6.4.125 PG: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
PG (Genetics and Plant Breeding)	2020-21	21	21	00.00
	2021-22	22	19	13.63
	2022-23	25	25	00.00
	2023-24	23	23	00.00
	2024-25	25	21	16.00

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

All postgraduate (PG) correspondences—such as the Plan of Work, Synopsis, Programme of Research, and submission of all PG-related forms—are carried out through the JAU Examination Management System (JEMS). Approvals from the Major Guide, members of the Advisory Committee, Head of the Department, Principal, Dean (PGS), and Registrar are also obtained online through JEMS, thereby ensuring a completely paperless process. Teaching is conducted using PowerPoint presentations and whiteboards. The courses are also taught in online mode through various platforms such as Google Classroom and Zoom. These platforms are used to deliver online lectures and to conduct final viva-voce examinations of the students. Besides, the other popular ICT tools utilized at the department are as follows:

1. **CeRA and other online e-resources: CeRA** is the ICAR Consortium of e-resources in Agriculture. This covers more than 3000 scholarly journals pertaining to the agriculture and allied sciences which are available in full text.
2. **E-books:** The University Library has access to Springer e-books covering nearly 2500 books in virtual format with full text availability and at a time 25 users can open an e-book. In addition, library has access to 200 Indian e-books, which are fully utilized by both departmental faculty members and students for reference and use.

3. **Krishikosh:** *Krishikosh* is database of theses contributed by all agriculture universities and ICAR institutions. The JAU is an active member for *Krishikosh* and all the theses submitted to the JAU are being uploaded regularly. The students also keep a track on the theses available at this portal for identifying research gaps.
4. **Internet:** Digital library with computers and internet facility is available and used by the PG Degree students. Wi-fi Internet facility is also provided at all the hostels which is available for all the time.
5. All the classrooms and laboratories are under vigilance of CCTV camera which is under direct monitoring of Professor and Head of the Department of Genetics and Plant Breeding.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: 31.01.2026
Place: Junagadh

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Annexure 6.4.7a

Postgraduate students' feedback report for AY 2024-25

Department of Genetics and Plant Breeding			
No of Respondent: 23			
Particulars:			**Score**
Departmental Teaching - Learning Process			
1. How do you rate Student- Teacher relations?			3.8
2. How do you rate for completion of courses by the teachers?			3.6
3. How do you rate fairness in internal assessment in the department?			3.9
4. How do you rate practical exposure from the department?			3.3
5. How do you rate for statistical analysis facility provided by the department			3.8
6. Did teachers motivate /support you for solving your personal problems			3.7
P.G. Research facility			
1. How do you rate for your selection of research topic?			3.9
2. Did you get enough facilities for conducting experiment?			3.7
3. How do you rate material provided for conducting experiment?			3.7
4. How do you rate for major Guide for supporting in completion of Seminar and thesis project			3.9
Library facilities			
1. Books related to your subject are available in the library?			3.7
2. Internet facilities for learning and research purpose?			3.5
3. Availability of research journals (online /offline) for review purpose?			3.6
4. How do you rate for delivery of books system?			3.6
Hostel Facility			
1. How do you rate Hostel facilities?			3.2
2. How do you rate wi-fi facility?			3.2
3. How do you rate for food quality in mess?			2.8
4. How do you rate cleanliness in the hostel?			2.8
Sports facility			
1. How do you rate indoor sports facility?			3.5
2. How do you rate outdoor sports facility?			3.7
Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	3	2	1

Annexure 6.4.7b

Feedback received in the Faculty Group Meetings of Crop Improvement

Action Taken report of 6th Faculty Group of Crop Improvement meeting held during 27th November, 2020 at Seminar Hall, Department of Genetics and Plant Breeding, College of Agriculture, JAU, Junagadh.

Sr. No.	Suggestions	Action Taken
6.1	The students of UG and PG studies should be encouraged for competitive examinations as well as they are encouraged to achieve different teaching /research fellowships. **(Action: Dept of GPB and SST, CoA, JAU, Junagadh)**	The students of UG and PG students were encouraged for various competitive examinations as well as they were encouraged to achieve different teaching/research fellowship including SHODH.
6.2	Practical Manuals of different subjects should be sent (SAU's of Gujarat and other states, research scientists and colleagues etc.) to review the content and try to get the good remarks. **(Action: Dept of GPB and SST, CoA, JAU, Junagadh)**	Complimentary copy of two practical manuals had been sent to Professor and Head Dept. of GPB of different SAU's of Gujarat.
6.3	Take the review of last year ELP students regarding Online Learning by creating the Google Form. **(Action: Dept of GPB and SST, CoA, JAU, Junagadh)**	Good review had been received from last year ELP students regarding online learning but many students were interested to prefer offline mode
6.4	PG research problem should be fixed by considering the vision-2050 demand. **(Action: All Major Guide of Dept. of GPB and SST, JAU, Junagadh)**	Due to the COVID-19 Pandemic situation most of the students have taken experiment on variability parameters in different crops. While formulating PG research programme of newly admitted students, the themes and sub-points of vision-2050 will be taken into consideration
6.5	PG research work of PG students should be highlighted at ICAR level for the different National/International awards. **(Action: All Major Guide of Dept. of GPB and SST, JAU, Junagadh)**	PG students of both departments were encouraged for national/International awards related to PG research
6.6	Departmental research, departmental research papers, PG thesis and PG research papers should be used and cited while writing new research papers for raising the citation and H-index of the individuals. **(Action: All Major Guide of Dept. of GPB and SST, JAU, Junagadh)**	All the major guide and PG students informed regarding inclusion of review/ references of local recommendation or JAU research related to concerned crop in the thesis and cited while writing research papers.
6.7	Research Paper should be published in good NAAS rated journals. If journal doesn't have NAAS rating look for impact factor of the journal. **(Action: All Major Guide of Dept. of GPB and SST, JAU, Junagadh)**	All the major guide and PG students informed to publish the papers in good NAAS rated journals.
6.8	The subject materials for UG students updated regularly on AIMS portal. **(Action: Dept of GPB, CoA, JAU, Junagadh)**	The subject materials for UG students were uploaded in AIMS portal as well as circulate among students via Google Classroom in each semester by the concerned course teacher
6.9	Identify the Endangered species based on Red Data Book Review and deposit the seeds of the species available in our area in the NBPGR. **(Action: Dept of GPB, CoA, JAU, Junagadh)**	The planting material of many endangered species collected from different region of Gujarat and conserve the same in the different garden of the department. The

Sr. No.	Suggestions	Action Taken
		seed of the collected species will be deposit in the NBPGR after proper establishment of the species.

APPENDIX-I (B)

Action Taken report of 7th Faculty Group of Crop Improvement meeting held during 1st December, 2021 at Seminar Hall, Department of Genetics and Plant Breeding, College of Agriculture, JAU, Junagadh.

<table>
<tr><th>Sr. No.</th><th>Suggestions</th><th>Action Taken</th></tr>
<tr><td>7.1</td><td>Need to promote the students to take research works in horticultural crops and to strengthen the breeding of fruit, flower and vegetable crops.
(Action: All major guide)</td><td>During last seminar series most of the PG students delivered the seminar related to fruit crop breeding and few students also allotted research works in the vegetable crops. However, Ph. D. student of floriculture has initiated worked in breeding aspects on flower crops.</td></tr>
<tr><td>7.2</td><td>Make more efforts for standardization of plant tissue culture protocol in coconut. To complete the task, take help or make MoU with CPCRI,
Kasaragod scientists.
(Action: HOD, Dept of GPB, COA, JAU, Junagadh)</td><td>With view for standardization of plant tissue culture protocol in coconut, Dr. Rajiv Kumar attended the ICC-COGENT Tissue Culture workshop related to coconut tissue culture at Kasaragod which was organized by CPCRI during 16 -20 May, 2022.</td></tr>
<tr><td>7.3</td><td>Experiments of PG students may be taken on targeted plant breeding work using genetic engineering tools, marker assisted breeding etc.
(Action: All major guides)</td><td>Ph. D. students of department of GPB had initiated their research works on genetic engineering tools, QTL Mapping and GWAS etc.</td></tr>
<tr><td>7.4</td><td>Send the faculty members for training according to expertise require in the department.
(Action: HOD, Dept of GPB and SST COA, JAU, Junagadh)</td><td>The following trainings were attended by the faculties during 2022:
<table>
<tr><th>Name of Faculty</th><th>Time period</th><th>Institute/ Organization</th><th>Title of training/workshop</th></tr>
<tr><td>Dr. Rajiv Kumar</td><td>16/05/22 to 20/05/22</td><td>CPCRI, Kasargod</td><td>ICC-COGENT Tissue Culture workshop</td></tr>
<tr><td>Dr. S. B. Chaudhari
Dr. M. H. Sapovadiya
Shri. H. R. Meta</td><td>18/01/22 to 07/02/22</td><td>SDAU, S. K. Nagar</td><td>Conservation and utilization of potential crops in the era of climate changes</td></tr>
<tr><td>Dr. C. A. Babariya</td><td>08/06/22 to 10/06/22</td><td>EEI, AAU, Anand and JAU, Junagadh</td><td>Success story writing skills for print & electronic media</td></tr>
<tr><td></td><td>21/03/22 to 26/03/22</td><td>ICAR-NBPGR, Regional Station, Thrissur</td><td>Plant Taxonomy for Plant Genetic Resources Management</td></tr>
<tr><td>Dr. L. J.</td><td>26/12/2</td><td>EEI,</td><td>Presentation</td></tr>
</table>
</td></tr>
</table>

Sr. No.	Suggestions	Action Taken
		Raval | 2 to 31/12/22 | AAU, Anand | skills for professional excellence
7.5	Every faculty should give their H index; I 10 index and total number of citations include in the proforma. **(Action: All major guides)**	Noted and included in 8th FG of CI report.
7.6	There is need to organize production technique related training for banana growers to promote its cultivation in collaboration with other disciplines at Fruit Research Station, JAU, Mangrol. **(Action: HOD, Dept of GPB, COA, JAU, Junagadh and Assistant Res. Scientist, FRS, JAU, Mangrol)**	The training programme for banana growers is not organized at FRS Mangrol. Besides, while banana farmers visited Dept of GPB for purchase of sapling and awareness and production technologies guidance is given to the farmers on personal contact and on mobile basis.
7.7	Every faculty should try to publish their research in reputed journals. **(Action: All major guides)**	All the major guide and PG students informed to publish the papers in good NAAS rated journals and many faculties and PG students of GPB had published research articles in reputed journals.

APPENDIX-I (C)

Action Taken report of 8th Faculty Group of Crop Improvement meeting held during 30th January, 2023 at Seminar Hall, Department of Genetics and Plant Breeding, College of Agriculture, JAU, Junagadh

Sr. No.	Suggestions	Action Taken
8.1	To promote awareness among farmers about Banana Tissue Culture plantlet selling at Department of Genetics and Plant breeding, Junagadh Agricultural University, the department of GPB should give the advertisement in *FM Janvani* radio and display the advertisement on our university website. **(Action: HoD, Dept. of GPB, CoA, JAU, Junagadh)**	Advertisement regarding selling of Banana Tissue Culture plantlet was display on JAU website.
8.2	Very good photographs that are present in power point presentation of faculty group of subjects should also be included in hard copy of report. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	Photographs are included in the report and presentation by both the departments.
8.3	Faculty group report of Crop Improvement should include teaching load of all the courses taught and TV/ Radio talk delivered by each faculty members. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	Teaching load of all the courses taught and TV/ Radio talk delivered by each faculty members are included in report.
8.4	List of external thesis Examiners/Evaluators/Experts in the Junagadh Agricultural University of both the disciplines should be revised. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	List of external thesis Examiners/Evaluators/Expert revised and also send to the Principal and Dean CoA, JAU, Junagadh.
8.5	Add information regarding total citation and last five-year citation, h-index and i-10 index etc. in the faculty group report for each member of Crop Improvement. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	Total citation, last five-year citation, h-index and i-10 index are included in the report and presentation by both the departments.
8.6	Give the details regarding status (in Rs) of revolving fund generated in the department. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	All income generated by the department in various B.H. including revolving funds budgets is included in the report and presentation.
8.7	Deposit seeds of important/ endangered plant species (Eg.: *Striga*, Milching Palm, Local Orchids etc.) of Saurashtra area at NBPGR, New Delhi. (**Action: HoD, Dept. of GPB, CoA, JAU, Junagadh**)	Collection of propagating material of several tree/plant species made and planted at Paritalav as well as at family

Sr. No.	Suggestions	Action Taken
		block of Motibaug botanical garden. The seed of endangered plant species will be collected, identified and deposited to NBPGR, New Delhi.
8.8	Motivate the students for JRF/ SRF examination/preparation and arrange additional classes JRF/SRF classes in the department. (**Action: HoD, Dept. of GPB, CoA, JAU, Junagadh**)	Noted and implemented. Last year 10 students cleared ASRB/CSIR NET exam.
8.9	Aware the students about different scholarships like PM Scholarship, SHODH etc. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	Noted and implemented. Most of the Ph. D. students getting the SHODH fellowship or other fellowship.
8.10	Courses related to Seed Science and Technology subject [UG (GPB 4.4 (2+1)) and polytechnic (GPB 6.4 (0+2)] should be offered and taught from next year by the faculty of Seed Science and Technology. (**Action: HoD, Dept. of SST, CoA, JAU, Junagadh**)	GPB 4.4 (2+1) is offered to Dr. Jyoti R. Sondarva (theory) and Shri. D. V. Savaliya (practical) combinely and polytechnic course GPB 6.4 (0+2) is offered to Dr. V. R. Akabari, Asstt. Res. Scientist, MORS, JAU, Junagadh.
8.11	PG students should promote to work in Biotechnology Laboratory of department of Genetics and Plant Breeding. (**Action: HoD, Dept. of GPB, CoA, JAU, Junagadh**)	Few M. Sc. and most of Ph. D. students doing their molecular work in Biotechnology Laboratory of department of Genetics and Plant Breeding

APPENDIX-I (D)

Action Taken report of 9th Faculty Group of Crop Improvement meeting held during 8th February, 2024 at Seminar Hall, Department of Genetics and Plant Breeding, College of Agriculture, JAU, Junagadh

Sr. No	Suggestions	Action Taken
9.1	The result of supplementary courses should be placed below the result of regular courses in the report and ppt presentation. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	The results of supplementary courses are placed below the result of regular courses in the report and ppt presentation for better insight of results.
9.2	The practical manual published by the department for UG should be send for review to other university of SAU and outside the Gujarat. **(Action: HoD, Dept. of GPB, CoA, JAU, Junagadh)**	The preparation of new practical manuals as per the 6th Dean's committee report are under progress and will send for review to other universities of SAU's and out side the Gujarat.
9.3	The PG student admitted year should be incorporated in the table of PG student progress. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	The PG student admitted year is mention in the report and ppt presentation.
9.4	Include the PG placement data in the report if available. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	The PG placement data is incorporated in the report and ppt presentation.
9.5	Deposit seeds of important and rare plant/tree species of Saurashtra area at NBPGR, New Delhi. **(Action: HoD, Dept. of GPB, CoA, JAU, Junagadh)**	The process of identification and collection of seeds of important and rare plants/trees species is under way and once confirmed, the seeds will be deposited in the NBPGR.
9.6	The PG students feed-back report should be included in the report. **(Action: HoD, Dept. of SST, CoA, JAU, Junagadh)**	The PG students feedback report is incorporated in the report and ppt presentation.
9.7	The Ph.D. students securing various scholarship should be involved in teaching activities of UG courses.	The Ph. D. students of GPB and SST department receiving various

Sr. No	Suggestions	Action Taken
	(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)	scholarship are already involved in UG/Polytechnic teaching activities whenever needed or when teachers are on leaves.

APPENDIX-I (E)

Action Taken Report of 10th Faculty Group Subject (FGS) of Crop Improvement Meeting held on 9th January, 2025 at Seminar Hall, Department of Genetics and Plant Breeding, College of Agriculture, J.A.U., Junagadh

Sr. No.	Proceeding Suggestions	Action taken
10.1	Research fellows and supporting staff under the ad-hoc scheme should be included in the staff position in report. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	No any research fellow/supporting staff under ad-hoc schemes in both the departments (GPB and SST).
10.2	Encourage UG and PG students for JRF and SRF/NET examination and the classes for should be conducted in both the department. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	UG and PG students are encouraged for JRF/SRF/NET and Mock Test for NET Exam was conducted in GPB on 29.08.2025 and JRF/SRF classes to be taken in near future by both the departments (GPB and SST).
10.3	Encourage PG students and faculty to publish their research in reputed journals with a high NASS rating or impact factor. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	PG students and new faculty are encouraged to publish their research in reputed journals and during 2024-25, two research paper were published in *Plant Science Today* with NASS rating of 6.9 by Dept. of SST.
10.4	Include the information of strengthening the department in the report. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	Information included in report by both the departments (GPB and SST).
10.5	Provide a list of books purchased by the library following departmental recommendations. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	Information included in report by both the departments (GPB and SST).
10.6	Instead of complete synopsis presentation of Ph. D students, their research progress along with good quality photographs should be presented. **(Action: All the members of FGS of CI, JAU, Junagadh)**	Noted. Four Ph.D. students of GPB will present their synopsis with research progress and photographs. In Dept. of SST, no any student has to present his/her Ph. D. synopsis this year.
10.7	The teachers involved in polytechnic/UG/PG teaching if any should submit their teaching information to respective departments. **(Action: All the members of FGS of CI, JAU, Junagadh)**	Information included in report by both the departments (GPB and SST).
10.8	The teachers/scientists should give their extension activities in detail (Radio talk/TV talk/popular lectures, popular article, activities in *Krishi Mela* and *Krishi Mahotsv* etc.) in the report. **(Action: All the members of FGS of CI, JAU, Junagadh)**	Information included in report by both the departments (GPB and SST).

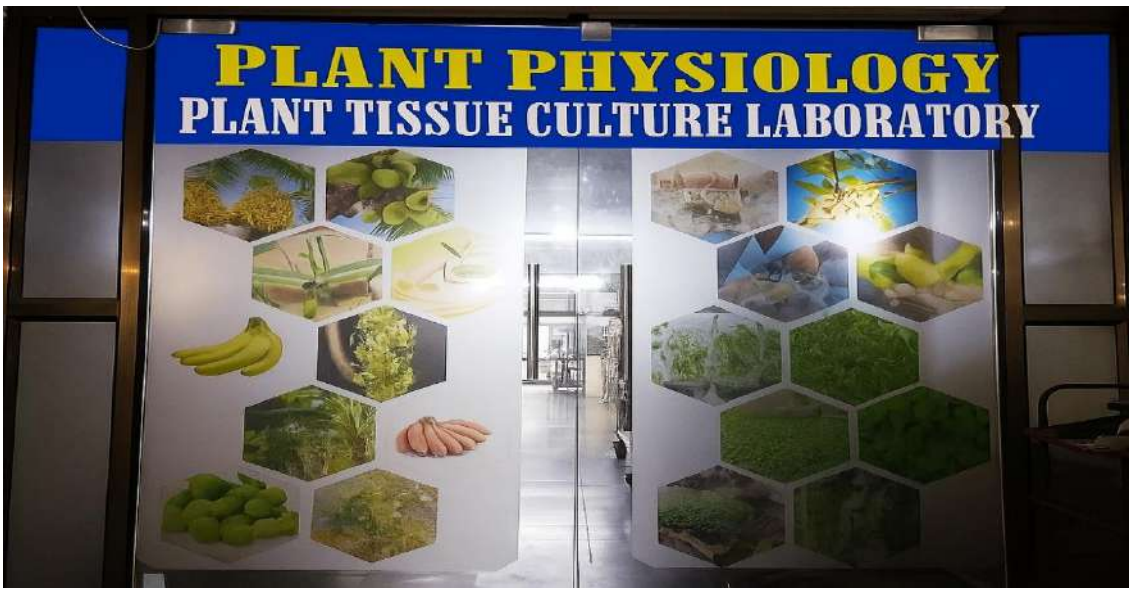
6.4:

Self-Study Report for M. Sc. (Agri.) in Plant Physiology

6.4. SELF-STUDY REPORT FOR M.SC IN PLANT PHYSIOLOGY AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE MS.C. DEGREE PROGRAM

- The Department of Plant Physiology (formerly known as Agricultural Botany) was established along with the College of Agriculture, Junagadh in the year 1960.
- Initially, the activities of the department were restricted to teaching mainly with a limited staff only up to the level of Assistant Professor.
- The work in the department got momentum and diversified into Teaching, Research and Extension activities from 1967.



Department of Plant Physiology, College of Agriculture, JAU, Junagadh

STEPPING-STONES OF THE DEPARTMENT

- Establishment of a post-graduation degree programme for Plant Physiology discipline, sheltered under the umbrella of 'Agricultural Botany' which was commenced at the College of Agriculture, Junagadh of Gujarat Agricultural University, during the academic year 1964.
- The work got momentum and diversified into Teaching, Research and Extension activities from 1967 and strengthened post Gujarat Agricultural University in 1972.
- The research programs were intensified with the sanction of the Botanical Research Schemes aimed at the development of three Botanical Gardens namely, *Motibaug, Paritalav and Laldhori*.
- The Plan Research scheme entitled "Department of Plant Physiology, Tissue Culture and Biotechnology" came into existence in the year 1997-98.
- GSBTM scheme entitled "Use of molecular markers in testing genetic purity of dwarf and tall coconut population at Mangrol and Mahuva" during the year 2017-18 to 2018-19, strengthened molecular research facilities for genetic purity testing in coconut.
- RKVY scheme entitled "Commercial exploitation of date palm through tissue culture at botany, J.A.U., Junagadh" came into existence during the year 2019-20 to 2021-22, which helps to strengthen PTC with good facilities and initiated the standardization of date palm protocol for benefit of the farmers.

MISSION, GOALS AND OBJECTIVES:

MISSION:

The department of Plant Physiology is committed to provide excellence, innovation and effectiveness in PG degree programme, research and transfer of technology in the field of Genetics and Plant Breeding and Plant Physiology for the benefit of farmers.

GOALS:

Goal of department of Plant Physiology is to develop quality human resources in the field of Plant Physiology with award of PG Degree that will lead to managerial excellence through quality higher education and research with socio-cultural sensitivity, ethical responsibility and concern for environment with aspirations of the farming community in particular.

OBJECTIVES:

1. To provide the intellectually and trained human resource for the public and private sector to develop the strategies of agricultural crop physiology and development of varieties/hybrids suitable to climate change, biotic and abiotic stresses, better quality and productivity to meet the demands and requirements of the farmers and consumers.
2. To conduct applied research in the field of Plant Physiology taking care of basic and translational biotechnology and fosters interactions and collaboration among faculties, researchers, seed industries and farmers.
3. To conserve plant biodiversity of Medicinal and Aromatic plants.
4. To develop, implement and evaluate the curriculum of Plant Physiology with a strong commitment to be aligned and comply with the national standards both offline and online under Covid-19 pandemic situation.

ACCOMPLISHMENTS/ ACHIEVEMENTS OF THE LAST FIVE YEARS

EXTERNAL FUNDED PROJECTS IN THE DEPARTMENTS OF GENETICS & PLANT BREEDING AND PLANT PHYSIOLOGY *(AS OF 31-07-2025)*

Sr. No.	Title of the Project (Budget Head)	Period of project	Total Amount Sanctioned (In Rupees)
2020-21			
1.	Evaluation of Bio efficiency and phytotoxicity of Humesol on growth, yield and quality of cotton **(B. H. 18802-04)**	2 years	5,18,140/-
2.	Commercial exploitation of date palm through tissue culture at botany, J.A.U., Junagadh under RKVY **(B. H. 1824741)**	2 years	36,89,000/-
2021-22			
3.	Evaluation of Bio XGR on growth and yield para of cumin (Budget Head: 18802-06)	1 year	4,38,600/-
4.	Evaluation of Rapi Granule on growth, yield and quality and crop safety parameter of cumin **(Budget Head: 18802-07)**	1 year	4,03,300/-

2022-23			
5.	Evaluation of humesol for growth and yield parameter of soyabean **(Budget Head: 18802-08**)	1 year	4,56,700/-
6.	Evaluation of biovita XL for growth and yield parameter of soyabean **(Budget Head: 18802-09)**	1 year	4,56,700/-
7.	Evaluation of biovita XL for growth and yield parameter of cotton **(Budget Head: 18802-10)**	1 year	4,28,400/-
8.	Evaluation of biovita XGr for growth and yield parameter of cotton **(Budget Head: 18802-11)**	1 year	4,46,500/-
9.	Evaluation of biovita XL for growth and yield parameter of tomato **(Budget Head: 18802-12)**	1 year	4,23,600/-
10.	Evaluation of humesol for growth and yield parameter of cumin at botany **(Budget Head: 18802-13)**	1 year	4,99,000/-
2024-25			
11.	Tissue culture technology, Micropropagation of important crop of Saurashtra Regions **(B. H. 2260-07)**	1 year	31,00,000/-

RECOMMENDATIONS FROM THE DEPARTMENT OF PLANT PHYSIOLOGY FOR FARMERS

Sr. No.	Recommendation
2023-24	
1.	**Propagation of a rare and medicinally important declining shrub species Agnimantha (*Premna serratifolia* L.) by hardwood cuttings** **Recommendation for Nurseryman:** The nurserymen of Gujarat are recommended to use plant growth regulator either IBA @ 450 ppm (73.33 % sprouting) or IAA @ 450 ppm (70.67 % sprouting) [*i.e.* 450 mg in one litre water] for 15 minutes dipping for better propagation in hardwood cuttings of Agnimantha (*Premna serratifolia* L.)

RECOMMENDATIONS FROM THE DEPARTMENT OF PLANT PHYSIOLOGY FOR THE SCIENTIFIC COMMUNITY

Sr. No.	Recommendation
2020-21	
1.	**Application of brassinolide to mitigate saline stress during germination and growth period in chickpea** It is recommended to scientific community that pre-soaking of chickpea seed with 0.25 ppm brassinolide (B_2) for 2 hrs before sowing helps to mitigate salinity stress up to 6.0 dS/m with 50 % yield reduction as compared to control.

Sr. No.	Recommendation
2.	**Micropropagation in Kankoda (*Momordica dioica* Roxb.)** **For micro-propagation of Kankoda, the following protocol is used** 1. **Surface sterilization:** Internodal explant of kankoda to be used after surface sterilization with carbendazim for 30 minutes followed by 0.1 % Mercuric chloride treatment for 15 minutes and washed with sterilized distilled water for four to five times for removing traces of the chemicals. 2. **Shoot multiplication:** Low concentration of kinetin (MS + K1) is effective for getting early shoot initiation and maximum number of shoots. 3. **In-vitro rooting:** Half strength MS media supplemented with high concentration of IBA (IBA3) is effective for getting early root initiation. **Hardening:** A pot mixture of soil: sand (1: 1 volume basis) is effective for getting 60-65% and 90-95% survival rate of plantlets for primary and secondary hardening, respectively under greenhouse condition.

Table 6.4.126 PG: Year-wise NET qualified PG/Ph.D. students in Plant Physiology

Sr. No.	Year	No. of students qualified NET
1.	2020-21	Not conducted ICAR NET
2.	2021-22	1
3.	2022-23	1
4.	2023-24	Not conducted ICAR NET
5.	2024-25	Not conducted ICAR NET
	Total	**2**

Table 6.4.127 PG: Research publications of faculty members in Plant Physiology

Sr. No.	Particular	Number of publications during Last Five Years
1.	National/International Journal	41
	6.0 and above	07
	4.0-6.0	12
	< 4.0	22
2.	Books Published/Book Chapter	15
3.	Practical Manuals	03

Table 6.4.128 PG: Seminar / workshop / symposia organized by the Department Plant Physiology during 2020-21 to 2025-26

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2021-22				
1.	Training Programme on "Commercial Plant Tissue Culture as Business Entrepreneurship"	26/10/2021 to 31/10/2021	Department of Genetics and Plant Breeding, CoA, JAU., Junagadh	50
2.	One Day workshop on "Commercial Exploitation of Date Palm through Tissue Culture"	24/08/2021	Department of Genetics and Plant Breeding, CoA, JAU., Junagadh	>50 farmers

6.4.2. FACULTY STRENGTH AS OF 31-07-2025

PLANT PHYSIOLOGY

Table 6.4.129 PG: Details of faculty strength (Department of Plant Physiology)

Sr. No.	Sanctioned Faculty for PG	Faculty in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Professor	00	00	Not recommended by ICAR	-
2.	Associate Professor	00	00		-
3.	Assistant Professor*	00	01		01
	Total	00	01		01

* Faculty assigned as for both Teaching and Research mandates.

6.4.3 TECHNICAL /SUPPORTING STAFF AS OF 31/07/2025

Table 6.4.130 PG: Details of faculty strength (Department of Plant Physiology)

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Recommended by ICAR	Staff sanctioned by the GoG
1.	Technical/Supporting staff	-	-	Not recommended by ICAR	-
2.	Administrative staff	-	-		-
	Total	-	-		-

6.4.4. CLASSROOMS AND LABORATORIES

Table 6.4.131 PG: Classroom infrastructure in the department

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Genetics & Plant Breeding and Plant Physiology					
1.	Seminar Hall	111.02	54	Teaching	PG

PG Classroom

PG Classroom

Table 6.4.132 PG: Departmental PG laboratories established (As of 31-07-2025)

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Department of Plant Physiology					
1.	Plant Physiology	55.66	10	For PG and UG Practical	PG Research and Practical
2.	Plant Tissue Culture -1 (Media preparation room)	110.83	20	For Tissue-culture Research and Banana micro-Propagation	PG Research and Practical
3.	Plant Tissue Culture -2 (Inoculation I)	12.74	2	For Inoculation of explant	PG Research and Practical
4.	Plant Tissue Culture -2 (Inoculation II)	13.80	3	For Inoculation of explant	PG Research and Practical
5.	Plant Tissue Culture -2 (Inoculation III)	35.70	4	For Inoculation of explant	PG Research and Practical
6.	Plant Tissue Culture -2 (Inoculation IV)	22.38	2	For Inoculation of explant	PG Research and Practical

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
7.	Plant Tissue Culture -2 (Culture Room I)	33.34	---	For Incubation of culture	PG Research and Practical
8.	Plant Tissue Culture -2 (Culture Room II)	81.00	---	For Incubation of culture	PG Research and Practical
9.	Plant Tissue Culture -3 (Autoclave Room cum washing room)	37.08	---	For Autoclaving media and glassware washing	PG Research and Practical

Plant Physiology

Plant Physiology

Plant Tissue Culture -1
(Explant Preparation)

Plant Tissue Culture -2
(Media Preparation Room)

Plant Tissue Culture -2
(Inoculation Room)

Plant Tissue Culture -3
(Culture Room)

Plant Tissue Culture -4
(Autoclave Room)

Plant Tissue Culture -5
(Cleanig Room)

Table 6.4.133 PG: List of major equipment available for PG research

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in lakh)
Genetics and Plant Breeding and Plant Physiology				
1.	*Plant Physiology*	Seed Germinator	1	1.20
2.		UPS with Battery rack	1 unit	1.03
3.		Leaf area meter	1	12.85
4.		Centrifuge Incl Rotor 5418000.017	1 unit	1.08
5.		Plant Growth Chamber	1	2.03
6.		Spectro photometer Model:UV1800	1	3.89
7.		Refrigerated Centrifuge	1	6.00
8.		Chlorophyll /SPADMETER	1	1.89

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in lakh)
9.	*Plant Tissue-Culture -1*	Telescopic Binocular	1	1.63
10.		Electronic balance	1	1.18
11.		Environmental shaker	1	1.13
12.		Peristaltic pump	1	2.71
13.		SHIMADZU Electronic Weighing Scale	1	1.69
14.		IMOS stereo microscope trinocular	1	1.21
15.	*Plant Tissue-Culture -2*	Laminar Air Flow cabinet (Horizontal)	3	3.72
16.		Laminar Flow unit (Horizontal)	4	5.00
17.		Air Handling Unit with Auxiliary (AHU)	1	12.25
18.		Canon 30MP DSLR	1	1.22
19.		Creative lab world vertical air flow cabinet	1	1.71
20.	*Plant Tissue-Culture -3 (Autoclave Room)*	Horizontal Cylindrical Steam Sterilizer (Autoclave)	1	12.59
21.		Autoclave self-top loading	1	2.69
22.		Autoclave vertical	2	2.70
23.	*Green house*	Generator set	1	2.46
24.		Generator (Harison 62.5 KVA, Three phase	1	4.97
25.	*Seminar Hall*	LG Professional large format display	1	3.40

MAJOR EQIPMENT AVAILABLE FOR PG RESEARCH

Name of equipment: Leaf area meter

Name of equipment: Spectrophotometer Model: UV 1800

Name of equipment: Binocular Microscope

Name of equipment: Refrigerated Laboratory Centrifuge Model: MPW-65

Name of equipment: Autoclave self-top loading

Name of equipment: Plant Growth Chamber

Name of equipment: EZ-lyzer (Tissue Lyser)

Name of equipment: Refrigerated Centrifuge

Table 6.4.134 PG: Farm facilities at the Department of Plant Physiology

Sr. No.	Name of Farm/ Cafeteria	Area (hectare)	No. of Experiments continue		Details of activities
			Departmental	Students	
Genetics and Plant Breeding and Plant Physiology					
1.	Botanical Garden Motibaug	12-62-63	03	Research work of PG students of department of Genetics and Plant Breeding was carried out at Instructional Farm as well as concerned Research Stations of Junagadh Agricultural University.	PG Degree students frequently visited all the three gardens for conservation of plant biodiversity and identification of plant and morphological and taxonomical studies.
2.	Botanical Garden Paritalav	12-16-00	01		
3.	Botanical Garden Laldhori	12-60-60	00		
4.	Botanical Garden Dudheshwar	03-40-94	00		Conservation of Plant Biodiversity in both gardens

Botanical Garden, Motibaug

Botanical Garden, Paritalav

Botanical Garden, Laldhori

PG research work of Plant Physiology students at Res. Station and Dept. Laboratory

Table 6.4.135 PG: Theory and practical batches for the degree program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semesters	Batch of students in theory class	Batch of students in practical class
1.	M. Sc. (Agri.)	Odd	1 (1 student)	1 (1 student)
2.		Even	1 (1 student)	1 (1 student)

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty prepares theory lectures from standard review articles and related books and practical manuals for each subject of PG Degree program and distributes to the students free of cost to serve as reference materials. The same material is uploaded to the university website for use.

PRACTICAL AND HANDS-ON-TRAINING

- The following practical manuals are prepared by the concerned course teachesr and distributed to the PG students for practical exposure.

Sr. No.	Course No.	Credit	Course Title
1.	PP 501	2+1	Principles of Plant Physiology-I: Plant Water Relations and Mineral Nutrition
2.	PP 502	2+1	Principles of Plant Physiology-II: Metabolic Processes and Growth Regulation
3.	PP 503	2+1	Plant Developmental Biology: Physiological and Molecular Basis
4.	PP 504	2+1	Physiological and Molecular Responses of Plants to Abiotic Stresses
5.	PP 505	2+1	Hormonal Regulation of Plant Growth and Development
6.	PP 510	2+1	Seed Physiology

6.4.6. SUPERVISION OF STUDENTS IN PG PROGRAMME

During the accreditation cycle from 2020-21 to 2024-25, the department has guided nine master's students to complete their PG degree programs. All the students are well-guided by the advisory committee members, with a faculty member from the department serving as the major guide. Field experiments of PG Degree students are conducted either on Instructional farm or on respective crop research station, while lab trials are set either in the Departments of Genetics and Plant Breeding and Seed Science and Technology or at the Department of Biotechnology.

Table 6.4.136 PG: Number of PG students supervised (guided) by faculty in the last five years in Plant Physiology)

Department	No. of students supervised (guided) by faculty for PG Degree	No. of qualified faculty members
Plant Physiology	09	02

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS *ETC.*):

- Feedback from students, parents, farmers and industrialists are being taken from time to time. It reveals that students are getting education as per academic schedule and sufficient facilities are available at hostels, mess, gym, sport ground. Wi-fi facilities are available to all PG degree students. Parents who visited hostels college and department are satisfied with the existing facilities. The famers of the surrounding villages, also discuss their problems with staff and PG degree students. Staff and PG Degree student participate in "*krishimahotsav*", the state government flagship programme. PG students feedback report is given in Appendix ***6.4.7a***.
- ***STUDENT REPRESENTATIVE COUNCIL (SRC):*** SRC members frequently discuss the educational problems as well as the hostel related problems with the students, and the feedback is shared with the authorities for implementation. Through their dedicated involvement, the SRC plays a vital role in fostering student engagement, leadership, and holistic development on campus.
- ***FACULTY GROUP OF SUBJECTS:*** The meetings under the Faculty Group of Subjects for Basic Sciences are regularly conducted once in a year under the convenorship of Professor and Head, Dept. of Biotechnology every year. The meetings are also attended by Hon'ble Vice Chancellor, Director of Research, Registrar and Principal and Dean, Faculties of Agriculture, wherein the academic and research performance of the disciplines under the Basic Sciences are discussed and feedback is given for further improvement.
- ***PG BOARD OF STUDIES:*** The Faculty Research Committee operates at the faculty level and is responsible for evaluating and guiding the research proposals and progress of both faculty members and research scholars. It comprises senior professors, subject matter experts, and representatives from related departments. The committee ensures that research work aligns with the academic and ethical standards of the university. Recommendations made by the FRC are forwarded to the Board of Studies or Academic Council for further consideration and approval.
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per schedule wherein the Deans of all faculties, nominated Professors and Research Scientists of different faculties and renowned academicians serve as members. Based on the the Board of Study recommendation, the Academic Council takes the decision on academic matter for implementation in the university/college.

Table 6.4.137 PG: Year-wise Faculty Group of Subject Meetings of Basic Sciences

Sr. No.	Year	Convener	Dignitaries remaining present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	Suggestions received from concerned FGS meeting; corresponding action taken
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	

Sr. No.	Year	Convener	Dignitaries remaining present	Suggestions received
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal and Dean	report are submitted in ***Annexure 6.4.7b.***
4.	2023-24	Professor and Head	Director of Research and Dean PG Studies, Registrar, Director of Extension Education, Associate Director of Research and Principal and Dean	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research and Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal and Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR THE LAST FIVE YEARS

Table 6.4.138 PG: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
M. Sc. (Agri.) in Plant Physiology	2020-21	03	02	33.33
	2021-22	03	03	00.00
	2022-23	03	02	33.33
	2023-24	02	02	00.00
	2024-25	01	01	00.00

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

All postgraduate (PG) correspondences—such as the Plan of Work, Synopsis, Programme of Research, and submission of all PG-related forms—are carried out through the JAU Examination Management System (JEMS). Approvals from the Major Guide, members of the Advisory Committee, Head of the Department, Principal, Dean (PGS), and Registrar are also obtained online through JEMS, thereby ensuring a completely paperless process. Teaching is conducted using PowerPoint presentations and whiteboards. The courses are also taught in online mode through various platforms such as Google Classroom and Zoom. These platforms are used to deliver online lectures and to conduct final viva-voce examinations of the students. Besides, the other popular ICT tools utilized at the department are as follows:

1. **CeRA and other online e-resources: CeRA** is the ICAR Consortium of e-resources in Agriculture. This covers more than 3000 scholarly journals pertaining to the agriculture and allied sciences which are available in full text.
2. **E-books:** The University Library has access to Springer e-books covering nearly 2500 books in virtual format with full text availability and at a time 25 users can open an e-book. In addition, library has access to 200 Indian e-books, which are fully utilized by both departmental faculty members and students for reference and use.

3. **Krishikosh:** *Krishikosh* is database of theses contributed by all agriculture universities and ICAR institutions. The JAU is an active member for *Krishikosh* and all the theses submitted to the JAU are being uploaded regularly. The students also keep a track on the theses available at this portal for identifying research gaps.
4. **Internet:** Digital library with computers and internet facility is available and used by the PG Degree students. Wi-fi Internet facility is also provided at all the hostels which is available for all the time.
5. All the classrooms and laboratories are under vigilance of CCTV camera which is under direct monitoring of Professor and Head of the Department of Genetics and Plant Breeding.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: 31.01.2026
Place: Junagadh

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Annexure 6.4.7a

Postgraduate students' feedback report for AY 2024-25

Department of Genetics and Plant Breeding			
No of Respondent: 6			
Particulars:			**Score**
Departmental Teaching - Learning Process			
1. How do you rate Student- Teacher relations?			3.2
2. How do you rate for completion of courses by the teachers?			3.3
3. How do you rate fairness in internal assessment in the department?			3.4
4. How do you rate practical exposure from the department?			3.1
5. How do you rate for statistical analysis facility provided by the department			3.5
6. Did teachers motivate /support you for solving your personal problems			3.7
P.G. Research facility			
1. How do you rate for your selection of research topic?			3.5
2. Did you get enough facilities for conducting experiment?			3.4
3. How do you rate material provided for conducting experiment?			3.3
4. How do you rate for major Guide for supporting in completion of Seminar and thesis project			3.6
Library facilities			
1. Books related to your subject are available in the library?			3.3
2. Internet facilities for learning and research purpose?			3.4
3. Availability of research journals (online /offline) for review purpose?			3.1
4. How do you rate for delivery of books system?			3.2
Hostel Facility			
1. How do you rate Hostel facilities?			3.2
2. How do you rate wi-fi facility?			3.2
3. How do you rate for food quality in mess?			3.1
4. How do you rate cleanliness in the hostel?			3.3
Sports facility			
1. How do you rate indoor sports facility?			3.5
2. How do you rate outdoor sports facility?			3.6
Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	3	2	1

Annexure 6.4.7b

Feedback received in the Faculty Group Meetings of Basic Sciences

PROCEEDING OF MEETING ON 7th FACULTY GROUP OF BASIC SCIENCE HELD ON 2nd DECEMBER, 2021 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COLLEGE OF AGRICULTURE, JAU, JUNAGADH

7.1: Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. H. P. Gajera, Professor and Head presented the action taken report of the 6th meeting of faculty group of " Basic Sciences". He has also presented teaching and research activities of Department of Biotechnology and Biochemistry. The house appreciated the presentation with following suggestions.

1. Add H-index; i10-index and No. of total citations of publications of each faculty in the presentation.
2. Arrange advanced training on analysis for PG students.

(**Action: Faculties of Department of Biotechnology and Biochemistry discipline**)

7.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Add H-index; i10-index and No. of total citations of publications of each faculty in the presentation.

(**Action: Faculties of Plant Physiology discipline**)

7.3 Department of English, JAU, CoA, JAU, Junagadh

Dr. P. I. Dave, Assistant Professor presented the activities of Library and English discipline. The house approved and appreciated.

1. Add the work load of all the English teacher of JAU, Junagadh.
2. English subject may be included in social science group of subject meeting.

(**Action: Faculties of English discipline**)

7.4 General Suggestions

Prof. (Dr.) N. K. Gontia, Chairman & Hon. Vice Chancellor, Junagadh Agricultural University gave the presidential remarks to evaluate the teaching and PG research activities of faculties of Basic Sciences group. Some of the important points are given below

1. Emphasize on importance of Basic science in agriculture in the era of climate changes.
2. Suggest to channelize the research work done by basic science up to the end users and outcome-based research.
3. Research fellows may be involved in teaching activities including practical.
4. Research papers should be published good NAAS rated journals.
5. Encourage the PG students to publish their research in reputed Journals.
6. Encourage the staff and students to apply in different prestigious awards.
7. Training/Dissertation/Project work to basic science students of other university may be initiated.

(**Action:** *All major guide and faculty members of FGS - Basic Sciences*)

PROCEEDING OF 8th MEETING ON FACULTY GROUP OF SUBJECTS - BASIC SCIENCE
Venue: Seminar Hall, Department of Biotechnology, College of Agriculture, JAU, Junagadh. Date: January 27, 2023

8.1 Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. H. P. Gajera, Convener of FGS-BS and Professor & Head (Biotechnology) presented the action taken report on the proceeding of the 7th meeting of FGS-BS. The house approved the same after through discussion. He has also presented academic activities of UG and PG studies of Biotechnology and Biochemistry subjects. The house appreciated the presentation with following suggestions.

1. Job/Placement of students may be informed timely to placement cell by concern major guide.
2. Include JAU research for citation in PG thesis and research papers.

(Action: All the faculties, Department of Biotechnology and Biochemistry discipline)

8.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Information of the FGS report should be submitted strictly as per the format.
2. Job/Placement of students may be informed timely to placement cell by concern major guide.
3. Include JAU research for citation in PG thesis and research papers (Plant Physiology).

(Action: All the faculties of Plant Physiology discipline)

8.3 Department of Animal Science, CoA, JAU, Junagadh

Dr. N. K. Ribadiya, Assistant Professor and Head (Animal Sci.) presented the activities of animal science discipline. The house approved the presentation with following suggestions.

1. Information of the FGS report should be submitted strictly as per the format.

(Action: All the faculties of Animal Science discipline)

8.4 Presentation of Ph.D. Research work, Department of Biotechnology and Biochemistry, JAU, Junagadh

Two Ph.D. Students, (1) Ashwini M. N. and (2) Lakhani Komal G. presented their synopsis of Ph.D. research work. The house appreciated the presentation.

8.5 Presidential remarks

Dr. V. P. Chovatia, Chairman & Hon. Vice Chancellor, Junagadh Agricultural University gave the presidential remarks to evaluate the teaching and PG research activities of faculties of Basic Sciences group. Some of the important suggestions are given below

1. Emphasize more on Basic work related to Climate change in PG Research.
2. Encourage the PG students and faculties for published their research in reputed Journals having good NAAS rating/Impact factor.
3. Training/Dissertation/project work to basic science students of other university may be strengthen.
4. Encourage the Faculties and PG students to apply in different prestigious awards.

PROCEEDING OF MEETING ON 9th FACULTY GROUP SUBJECTS- BASIC SCIENCE, HORTICULTURE, ANIMAL SCIENCE HELD ON 25th JANUARY, 2024 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COA, JAU, JUNAGADH

8.1 Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. H. P. Gajera, Professor and Head (Biotechnology & Biochemistry) presented the action taken report of the 8th meeting FGS point wise and the house approved the same after thorough discussion. He also presented report of 9th FGS-Basic Science (BS) regarding teaching and research activities of Department of Biotechnology and Biochemistry. The house appreciated the presentation
with following suggestions.

1. Priorities should be given to cite JAU research in PG thesis writing.
2. Department wise credit hours or RAWEP should be calculate as per the norms.
3. Review the PG students progress timely

(Action: All the faculties and major guide, Department of Biotechnology and Biochemistry discipline)

8.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Use proper format of FGS.
2. Include self-citation of JAU research in PG thesis writing.

(Action: All the faculties of Plant Physiology discipline)

8.3 Department of Horticulture, CoA, JAU, Junagadh

Dr. N. D. Polara, Prof. and Head, Department of Horticulture, COA, JAU, Junagadh presented the activities of Horticulture discipline. The house appreciated the presentation with following suggestions.

1. Include self-citation of JAU research in PG thesis writing.
2. Use proper format of FGS
3. Hort 6.6 course to be transferred to PHT Department, CAET, JAU, Junagadh

(Action: Prof. and Head, Dept. of Horticulture, CoA, JAU, Junagadh)

8.4 Department of Animal Science, CoA, JAU, Junagadh

Dr. N. K. Ribadiya, Assistant Professor and Head (Animal Sci.) presented the teaching activities of animal science discipline. The house approved the presentation with following suggestion.

1. Use proper format for FGS.

(Action: Assistant Prof. and Head, Dept. of Animal Science, CoA, JAU, Junagadh)

8.5 Presentation of Ph.D. Research work, Department of Biotechnology and Biochemistry, JAU, Junagadh

Ph.D. Students, Kundan presented their synopsis of Ph. D research work. The house has appreciated the presentation and approved.

8.6 Presidential remarks

Dr. V. P. Chovatia, Chairman & Hon. Vice Chancellor, Junagadh Agricultural University gave the presidential remarks to evaluate the teaching and PG research activities of faculties of Basic Sciences and also for Horticulture and Animal Science group. He critically evaluated the teaching and research activities of each group and given

valuable suggestions to improve the education system. Some of the important points are given below

1. More emphasizeshould be given on ranking in NAAC.
2. Encourage the PG students and faculties for published their research in reputed Journals

having good NAAS rating/Impact factor along with thesis writing.

3. Encourage the staff and students to apply in different prestigious awards

PROCEEDING OF 10TH FACULTY GROUP OF BASIC SCIENCE HORTICULTURE AND ANIMAL SCIENCE HELD ON 13th JANUARY, 2025 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COLLEGE OF AGRICULTURE, JAU, JUNAGADH

10.1 Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. U. K. Kandoliya, Associate Professor presented the action taken report of the 9th meeting of faculty group of "Basic Sciences". He has also presented teaching and research activities of Department of Biotechnology and Biochemistry. The house appreciated the presentation with following suggestions.

1. The presentation must adhere strictly to the prescribed format, without including unnecessary information from previous years.
2. Research fellows and supporting staff under the ad-hoc scheme should be included in the staff position in report.
3. The list of experts for MBB and Biochemistry needs to be updated to include retired JAU experts.
4. Provide a list of books purchased by the library following departmental commendations.
5. Feedback from PG students should be collected by their respective guides and include the overall feedback in the report.

(Action: All the faculties, Department of Biotechnology and Biochemistry discipline)

10.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Collect feedback from PG students and include the general feedback in the report.

(Action: Faculty of Plant Physiology discipline)

10.3 Department of Horticulture

Dr. N. D. Polara, educational activities of Horticulture suggestions.

1. The Horticulture group from the College of Agriculture (CoA) will move to the College of made with the College of Horticulture, JAU, Junagadh.
2. Collect feedback from feedback in the report.

10.4 Department of Animal Science

Dr. N. K. Ribadiya, Assistant Professor, animal science discipline.

1. Collect feedback from feedback in the report.

10.5 Presentation of Ph.D. Research work, JAU, Junagadh

Ph. D. student Japada Ashish was approved by the house.

10.6 Presidential remarks

Dr. V. P. Chovatia, President important points are given below

1. NAAS rating or impact
2. Each faculty member should

3. knowledge in their respective subjects.
4. Motivate staff and students to apply for various prestigious award
(Action: All faculty members of FGS-Basic Sciences, Horti., Animal Sciences)

PROCEEDING OF MEETING ON 11th FACULTY GROUP OF BASIC SCIENCE AND ANIMAL SCIENCE HELD ON 12th SEPTEMBER, 2025 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COLLEGE OF AGRICULTURE, JAU, JUNAGADH
Venue: Seminar Hall, Department of Biotechnology Date: 12/09/2025

General suggestions:
11.1 All the faculty members of the group must attend the meeting.
11.2 The citation of the research papers of JAU faculties should be included in the PG research thesis and guide should check the same
11.3 All the major guide of PG students should follow the guidelines while submitting synopsis and final thesis will ensure high quality and reduce errors
11.4 Name of the registrar should be acknowledged in the PG thesis and major guide should ensure it.
11.5 Encourage the PG students and faculties for published their research in reputed Journals having good NAAS rating/Impact factor.
11.6 Every staff member has to take responsibility to improve University Ranking in various platforms/ accreditation.
11.7 Training for the staff for the updating in their subject.
(Action: All the members of Basic Science Group, JAU, Junagadh)

Action Taken:

All suggestions relevant to the Department of Plant Physiology, based on the feedback received from the esteemed members of the house who remained present in the Faculty Group of Subjects Meetings, were implemented from time to time and the concerned reports were also presented in the subsequent meetings.

6.4:

Self-Study Report for M. Sc. (Agri.) in Seed Science and Technology

6.4. SELF-STUDY REPORT FOR M.SC. (AGRI.) IN SEED SCIENCE AND TECHNOLOGY AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PG DEGREE PROGRAM

The Department of Seed Science and Technology was established in 2008 under the Department of Genetics and Plant Breeding, College of Agriculture, Junagadh Agricultural University (JAU), Junagadh. Subsequently, the Department of Genetics and Plant Breeding was bifurgated to form a separate Department of Seed Science and Technology at the College of Agriculture, JAU, Junagadh, as per the Office Note from the Director of Research, JAU, dated 20/06/2012, and Office Order No. JAU/Reg/A.3.1/2012 (21)/17610-84/12 dated 16/08/2012 issued by the Registrar, JAU. The department admitted its first postgraduate students in 2008, with thesis submissions beginning in 2010 and up to the academic year 2025–26, 71 postgraduate students (32 boys and 39 girls) have successfully submitted their theses in Seed Science and Technology, while eight students are currently persuing postgraduate studies during AY 2025-26. Since its inception, 15 students have qualified the NET examination and two have cleared the ARS examination in Seed Science and Technology conducted by ICAR.

Department of Seed Science and Technology, College of Agriculture, JAU, Junagadh

STEPPING-STONES OF THE DEPARTMENT

- To strengthen seed research, education, production, and distribution, the Mega Seed Project and Sagdividi Farm schemes were placed under the department's supervision with effect from 1 September 2012, and the Government of Gujarat approved the project "Establishment of Mega Seed Centre for Quality Seed Production and Distribution at Junagadh" during 2012–13 vide Government Resolution No. JKV-122011-3251-K-2 dated 13/12/2012, with the objective of promoting quality seed production and educating farmers, seed producers, and students.
- Further, the merger of AICRP on NSP (Crops) and the ICAR Seed Project into the unified "AICRP on Seed (Crops)" was approved on 30/09/2021, and Dr. J. B. Patel, Professor and Head, was appointed as Nodal Officer, with the scheme comprising STR (75:25 ICAR: State share) and QSP (100% ICAR share) components.
- The STR component along with posts was transferred from Jamnagar to Junagadh in August 2022, followed by the transfer of AICRP on BSP-NSP, Seed Technology Research B.H. 2076-2, with effect from 01/04/2023.

- Additionally, the Department of Agriculture and Farmers Welfare, Government of India, approved two Seed Hub Projects for pulses (2016-17) and groundnut (2018-19), which were implemented by the department, along with ongoing support to farmers through schemes such as RKVY-Seed Replacement Rate Enhancement, Certified Seed Production of Groundnut under NMOOP, and Financial Assistance for Certified Seed Production of pulse crops under NFSM, particularly chickpea.

MISSION, GOALS AND OBJECTIVES:

MISSION:

- UG and PG teaching and research in Seed Science and Technology.
- Experiments and research work related to seed science.
- Imparting training to farmers, students, and various stakeholders associated with seed.
- To collaborate with National and International organizations dealing with seed research and education.
- Seed production and distribution of various classes of seeds of stable varieties / hybrids of various field crops.
- Enhancing quality seed availability through farmers' participation.

GOAL:

- To develop human resources in seed science and technology field and to provide quality seeds to farmers to serve the nation

OBJECTIVES:

- To provide under-graduation education leading to B. Sc. (Agriculture) degree students in seed science and technology subject
- To provide post-graduation education leading to Masters/Ph.D. degree in seed science and technology
- To educate students and development of human resources in seed science and technology to meet the national and global demands
- To introduce relevant vocational and professional courses related to seed science and technology discipline
- To assess the effect of high temperature on seed yield and quality in wheat and chickpea genotypes
- To evaluate morphological, physiological and molecular traits associated with seed vigour and longevity in different genotypes of crops of Saurashtra region
- To study the effect of different organic and inorganic products, storage containers and storage conditions on seed quality during storage in different crops of Saurashtra region
- To study the seed quality enhancement technologies for direct seeded high value low volume vegetable crops

ACCOMPLISHMENTS/ ACHIEVEMENTS OF LAST FIVE YEARS:

EXTERNAL FUNDED PROJECTS IN THE DEPARTMENT OF SEED SCIENCE AND TECHNOLOGY (*AS OF 31-07-2025*)

2020-21

- ICAR Seed Project "Seed Production in Agricultural Crops and Fisheries"
- Seed Hub project "Creation of Seed Hubs for Increasing Indigenous Production of Pulses"
- Seed Hub project "Creation of Seed-Hubs for Enhancing Quality Seeds Availability of Major Oilseeds Crops-Groundnut"
- Certified Seed Production of Groundnut Under NMOOP
- RKVY Project "Seed Replacement Rate Enhancement"
- ELP on "Quality Seed Production in Field Crops"

2021-22

- Seed Hub project "Creation of Seed Hubs for Increasing Indigenous Production of Pulses"
- Seed Hub project "Creation of Seed-Hubs for Enhancing Quality Seeds Availability of Major Oilseeds Crops-Groundnut"
- Certified Seed Production of Groundnut Under NMOOP
- RKVY Project "Seed Replacement Rate Enhancement"
- ELP on "Quality Seed Production in Field Crops"

2022-23

- Seed Hub project "Creation of Seed Hubs for Increasing Indigenous Production of Pulses"
- Seed Hub project "Creation of Seed-Hubs for Enhancing Quality Seeds Availability of Major Oilseeds Crops-Groundnut"
- Financial Assistance for Certified Seed Production - Pulse Crop Under NFSM
- Certified Seed Production of Groundnut Under NMOOP
- RKVY Project "Seed Replacement Rate Enhancement"
- ELP on "Quality Seed Production in Field Crops"

2023-24

- Seed Hub project "Creation of Seed Hubs for Increasing Indigenous Production of Pulses"
- Seed Hub project "Creation of Seed-Hubs for Enhancing Quality Seeds Availability of Major Oilseeds Crops-Groundnut"
- Financial Assistance for Certified Seed Production - Pulse Crop Under NFSM
- Certified Seed Production of Groundnut Under NMOOP
- RKVY Project "Seed Replacement Rate Enhancement"
- ELP on "Quality Seed Production in Field Crops"

2024-25

- Seed Hub project "Creation of Seed Hubs for Increasing Indigenous Production of Pulses"
- Seed Hub project "Creation of Seed-Hubs for Enhancing Quality Seeds Availability of Major Oilseeds Crops-Groundnut"
- Certified Seed Production of Groundnut Under NMOOP
- RKVY Project "Seed Replacement Rate Enhancement"
- ELP on "Quality Seed Production in Field Crops"

RECOMMENDATIONS FROM THE DEPARTMENT OF SEED SCIENCE AND TECHNOLOGY FOR SCIENTIFIC COMMUNITY

2023-24

Heat stress mitigation through seed priming in wheat (*Triticum aestivum* L.)

It is recommended to scientific community to grow wheat variety GW 366 in late sowing condition with seed priming of salicylic acid 50 ppm (Hormonal Priming ((50ml/l) for 14 hours followed by shade drying recorded the highest grain and biological yield per plant to mitigate heat stress.

Table 6.4.139 PG: Awards/recognition received by faculty members (Department of of Seed Science and Technology)

Sr. No.	Name of Faculty	Name of Award	Authority	Year
1.	Dr. J. B. Patel	Dr. A. P. J. Abdul Kalam Scientist Award - 2020	The Society of Tropical Agriculture, New Delhi	2020
2.	Dr. J. B. Patel	Best Teacher Award - 2021	Agro Environmental Development Society	2021
3.	Dr. J. B. Patel	Global Eminent Teacher Award	Vij Trust, Thirunindravur, Tamil Nadu	2022
4.	Dr. J. B. Patel	Best Seed Scientist Award	Agri Meet Foundation, India	2022
5.	Dr. J. B. Patel, Dr. C. A. Babariya, Dr. J. R. Sondarva and D. V. Savaliya	Best Performing Groundnut Seed Hub Centre Award	ICAR - DGR, Junagadh	2023
6.	Dr. Jyoti R. Sondarva	Best Poster Presentation	Indian Society of Seed Technology	2023
7.	Dr. J. B. Patel, Dr. C. A. Babariya, Dr. J. R. Sondarva and D. V. Savaliya	Best Poster Award	National Conference on Paradigm and Dynamics of Digital Horticulture for Food, Nutrition and Entrepreneurship held at JAU, Junagadh from 28-31 May, 2024 organized jointly by ASM foundation and JAU, Junagadh	2024
8.	Dr. J. B. Patel, Dr. C. A. Babariya, Dr. J. R. Sondarva and D. V. Savaliya	Best Performing Groundnut Seed Hub Centre Award	Annual Groundnut Meeting on Groundnut held at Rajasthan College of Agriculture, Maharana Pratap University of Agriculture and Technology, Udaipur during 18-20 March, 2025	2025

Table 6.4.140 PG: Awards received by PG degree students (Department of Seed Science and Technology)

Sr. No.	Name of Student	Name of Guide	Name of Award	Awardee	Year
2023-24					
1.	Mori Ruchit B.	Dr. L. K. Sharma	Best M.Sc. Thesis Award	GNFSU, Anand, IIMTU, Meerut and HARWS, Agra	2023

Table 6.4.141 PG: Year-wise NET qualified PG/Ph.D. Students in Seed Science and Technology

Sr. No.	Year	No. of students qualified NET
1.	2020-21	NET Exam not conducted
2.	2021-22	03
3.	2022-23	-
4.	2023-24	NET Exam not conducted
5.	2024-25	-
	Total	**03**

Table 6.4.142 PG: Research publications of faculty Members (Department of Seed Science and Technology)

Sr. No.	Particular	Number of publications during Last Five Years
1.	National/International Journal	45
	6.0 and above	07
	4.0-6.0	33
	< 4.0	05
2.	Books Published/Book Chapter	06
3.	Practical Manuals	05

Table 6.4.143 PG: Seminar / workshop / symposia organized by the Department Seed Science and Technology during 2020-21 to 2025-26

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2020-21				
1.	Online Five days Vocational Training on "Imperatives of Seed Production, Legislation and Seed Testing Quality Assurance Paradigm"	01/02/21 to 05/02/21	Online	150

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2021-22				
1.	Seed production in field crops	18/08/2021	JAU, Junagadh	50
2.	Five Days online vocational training programme on "Recent Advances in Seed Production Technologies of Field Crops"	07/02/22 to 11/02/22	Online	50

6.4.2. FACULTY STRENGTH (AS OF 31-07-2025)

Table 6.4.144 PG: Details of faculty strength of the Departmetn of Seed Science and Technology

Sr. No.	Sanctioned Faculty for PG	Faculty in place	Vacant position	Faculty recommended by the ICAR	Faculty Sanctioned by GoG
1.	Professor	1*	-	Note recommended by ICAR	1
2.	Associate Professor	2**	1		1
3.	Assistant Professor	4**	1		3
	Total	7	2		5

Note: *Faculty member assigned for teaching and research works. **Faculty members assigned for teaching and extension duties.

6.4.3 TECHNICAL /SUPPORTING STAFF (AS OF 31-07-2025)

Table 6.4.145 PG: Details of technical/supporting staff strength as of 31.07.2025 (Department of Seed Science and Technology)

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Staff sanctioned by the GoG/ICAR
1.	Technical/Supporting staff	18*	10	24
2.	Administrative staff	2	2	4
	Total	20	12	28

*Among the four technical staff working on pooled basis, one each is working at the Dept. of GPB, Dept. of Agronomy, College of Agriculture, Motabhandariya, Amreli and Agriculture Research Station, Talaja.

6.4.4. CLASSROOMS AND LABORATORIES

Table 6.4.146 PG: Classroom infrastructure in the department

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Seed Science and Technology					
1.	PG Classroom 1	104	70	Teaching, Seminar, Farmers Training Meeting	Air Conditioning, LCD Projector, Laptop, Screen, Tables, Chairs, Audio Video Visuals

PG Classroom

PG Students Working in the Seed Testing Laboratory

Table 6.4.147 PG: Departmental PG laboratories established (As of 31-07-2025)

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Seed Science and Technology					
1.	PG / Seed Testing Laboratory	188	25	Practical work of students, Experimental work of PG students, Departmental research work, STR storage trials	Stools, Platform

PG Seed Testing Laboratory

Germination Room/Chamber

Table 6.4.148 PG: List of major equipment available with the Department of Seed Science and Technology

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
SEED SCIENCE AND TECHNOLOGY				
1.	PG/Seed Testing Laboratory	Plant growth chamber	1	8.96
2.		Dehumidifier	1	1.09
3.		Double door seed germinator	1	1.60
4.		Seed analyzer	1	1.42
5.		Vacuum seed sealing machine	1	2.59
6.		Moisture meter	1	2.12

Major equipment's available in department

Plant Growth Chamber

Vacuum Seed Sealing Machine

Double Door Seed Germinator

Seed Analyzer

Moisture Meter	Dehumidifier

Table 6.4.149 PG: Farm facilities at the Department of Seed Science and Technology

Sr. No.	Name of Farm/ Cafeteria	Area (hectare)	No. of Experiments continue		Details of activities
			Departmental	Students	
Department of Seed Science and Technology					
1.	Sagdividi Farm	Total- 75.83 ha. Cultivated - 64.61 ha.	3 Experiments per year	5-6 students experiment per year	Departmental Research Experiments, STR field experiments, Students experiments, Quality (Breeder/Foundation/Certified / Truthful) Seed Production of Groundnut, Pigeonpea, Chickpea, Wheat, Soybean, Mungbean, Urdbean and Sesame

Sagadividi Farm

Table 6.4.150 PG: Theory and Practical batches for the PG program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semesters	Batch of students in theory class	Batch of students in practical class
1.	PG	Odd	1 Batch (4 students)	1 Batch (4 students)
2.		Even	1 Batch (4 students)	1 Batch (4 students)

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The theory note is intensively prepared by the teachers from a variety of sources, including research articles, textbooks, and reference materials, and given to the students for their reading.
- Students gain real-world experience in the department's laboratory. The two most useful books for students studying Seed Science and Technology are "Seed Technology: Progress and Recent Advances," which was edited by Dr. J. B. Patel and Dr. M. A. Vaddoria, published by NIPA, New Delhi, in 2018, and "Multiple Choice Questions: Seed Science and Technology," which contains 8,000 multiple-choice questions and was edited by Dr. J. B. Patel and published by Brillion Publishing, New Delhi, in 2020. Both of these books may be found in the department's library as well as in the university library.
- Visits to diverse agro-based industries and various crop research centers to impart real-world knowledge of the topic.
- Between 2011 and 2013, the department created a one-of-a-kind museum called the **"High Tech Museum on Seed Production Technology"** under the RKVY project. The museum was designed to train farmers and give PG students hands-on experience. This museum is strongly backed by charts and models that provide the anatomy of seed, seed germination, flower structure, means of pollination, cell division, double fertilization, gamete development to seed maturation, and seed production technology of wheat, groundnut, cotton, bajra and castor.

PRACTICAL AND HANDS-ON-TRAINING

- In accordance with the course curricula for various courses such as floral biology of monocots and dicots, pollen morphology, pollen germination and pollen sterility, seed production technology, seed enhancement techniques, seed vigour and viability studies, etc., the students are receiving hands-on instruction.
- Students are often exposed to agro-based industries and various crop research facilities in order to gain practical understanding of the subject.

6.4.6. SUPERVISION OF STUDENTS IN PG DEGREE PROGRAM

Every student is ably guided and supervised by the Advisory Committee for thesis research with a major guide and at least three members of whom two are from outside the major field of specialization. The programme of research proposed by the advisory committee and approved by the Dean (Post Graduate Studies) is carried out by the student

under the supervision of advisory committee. The advisory committee meets to discuss research problems, synopsis, visit to farms/lab, and guide the students for their experiment, thesis presentation before *kachha* bound, *etc*. As shown in Table 6.4. 151, overall, 29 students were guided by the department for their M. Sc. (Agri.) degree program in Seed Science and Technolgy for the accreditation cycle.

Table 6.4.151 PG: Number of PG students supervised (guided) by faculty in the last five years in Seed Science and Technology

Degree Program	No. of students supervised (guided) by faculty for PG Degree	No. of qualified faculty members
M. Sc. (Agri.) in Seed Science and Technology	29 students	11

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC*.) (2020-21 TO 2025-26)

- At regular intervals, feedback is collected from students **(Annexure 6.4.7a),** progressive farmers, and industrialists, and the department uses this input to improve teaching, seed production, marketing, and its new research program.
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per schedule, wherein Deans of all faculties, nominated Professors and Research Scientists of different crops and renowned academicians are members. The Academic Council makes decisions on academic issues for implementation in the university/college for the advancement of the teaching and research standards of post graduate students, based on the advice of the Board of Study.
- ***STUDENT ADVISORY COMMITTEE:*** The Student Advisory Committee is established at the time the student enrols in the postgraduate program for his/her PG graduation in Seed Science and Technology discipline. It comprises the Major Guide, Minor Guide, and two to three committee members from the major course, minor course, and allied subjects for each student. From choosing the topic of their PG research, presenting their synopsis and submitting it, participating in PG seminars, completing preliminary *viva voce* exams, presenting their thesis before submitting their kaccha bound thesis, and taking the thesis *viva voce* exam, students must conduct their PG research work under the close supervision of this advisory committee. The PG research work, whether conducted in the field or in the lab, was also reviewed by this committee, who provided insightful advice throughout the inspection. The students are also talking about the instructional and hostel-related issues, and the administration is responding accordingly. Furthermore, the Professor and Head convene a group of researchers who are involved in the PG instruction and mentorship of the SST field in order to talk about the PG research project assigned to students and prevent repetition.
- ***STUDENT REPRESENTATIVE COUNCIL:*** It is active in the institution, engaging in regular discussions with students about the learning and teaching process, soliciting their input, and acting appropriately.

- **PG Board of Studies:** The Faculty Research Committee operates at the faculty level and is responsible for evaluating and guiding the research proposals and progress of both faculty members and research scholars. It comprises senior professors, subject matter experts, and representatives from related departments. The committee ensures that research work aligns with the academic and ethical standards of the university. Recommendations made by the FRC are forwarded to the Board of Studies or Academic Council for further consideration and approval.
- ***FACULTY GROUP OF SUBJECTS:*** The faculty group of subject's meetings for crop improvement is constructed, and the meeting held annually under the Convener ship of Professor and Head, Department of Genetics and Plant Breeding. The Vice Chancellor, Director of Research, Director of Extension Education and Registrar of the university, and also the Dean (Agriculture) attends the meeting every year, during which the departmental activities, the state of post graduate research issues, challenges in doing post graduate research, the workload of each faculty member, the scientists research paper publications, the faculties' training requirements, etc. are discussed, and the recommendations made during the meeting are implemented. **(Annexure 6.4.7b).**
- The details of FGMs of Crop Improvement group, covering the period from 2020-21 to 2024-25, are as follows:

Table 6.4.152 PG: Year-wise Faculty Group of Subject Meetings of Crop Improvement

Sr. No.	Year	Convener	Dignitaries remaining present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	Suggestions received from concerned FGS meeting; corresponding action taken report are submitted in ***Annexure 6.4.7b***.
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal and Dean	
4.	2023-24	Professor and Head	Director of Research and Dean PG Studies, Registrar, Director of Extension Education, Associate Director of Research and Principal and Dean	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research and Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal and Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR THE LAST FIVE YEARS

Table 6.4.153 PG: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
M. Sc. (Agri.) in Seed Science and Technology	2020-21	4	4	0.00
	2021-22	7	3	57.14
	2022-23	7	6	14.28
	2023-24	5	5	0.00
	2024-25	4	4	0.00
	2025-26	7	7	0.00

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

CERA: The departmental faculty and PG stuents utilize the ICAR Consortium of e-resources in Agriculture (CeRA), which covers more than 3000 scholarly journals pertaining to the agriculture and allied sciences which are available in full text, in thesis research and credit seminar presentations. The theory and practical lectures are also updated with latest research findings from the published articles.

E-BOOKS: The University Library's possession of Springer e-books, comprising nearly 1900 books in virtual format, is put to use effectively by the PG students to advance their learning. In addition, from 200 Indian e-books available at the libraray, the relevant BSMA PG books are also utilized for reference.

KRISHIKOSH: The departmental theses are also timely submitted to Krishikosh, the theses respository of ICAR. The available theses in the repository are also widely utilized to identify the research gaps.

INTERNET: Digital library with computers and internet facility is available and used by the PG students. Wi-fi Internet facility is also provided at all the hostels round the clock.

ICT PLATFORMS: The department also takes pride in motivating students to opt for statistical analysis using standard online tools (like JOSARDA of the university) and build their peer-network with Google Scholar, ResearchGate, Academia, and other platforms.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, CoA, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: 31.01.2026
Place: Junagadh

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Annexure 6.4.7a

Postgraduate students' feedback report for AY 2024-25

Particulars of the Department of Seed Science and Technology, CoA, JAU, Junagadh	Average Score	Rating
Departmental Teaching - Learning Process		
➢ How do you rate Student- Teacher relations?	3-4	Very good
➢ How do you rate for completion of courses by the teachers?	3-4	Very good
➢ How do you rate fairness in internal assessment in the department?	3-4	Very good
➢ How do you rate practical exposure from the department?	3-4	Very good
➢ How do you rate for statistical analysis facility provided by the department	3-4	Very good
➢ Did teachers motivate /support you for solving your personal problems	3-4	Very good
P.G. Research facility		
➢ How do you rate for your selection of research topic?	3-4	Very good
➢ Did you get enough facilities for conducting experiment?	3-4	Very good
➢ How do you rate material provided for conducting experiment?	3-4	Very good
➢ How do you rate for major Guide for supporting in completion of Seminar and thesis project	3-4	Very good
Library facilities		
➢ Books related to your subject are available in the library?	3-4	Very good
➢ Internet facilities for learning and research purpose?	3-4	Very good
➢ Availability of research journals (online /offline) for review purpose?	3-4	Very good
➢ How do you rate for delivery of books system ?	3-4	Very good
Hostel Facility		
➢ How do you rate Hostel facilities?	3-4	Very good
➢ How do you rate wi-fi facility?	1-2	Average
➢ How do you rate for food quality in mess?	1-2	Average
➢ How do you rate cleanliness in the hostel ?	1-2	Average
Sports facility		
➢ How do you rate indoor sports facility?	3-4	Very good
➢ How do you rate outdoor sports facility?	3-4	Very good

Ratings are as per following

Very good	Good	Average	Poor
4	3	2	1

Annexure 6.4.7b

Feedback received in the Faculty Group Meetings of Crop Improvement

Action Taken report of 6th Faculty Group of Crop Improvement meeting held during 27th November, 2020 at Seminar Hall, Department of Genetics and Plant Breeding, College of Agriculture, JAU, Junagadh.

Sr. No.	Suggestions	Action Taken
6.1	The students of UG and PG studies should be encouraged for competitive examinations as well as they are encouraged to achieve different teaching /research fellowships. **(Action: Dept of GPB and SST, CoA, JAU, Junagadh)**	The students of UG and PG students were encouraged for various competitive examinations as well as they were encouraged to achieve different teaching/research fellowship including SHODH.
6.2	Practical Manuals of different subjects should be sent (SAU's of Gujarat and other states, research scientists and colleagues etc.) to review the content and try to get the good remarks. **(Action: Dept of GPB and SST, CoA, JAU, Junagadh)**	Complimentary copy of two practical manuals had been sent to Professor and Head Dept. of GPB of different SAU's of Gujarat.
6.3	Take the review of last year ELP students regarding Online Learning by creating the Google Form. **(Action: Dept of GPB and SST, CoA, JAU, Junagadh)**	Good review had been received from last year ELP students regarding online learning but many students were interested to prefer offline mode
6.4	PG research problem should be fixed by considering the vision-2050 demand. **(Action: All Major Guide of Dept. of GPB and SST, JAU, Junagadh)**	Due to the COVID-19 Pandemic situation most of the students have taken experiment on variability parameters in different crops. While formulating PG research programme of newly admitted students, the themes and sub-points of vision-2050 will be taken into consideration
6.5	PG research work of PG students should be highlighted at ICAR level for the different National/International awards. **(Action: All Major Guide of Dept. of GPB and SST, JAU, Junagadh)**	PG students of both departments were encouraged for national/International awards related to PG research
6.6	Departmental research, departmental research papers, PG thesis and PG research papers should be used and cited while writing new research papers for raising the citation and H-index of the individuals. **(Action: All Major Guide of Dept. of GPB and SST, JAU, Junagadh)**	All the major guide and PG students informed regarding inclusion of review/ references of local recommendation or JAU research related to concerned crop in the thesis and cited while writing research papers.
6.7	Research Paper should be published in good NAAS rated journals. If journal doesn't have NAAS rating look for impact factor of the journal. **(Action: All Major Guide of Dept. of GPB and SST, JAU, Junagadh)**	All the major guide and PG students informed to publish the papers in good NAAS rated journals.
6.8	The subject materials for UG students updated regularly on AIMS portal. **(Action: Dept of GPB, CoA, JAU, Junagadh)**	The subject materials for UG students were uploaded in AIMS portal as well as circulate among students via Google Classroom in each semester by the concerned course teacher
6.9	Identify the Endangered species based on Red Data Book Review and deposit the seeds of the species available in our area in the NBPGR. **(Action: Dept of GPB, CoA, JAU, Junagadh)**	The planting material of many endangered species collected from different region of Gujarat and conserve the same in the different garden of the department. The

Sr. No.	Suggestions	Action Taken
		seed of the collected species will be deposit in the NBPGR after proper establishment of the species.

APPENDIX-I (B)

Action Taken report of 7th Faculty Group of Crop Improvement meeting held during 1st December, 2021 at Seminar Hall, Department of Genetics and Plant Breeding, College of Agriculture, JAU, Junagadh.

<table>
<tr><th>Sr. No.</th><th>Suggestions</th><th>Action Taken</th></tr>
<tr><td>7.1</td><td>Need to promote the students to take research works in horticultural crops and to strengthen the breeding of fruit, flower and vegetable crops.
(Action: All major guide)</td><td>During last seminar series most of the PG students delivered the seminar related to fruit crop breeding and few students also allotted research works in the vegetable crops. However, Ph. D. student of floriculture has initiated worked in breeding aspects on flower crops.</td></tr>
<tr><td>7.2</td><td>Make more efforts for standardization of plant tissue culture protocol in coconut. To complete the task, take help or make MoU with CPCRI,
Kasaragod scientists.
(Action: HOD, Dept of GPB, COA, JAU, Junagadh)</td><td>With view for standardization of plant tissue culture protocol in coconut, Dr. Rajiv Kumar attended the ICC-COGENT Tissue Culture workshop related to coconut tissue culture at Kasaragod which was organized by CPCRI during 16 -20 May, 2022.</td></tr>
<tr><td>7.3</td><td>Experiments of PG students may be taken on targeted plant breeding work using genetic engineering tools, marker assisted breeding etc.
(Action: All major guides)</td><td>Ph. D. students of department of GPB had initiated their research works on genetic engineering tools, QTL Mapping and GWAS etc.</td></tr>
<tr><td>7.4</td><td>Send the faculty members for training according to expertise require in the department.
(Action: HOD, Dept of GPB and SST COA, JAU, Junagadh)</td><td>The following trainings were attended by the faculties during 2022:
<table>
<tr><th>Name of Faculty</th><th>Time period</th><th>Institute/ Organization</th><th>Title of training/workshop</th></tr>
<tr><td>Dr. Rajiv Kumar</td><td>16/05/22 to 20/05/22</td><td>CPCRI, Kasargod</td><td>ICC-COGENT Tissue Culture workshop</td></tr>
<tr><td>Dr. S. B. Chaudhari
Dr. M. H. Sapovadiya
Shri. H. R. Meta</td><td>18/01/22 to 07/02/22</td><td>SDAU, S. K. Nagar</td><td>Conservation and utilization of potential crops in the era of climate changes</td></tr>
<tr><td rowspan="2">Dr. C. A. Babariya</td><td>08/06/22 to 10/06/22</td><td>EEI, AAU, Anand and JAU, Junagadh</td><td>Success story writing skills for print & electronic media</td></tr>
<tr><td>21/03/22 to 26/03/22</td><td>ICAR-NBPGR, Regional Station, Thrissur</td><td>Plant Taxonomy for Plant Genetic Resources Management</td></tr>
</table>
</td></tr>
</table>

Sr. No.	Suggestions	Action Taken
		Dr. L. J. Raval | 26/12/22 to 31/12/22 | EEI, AAU, Anand | Presentation skills for professional excellence
7.5	Every faculty should give their H index; I 10 index and total number of citations include in the proforma. **(Action: All major guides)**	Noted and included in 8th FG of CI report.
7.6	There is need to organize production technique related training for banana growers to promote its cultivation in collaboration with other disciplines at Fruit Research Station, JAU, Mangrol. **(Action: HOD, Dept of GPB, COA, JAU, Junagadh and Assistant Res. Scientist, FRS, JAU, Mangrol)**	The training programme for banana growers is not organized at FRS Mangrol. Besides, while banana farmers visited Dept of GPB for purchase of sapling and awareness and production technologies guidance is given to the farmers on personal contact and on mobile basis.
7.7	Every faculty should try to publish their research in reputed journals. **(Action: All major guides)**	All the major guide and PG students informed to publish the papers in good NAAS rated journals and many faculties and PG students of GPB had published research articles in reputed journals.

APPENDIX-I (C)

Action Taken report of 8th Faculty Group of Crop Improvement meeting held during 30th January, 2023 at Seminar Hall, Department of Genetics and Plant Breeding, College of Agriculture, JAU, Junagadh

Sr. No.	Suggestions	Action Taken
8.1	To promote awareness among farmers about Banana Tissue Culture plantlet selling at Department of Genetics and Plant breeding, Junagadh Agricultural University, the department of GPB should give the advertisement in *FM Janvani* radio and display the advertisement on our university website. **(Action: HoD, Dept. of GPB, CoA, JAU, Junagadh)**	Advertisement regarding selling of Banana Tissue Culture plantlet was display on JAU website.
8.2	Very good photographs that are present in power point presentation of faculty group of subjects should also be included in hard copy of report. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	Photographs are included in the report and presentation by both the departments.
8.3	Faculty group report of Crop Improvement should include teaching load of all the courses taught and TV/ Radio talk delivered by each faculty members. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	Teaching load of all the courses taught and TV/ Radio talk delivered by each faculty members are included in report.
8.4	List of external thesis Examiners/Evaluators/Experts in the Junagadh Agricultural University of both the disciplines should be revised. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	List of external thesis Examiners/Evaluators/Expert revised and also send to the Principal and Dean CoA, JAU, Junagadh.
8.5	Add information regarding total citation and last five-year citation, h-index and i-10 index etc. in the faculty group report for each member of Crop Improvement. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	Total citation, last five-year citation, h-index and i-10 index are included in the report and presentation by both the departments.
8.6	Give the details regarding status (in Rs) of revolving fund generated in the department. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	All income generated by the department in various B.H. including revolving funds budgets is included in the report and presentation.
8.7	Deposit seeds of important/ endangered plant species (Eg.: *Striga*, Milching Palm, Local Orchids etc.) of Saurashtra area at	Collection of propagating material of several tree/plant

Sr. No.	Suggestions	Action Taken
	NBPGR, New Delhi. (**Action: HoD, Dept. of GPB, CoA, JAU, Junagadh**)	species made and planted at Paritalav as well as at family block of Motibaug botanical garden. The seed of endangered plant species will be collected, identified and deposited to NBPGR, New Delhi.
8.8	Motivate the students for JRF/ SRF examination/preparation and arrange additional classes JRF/SRF classes in the department. (**Action: HoD, Dept. of GPB, CoA, JAU, Junagadh**)	Noted and implemented. Last year 10 students cleared ASRB/CSIR NET exam.
8.9	Aware the students about different scholarships like PM Scholarship, SHODH etc. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	Noted and implemented. Most of the Ph. D. students getting the SHODH fellowship or other fellowship.
8.10	Courses related to Seed Science and Technology subject [UG (GPB 4.4 (2+1)) and polytechnic (GPB 6.4 (0+2)] should be offered and taught from next year by the faculty of Seed Science and Technology. (**Action: HoD, Dept. of SST, CoA, JAU, Junagadh**)	GPB 4.4 (2+1) is offered to Dr. Jyoti R. Sondarva (theory) and Shri. D. V. Savaliya (practical) combinely and polytechnic course GPB 6.4 (0+2) is offered to Dr. V. R. Akabari, Asstt. Res. Scientist, MORS, JAU, Junagadh.
8.11	PG students should promote to work in Biotechnology Laboratory of department of Genetics and Plant Breeding. (**Action: HoD, Dept. of GPB, CoA, JAU, Junagadh**)	Few M. Sc. and most of Ph. D. students doing their molecular work in Biotechnology Laboratory of department of Genetics and Plant Breeding

APPENDIX-I (D)

Action Taken report of 9th Faculty Group of Crop Improvement meeting held during 8th February, 2024 at Seminar Hall, Department of Genetics and Plant Breeding, College of Agriculture, JAU, Junagadh

Sr. No	Suggestions	Action Taken
9.1	The result of supplementary courses should be placed below the result of regular courses in the report and ppt presentation. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	The results of supplementary courses are placed below the result of regular courses in the report and ppt presentation for better insight of results.
9.2	The practical manual published by the department for UG should be send for review to other university of SAU and outside the Gujarat. **(Action: HoD, Dept. of GPB, CoA, JAU, Junagadh)**	The preparation of new practical manuals as per the 6th Dean's committee report are under progress and will send for review to other universities of SAU's and out side the Gujarat.
9.3	The PG student admitted year should be incorporated in the table of PG student progress. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	The PG student admitted year is mention in the report and ppt presentation.
9.4	Include the PG placement data in the report if available. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	The PG placement data is incorporated in the report and ppt presentation.
9.5	Deposit seeds of important and rare plant/tree species of Saurashtra area at NBPGR, New Delhi. **(Action: HoD, Dept. of GPB, CoA, JAU, Junagadh)**	The process of identification and collection of seeds of important and rare plants/trees species is under way and once confirmed, the seeds will be deposited in the NBPGR.
9.6	The PG students feed-back report should be included in the report.	The PG students feedback report is incorporated in the report and ppt

Sr. No	Suggestions	Action Taken
	(Action: HoD, Dept. of SST, CoA, JAU, Junagadh)	presentation.
9.7	The Ph.D. students securing various scholarship should be involved in teaching activities of UG courses. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	The Ph. D. students of GPB and SST department receiving various scholarship are already involved in UG/Polytechnic teaching activities whenever needed or when teachers are on leaves.

APPENDIX-I (E)

Action Taken Report of 10th Faculty Group Subject (FGS) of Crop Improvement Meeting held on 9th January, 2025 at Seminar Hall, Department of Genetics and Plant Breeding, College of Agriculture, J.A.U., Junagadh

Sr. No.	Proceeding Suggestions	Action taken
10.1	Research fellows and supporting staff under the ad-hoc scheme should be included in the staff position in report. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	No any research fellow/supporting staff under ad-hoc schemes in both the departments (GPB and SST).
10.2	Encourage UG and PG students for JRF and SRF/NET examination and the classes for should be conducted in both the department. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	UG and PG students are encouraged for JRF/SRF/NET and Mock Test for NET Exam was conducted in GPB on 29.08.2025 and JRF/SRF classes to be taken in near future by both the departments (GPB and SST).
10.3	Encourage PG students and faculty to publish their research in reputed journals with a high NASS rating or impact factor. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	PG students and new faculty are encouraged to publish their research in reputed journals and during 2024-25, two research paper were published in *Plant Science Today* with NASS rating of 6.9 by Dept. of SST.
10.4	Include the information of strengthening the department in the report. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	Information included in report by both the departments (GPB and SST).
10.5	Provide a list of books purchased by the library following departmental recommendations. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	Information included in report by both the departments (GPB and SST).
10.6	Instead of complete synopsis presentation of Ph. D students, their research progress along with good quality photographs should be presented. **(Action: All the members of FGS of CI, JAU, Junagadh)**	Noted. Four Ph.D. students of GPB will present their synopsis with research progress and photographs. In Dept. of SST, no any student has to present his/her Ph. D. synopsis this year.
10.7	The teachers involved in polytechnic/UG/PG teaching if any should submit their teaching information to respective departments. **(Action: All the members of FGS of CI, JAU, Junagadh)**	Information included in report by both the departments (GPB and SST).
10.8	The teachers/scientists should give their extension activities in detail (Radio talk/TV talk/popular lectures, popular article, activities in *Krishi Mela* and *Krishi Mahotsv* etc.) in the report. **(Action: All the members of FGS of CI, JAU, Junagadh)**	Information included in report by both the departments (GPB and SST).

6.4:

Self-Study Report for M. Sc. (Agri.) in Biochemistry

6.4. SELF-STUDY REPORT FOR M.SC. (AGRI.) IN BIOCHEMISTRY AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PG DEGREE PROGRAM

The Department of Biochemistry was established in 1980 under the ICAR Development Plan and has since developed into a well-equipped centre for advanced teaching and research. The Department has been offering the M.Sc. degree programme since 1985 and is supported by modern instructional and laboratory facilities. Its academic and research activities encompass a wide range of specializations, including plant and nutritional biochemistry, biochemistry of fruit ripening, molecular biology, biochemistry of biotic and abiotic stresses, and environmental biochemistry. In addition to the postgraduate degree programme, the Department also offers courses to undergraduate and postgraduate students from various departments of the constituent colleges of the University. Biochemistry is widely chosen as a minor and supporting subject by postgraduate students across disciplines. The curriculum is comprehensively designed to cover fundamental, applied, and emerging areas of biochemistry.

Department of Biochemistry, College of Agriculture, JAU, Junagadh

STEPPING-STONES OF THE DEPARTMENT

- NABL accreditation of the food testing laboratory in the year 2012-14, 2014-16, 2016-18, 2018-20, 2020-22, 2022-24 and 2025-29.
- Over 569738 samples from other departments, colleges, universities, research stations, farmers and entrepreneurs have been analysed as of 2024-25 in Food Testing Laboratory, Junagadh Agricultural University.
- Accreditation team from ICAR (2020-21) appreciated the Food Testing laboratory consisting of world class facility for biochemical and molecular analytical services in India. Even foreign students from University of Venda, South Africa and Iran came for work at the Food Testing Laboratory, Junagadh Agricultural University, Junagadh.

- About 25 students of dissertations/hands on trainings from other universities have been done in Food Testing Laboratory, Junagadh Agricultural University, Junagadh along with 80 M.Sc. and Ph.D. students of Biochemistry and Biotechnology during the last five years.
- Work on biosensor has been appreciated at world level, with its patent granted on 13/07/2023 (Patent No 438688).
- Work of Food Testing Laboratory team on nano- fertilizer is embarked with an overarching objective to reduce fertilizer use by 1/5th of present consumption. It will soon be a boon for the farmers across the country.

MISSION, GOALS AND OBJECTIVES

MISSION:

- To advance education, research, and innovation in biochemistry with emphasis on plant, nutritional, and environmental aspects, thereby generating knowledge and technologies that enhance crop productivity, food quality, and sustainable agricultural development.

Goals:

- **Academic Excellence:** To impart high-quality postgraduate education in Biochemistry and equip students with advanced analytical and research skills.
- **Research & Innovation:** To undertake basic and applied research in plant biochemistry, stress physiology, nutrition, and molecular biology for addressing agricultural challenges.
- **Infrastructure Development:** To strengthen laboratories and facilities, particularly the Food Testing Laboratory, as a national-level hub for biochemical and molecular analysis.
- **Capacity Building & Training:** To train students, researchers, and entrepreneurs in modern biochemical techniques, analytical methods, and emerging areas such as biosensors and nanotechnology.
- **Extension & Outreach:** To provide biochemical testing, consultancy, and innovative solutions that benefit farmers, industries, and policy makers.
- **Recognition & Collaboration:** To establish the department as a recognized center of excellence in biochemistry through collaborations, patents, and international engagement.

OBJECTIVES:

- To run M.Sc. programs in Biochemistry with specialization in plantbiochemistry.
- To develop advanced infrastructure for postgraduate teaching and research.
- To strengthen the Food Testing Laboratory for biochemical and molecular analyses.
- To offer training and workshops for students, faculty, and researchers.
- To conduct research on crop quality, stress tolerance, fruit ripening, and environmental pollution.
- To support students in achieving academic excellence and professional growth.

ACCOMPLISHMENTS/ ACHIEVEMENTS OF LAST FIVE YEARS:

EXTERNAL FUNDED PROJECTS IN THE DEPARTMENT OF SEED SCIENCE AND TECHNOLOGY (*AS OF 31-07-2025*)

2020-21:

1. Studies on phytochemicals and metabolomics profiling of seaweeds

The seaweed resources viz., Green, Red and Brown seaweeds analyzed through MS/MS based platform showed presence of 375 unique compounds. These seaweeds were found to contain important oil content, vitamin D3 and many bioactive compounds that can be used as nutraceutical products. In case of ω-3 polyunsaturated fatty acids, eicosapentaenoic acid (EPA) was found in seaweed species, viz., *Sarconemafiliforme* (5.02%) and *Spatoglossum asperum* (4.04%). Vitamin D-3 was found in *Caulerpa Lenthilifolia* (16.7%), *Caulerpa sertulorioides* (8.5%), *Ulva fasciata* (10.7%), *Halimeda tuna* (12.7%), *Hydroclatharusclathratus* (18.9%), *Halymeniavenusata* (6.5%), *H. porphyraeformis* (20.6%), *Dictyopteris marginatum*, *Gelidiopsisrepens* (18.2%) and *Heterosiphonia muelleri* (26.1%). Some species of seaweeds viz, *Dictyopterisdelicatula* (2.68%), *Heterosiphonia muelleri* (0.24%), *Dictyopterismarginatum* (*stoecospermum*) (4.07%), *Spatoglossum asperum* (8.1%), *Padina gymnospora* (4.86%), *Caulerpalenthilifolia* (0.96%) contained docosahexaenoic acid (DHA). These compounds are notfound in plants

2021-22:

1. Biochemical appraisal of enzymatic activities from soils of permanent plot experiment at JAU, Junagadh

The soil enzyme activity studied viz., urease, acid phosphatase, alkaline phosphatase, Galactosidase and nitrate reductase, from the plot having different fertilizer applications, remains higher during the mid-season and found to be lower before sowing and after harvest of the crop. Minimum variation of enzyme activity was observed in a plot of only FYM treatment (25 tons/ha). The activity of urease, β–Galactosidase and β–gluosidase as well as acid phosphatase and alkaline phosphatase was enhanced by balance fertilizer application (100 % NPK (25:50:50) as per soil test as well as 25 tons/ha FYM application. The pod yield of groundnut was remained highly positively correlated with urease, acid phosphatase and alkaline phosphatase enzyme activity.

2. Isolation and identification of entomopathogenic microorganisms from the soils of Junagadh district

The Scientific communities involved in microbial and entomological research are recommended to use native identified entomopathogenic microbes including *Pseudomonas putida* (MK415028.1), *P. monteilii* (KT881478.1), *P. knackmussii (KY324901.1)*, *P. fulva* (KC293832.1), *Bacillus subtilis* (MH141058.1), *B. thuringiensis* (KY003094.1), *B. clausii*(AB251924.1), *Enterobacter asburiae*(MK 467572.1), *E. cloacae* (JX514409.1), *Beauveria bassiana* (KC753382.1), *Metarhizium anisopliae* (KJ573520.1) and *Verticillium lecanii*(AJ292383.1) for the production of biofertilizer and biocontrol agent as they suppressed *Helicoverpa armigera*, and have PGPR activity.

3. Diversity analysis of fresh water diatoms through SEM-EDX from surface microalgae of water bodies of Junagadh region

The scientific community involved in diatom study of fresh water in context to climate change and environment are recommended to use cataloguing of fresh water diatoms collection images from water bodies in and around JAU, Junagadh. Total Forty-six species of diatoms were identified from water bodies of Junagadh, out of which eleven genera *viz., Cyclotella, Melosira, Navicula, Achnanthes, Amphora, Synedra, Nitzschia, Gomphonema, Hantzschia, Pinnularia* and*Fragillaria* were predominant.

The sizeable variation among the elements presents on freshwater algae through SEM EDAX showed the presence of all macro elements except phosphorus and nitrogen. All species of diatoms had higher amount of diversity indices including Shannon-Wiener diversity index (3.57) and Berger Parker Dominance (30.57). Morphometric analysis showed wider variability in location and species wise according to length (7.049µm to 43.08µm) and width (2.53µm to 23.44µm) as well as diversity indices too. Willington dam site showed maximum spp. variation of diatoms than the other location.

2022-23:

1. Biochemical analysis-based lipid indices of edible, non edible and medicinal herbs oils

Recommendation- I

Scientific community involved in lipid indices of edible oils research is recommended to use the sets of following biochemical based fatty acids calculation for the quality of oils and their lipid indices.

Recommendation- II

Scientific community involved in the essential oil research of the following crops are recommended to use marker bioactive compounds detected through GC MS platform

2. Diversity analysis of marine diatoms through SEM-EDX from surface microalgae of Saurashtra coastal belt

The scientific community working on diatoms of coastal belt of Saurashtra are recommended to use as ready references for diatoms diversity analysis done through Scanning electron microscopy. The diatom analysis of marine samples from three locations (Okha, Veraval and Aadri) identified fifty diatom species and most of them are pennate types. The *Cocconeis*spp, *Grammatophora*spp, *Fragilaria*sp, *Nitzschia*sp, *Navicula* sp., *Achnanthes*spp and *Licmophora* were found dominant diatoms on the surface of microalgae. Again, diatom abundance of *Cocconeis scutellum* were reported higher than 52% of total diatom considering three locations.

The energy dispersive X-ray spectroscopy (EDS) graph prepared for individual species of diatoms from SEM images observed that the frustules of the diatoms were other than Si. It has many elements at various sites attached to them. The catalogue of diatoms and alfa-diversity index revealed many diverse rich populations in coastal belt of Saurashtra region.

Table 6.4.154 PG: Awards/recognition received by faculty members (Department of Biochemistry)

Sr. No.	Name of Faculty	Name of Award	Authority	Year
1.	Dr. G. V. Marviya	Appreciation Certificate for act as a Senior Scientist & Head for Krishi Vigyan Kendra, Targhadia Centre during 'Certificate Course on Pesticide Management for Insecticides Dealers' organized by Junagadh Agricultural University, Junagadh during the year 2021 and 2022.	Junagadh Agricultural University	2023

Table 6.4.155 PG: Awards received by PG degree students (Department of Biochemistry)

Sr. No.	Name of Student	Name of Award	Year
1.	Patoliya Hinal	**Prime minister Fellowship** from A PPP Initiative of Science & Engineering Research Board (SERB) Department of Science & Technology, Government of India and Confederation of Indian Industry (CII) in the year 2023	2022-23
2.	Timbadiya Priyanka	**Women Scientist Award, Gold Medallist Award, Best Ph. D. Thesis Award and Excellence in Research Award** in 1st International Agriculture Conference on "natural Vs. Organic farming: in context to Bharatiya Agriculture" organized by Gujarat Natural Farming and Science University, Anand and Hindustan Agriculture Research Welfare Society and IIMTU, Meerut in the year 2023	2023-24
3.	Chovatita Nirbhay C.	**Best M. Sc. thesis Award** in 1st International Agriculture Conference on "natural Vs. Organic farming: in context to Bharatiya Agriculture" organized by Gujarat Natural Farming and Science University, Anand and Hindustan Agriculture Research Welfare Society and IIMTU, Meerut in the year 2023	2023-24
4.	Trivedi Sandhya Kiritbhai	Best Ph. D. thesis award – 2020-21: For Commendable Thesis work for Ph. D. Degree from The Gujarat Association for Agricultural Sciences (GAAS), Ahmadabad at 31st August, 2024	2024-25

Table 6.4.156 PG: Year-wise NET qualified PG/Ph.D. Students in Biochemistry

Sr. No.	Year	No. of students qualified NET
1.	2020-21	---
2.	2021-22	01
3.	2022-23	01
4.	2023-24	---
5.	2024-25	---
6.	2025-26	---
	Total	02

Table 6.4.157 PG: Research publications of faculty Members (Department of Biochemistry)

Sr. No.	Particular	Number of publications during the last five years
1.	National/International Journal	431
	6.0 and above	81
	4.0-6.0	324
	< 4.0	26
2.	Books Published/Book Chapter	43
3.	Practical Manuals	26

Table 6.4.158 PG: Seminar / workshop / symposia organized by the Department of Biochemistry during 2020-21 to 2025-26

Sr. No.	Title	Date	Place	No. of partici pants
2021-22				
1.	Hands-on training on "Pesticide Residues in Food and Environmental Samples"	09-13/ 08/ 2021	Department of Biochemistry, CoA, JAU, Junagadh (Jointly organized by Agilent University and Department of Biotechnology)	50
2024-25				
2.	National workshop on NABL Awareness Program including Soil Testing recognition program, titled "NABL Accreditation and Its Benefits"	20/07 /2024	Department of Biochemistry, College of Agriculture, JAU, Junagadh (Jointly organized by Department of Biotechnology and NABL)	85

6.4.2. FACULTY STRENGTH (AS OF 31-07-2025)

Totally four faculties are actively engaged in teaching and PG research of Biochemistry. However, four faculties from research and other departments are required to complete the academic of PG teaching and guiding. There are no any vacant posts in the department.

Table 6.4.159 PG: Details of faculty strength (Department of Biochemistry)

Sr. No	Sanctioned Faculty for PG	Faculty in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Professor	1+0	0	Not recommended by ICAR	1
2.	Associate Professor	1+3*	0		1
3.	Assistant Professor	2+1*	0		2
	Total	4+4*	0		4

* Faculty assigned for teaching and research from research stations/departments.

6.4.3 TECHNICAL /SUPPORTING STAFF (AS OF 31-07-2025)

Table 6.4.160 PG: Details of technical/supporting staff strength as of 31.07.2025 (Department of Biochemistry)

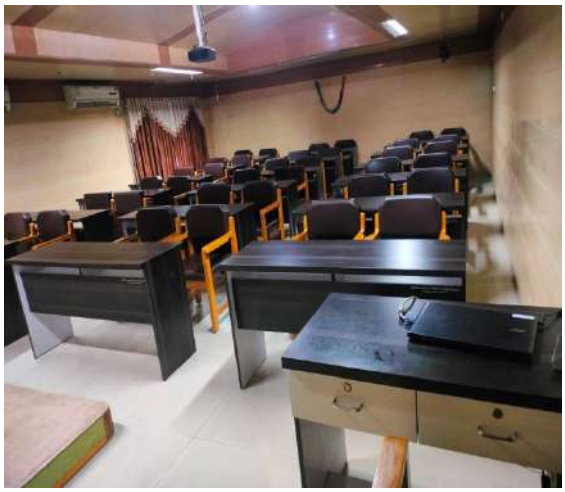
Sr. No.	Sanctioned staff	Staff in place	Vacant position	Recommended by ICAR	Staff sanctioned by the GoG
1.	Technical/Supporting staff	-	-	Not recommended by ICAR	-
2.	Administrative staff	-	1		1
	Total	-	1		1

6.4.4. CLASSROOMS AND LABORATORIES

Classroom for PG teaching is well furnished with AC, Projector, Computer, UPS and CCTV. Principal and Head of the Department are routinely monitored the classes taken by faculties either through CCTV or personally. PG laboratories are well equipped with instruments and equipments required for PG research in basic and applied field of agriculture.

Table 6.4.161 PG: Classroom infrastructure in the department

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Biochemistry					
1.	Classroom-PG	24.00	30	PG teaching	AC, Projector, Computer, UPS, CCTV
2.	Seminar hall	48.00	80	PG seminar, trainings, workshops	AC, Projector, Computer, UPS, CCTV



PG Classroom

Seminar Hall

The Food Testing Laboratory (FTL) at Junagadh Agricultural University, Junagadh (Gujarat) is a joint venture of JAU, Ministry of Food Processing Industries (New Delhi), ICAR (New Delhi) and Gujarat Agro Industries Corporation (GAIC). It includes building, interior and laboratory equipments. This laboratory is first of its kind providing professional interface to public and private sectors. FTL also provided central instrumentation facilities for PG and Departmental research of JAU. Laboratory facilities and equipments available in food testing laboratory are utilized for basic research in the field of Biochemistry/ Microbiology/Plant Biotechnology/ Nanotechnology/Bioinformatics.

Table 6.4.162 PG: Departmental PG laboratories established (As of 31-07-2025)

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Biochemistry					
1.	PG Laboratory	154.57	35	PG Practical and Research	AC, Computer, UPS, CCTV
2.	Food Testing Laboratory	1080.00	80	PG Practical and Research	Analytical sophisticated instruments, extraction platforms, and post-data analysis facilities

PG laboratories

Food Testing Laboratory

Table 6.4.163 PG: List of major equipment available with the Department of Biochemistry

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
Department of Biochemistry				
1.	PG Laboratory	Water Purification system	1	3.7
2.	PG Laboratory	PCR with Accessories	1	17.7
3.	PG Laboratory	Ultra-high-speed Refrigerated centrifuge (Plastocraft)	1	3.8
4.	PG Laboratory	Capillary electrophoresis	1	25.0
5.	PG Laboratory	DE -Auto clave	1	1.2
6.	PG Laboratory	U. V. 220 Volt Spectrophotometer with Accessories (PC)	1	4.8
7.	PG Laboratory	Sartorius German Make Micro Balance	1	5.1
8.	PG Laboratory	Gel Documentation System GDS 8000 with Accessories	1	3.1
9.	PG Laboratory	Freeze vertical -25 C	4	1.5
10.	PG Laboratory	Various Capacity Balance	7	10.0
11.	PG Laboratory	Pico drop Spectrophotometer	2	5.7
12.	PG Laboratory	Alico U.V. Spectrophoto.	2	2.3
13.	PG Laboratory	Veriti-96 Thermal cycler PCR machine	2	3.6
14.	FTL	Inverted Microscope	1	14.3
15.	FTL	Express Grinder	1	1.9
16.	FTL	Gene sequencer	1	98.5
17.	FTL	Micro Manipulator	1	31.0
18.	FTL	Vario scan flash top/bottom	1	25.7

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
19.	FTL	Snap ID	2	1.1
20.	FTL	Fully Automatic nucleic acid extraction system	1	21.0
21.	FTL	Gel Documentation system	1	30.0
22.	FTL	High Through Sequencer system	1	284.8
23.	FTL	Blotting Device system	1	9.9
24.	FTL	Bioinformatics setup system	1	149.0
25.	FTL	Deep fridge with Accessories	1	4.7
26.	FTL	Concentrator System	1	6.7
27.	FTL	Refrigerator Shaking Incubator	1	4.9
28.	FTL	Biocare Autoclave Fermented	1	20.4
29.	FTL	Laminar Air Flow	1	3.6
30.	FTL	Lovibond BOD	1	1.4
31.	FTL	BOD Incubator	1	1.4
32.	FTL	Microbiological Blender	1	5.5
33.	FTL	Photobio Reactors with Accessories	1	9.1
34.	FTL	Media Preparator with system	2	9.5
35.	FTL	Microscope	1	24.9
36.	FTL	Flowcyto meter	1	35.0
37.	FTL	HPLC Model LC 10-A with Accessories	1	7.1
38.	FTL	Lyophilizer with accessories	1	3.7
39.	FTL	Gerhardt soxhtherm	1	8.5
40.	FTL	Altra Centrifuge Max (BackmanCulter)	1	44.1
41.	FTL	Ingns rotary flash evaporator	1	4.6
42.	FTL	Solvent extraction dinox	1	31.7
43.	FTL	Sapbox	1	132.5
44.	FTL	FTIR with Accessories	1	11.3
45.	FTL	HPLC system with Accessories	1	27.9
46.	FTL	Elan-9000 Mass Spectrophotometer (ICPMS)	1	55.3
47.	FTL	836-tietrendo with aces.	1	12.6
48.	FTL	797-voltramatic system	1	11.1

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
49.	FTL	GCMS QP-2010 Plus	1	72.9
50.	FTL	IR moisture balance	1	3.0
51.	FTL	LN-2 Safety Cooling System	1	1.3
52.	FTL	Spectrofloro photometer	1	9.7
53.	FTL	"JASCO" Infrared spectrophotometer	1	6.8
54.	FTL	Microtrac Particle Size Analyzer	1	31.6
55.	FTL	T.Q.D. Aquity UPLC	1	93.0
56.	FTL	Acquity UPLC system	1	52.0
57.	FTL	Automatic Fibre Extraction System	1	9.2
58.	FTL	Rio meter	1	4.5
59.	FTL	Ion Meter	1	3.5
60.	FTL	Rotary Evaporator	1	1.5
61.	FTL	Pan analytical with Accessories	1	5.7
62.	FTL	XRF Spectro.with Accessories	1	29.5
63.	FTL	Gerhardt turbotherm	1	19.1
64.	FTL	Gluten Analyzer (LCGC)	1	8.5
65.	FTL	C.H.N. Analyzer	1	16.4
66.	FTL	Atomic Absorption Spectrophotometer	1	26.0
67.	FTL	Multi skin vacu.minifold	1	2.9
68.	FTL	K F coulometer	1	4.0
69.	FTL	Protein Fractionators System	1	19.9
70.	FTL	Spot Spicker&Digestor System	1	46.4
71.	FTL	Protein Analysis Scanner	1	54.4
72.	FTL	Surface Plasma Resonance System (SPR)	1	115.9
73.	FTL	2 D Gel Electrophoresis	1	29.9
74.	FTL	PCR mycycler System	1	3.4
75.	FTL	Inverted Microscope	1	14.3
76.	FTL	Hot Air Oven (Nova)	1	0.98
77.	FTL	Bioinformatics work station with accessories	1	209.45
78.	FTL	Refrigerated Hi-speed Centrifuge (Neuaion refrigerated centrifuge with LCD dispaly)	1	2.49

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
79.	FTL	Chiller (IKA movable with wheels recirculating chiller)	1	3.48
80.	FTL	Incubator with shaker (iGenelabserve TFT display orbital shaking incubator)	1	4.89
81.	FTL	Microplate reader (Dual life plate Elisa reader & washer)	1	2.99
82.	FTL	Flame Photometer (Elico)	1	1.60

Major equipment available in the Department of Biochemistry, CoA, JAU, Junagadh

U. V. 220 Volt Spectrophotometer with PC

LCMSMS

Flame Photometer

SEM

MP-AES

Laminar Air Flow

Table 6.4.164 PG: Theory and Practical batches for the PG program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semesters	Batch of students in theory class	Batch of students in practical class
1.	M. Sc. (Agri.) in Biochemistry	Odd	1 Batch (40 students)	1 Batch (27 students)
2.		Even	1 Batch (75 students)	1 Batch (10 students)

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty members preparetheory note, practical manual, multiple choice questioner book, from various books, research papers and reference books practical manuals for each subject of degree program and distributed to students at free of cost. The same material is uploaded in university website also.
- Many faculties with five years experiences in UG/PG teaching also contributed to the ICAR E-learning portal as course creator, unit reviewer and course reviewer.
- Students get practical exposure in separate laboratory of each discipline.

PRACTICAL AND HANDS-ON-TRAINING

- The students are rigorously exposed to practical trainings on pesticide residues and analysis in the food samples received.
- Students are frequently exposed to farm visits in nearby farmer's field to study various pest and diseases prevalence as well as to collect samples.
- Sufficient exposure is also given to PG students in DNA sequencing and anlysis.

6.4.6. SUPERVISION OF STUDENTS IN PG DEGREE PROGRAM

Apart from UG teaching, faculties are involved in PG teaching /guiding of students. The details of qualified /supervised faculty members and the students guided by them for the accreditation cycle, from 2020-21 to 2025-26, are given in Table 6.4.165 PG. The Advisory Committee is formed with the faculty member from the department acting as a major guide, while the minor guide and members are drawn from Plant Breedings, Seed Science, Biotechnology and Agricultural Statistics domains. The entire thesis research of the students, from synopsis preparation to its submission, is guided by the committee, along with their support in credit seminar preparation and the publication of students' works in reputed journals.

Table 6.4.165 PG: Number of PG students supervised (guided) by faculty in the last five years in Biochemistry

Department	No. of students supervised	No. of qualified faculty members
Biochemistry	24	05

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*) (2020-21 TO 2025-26)

- Information was collected from the outgoing students (after thesis submission) to know their future plans and to get their feedback for further improvements. Feedback from students, parents, farmers, and industrialists revealed that students are getting education as per schedule and sufficient facilities at hostels, mess, gym., sport ground, Wi-Fi are provided **(Annexure 6.4.7a).**
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per schedule where in Deans of all faculties, nominated Professors and Research Scientists of different faculties and renowned academicians are members. Based on the Board of study recommendation, the Academic Council takes the decision on academic matter for implementation in the university/college.
- ***STUDENT ADVISORY COMMITTEE:*** It is framed in the college in which four to five students are allotted to each faculty. They are frequently discussing the educational problems as well as the hostel related problems and authorities are implementing accordingly.
- ***STUDENT REPRESENTATIVE COUNCIL:*** It works within the college ambit and frequently discusses the teaching and learning process with students, getting their feedback and subsequent implementation.
- ***FACULTY GROUP OF SUBJECTS:*** Faculty group of subjects for Basic Sciences which includes Biotechnolgy, Biochemistry and Plant Physiology subjects are conducted every year to monitor evaluations of subject wise performance of PG students and quality of teaching by faculties. The meetings are chaired by Hon'ble Vice-Chancellor. The research synopsis of PG/Ph.D. students are presented in this meeting and suggestions given by faculties to improve the quality of PG research.

Table 6.4.166 PG: Year-wise Faculty Group of Subject Meetings of Basic Sciences

Sr. No.	Year	Convener	Dignitaries remaining present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	Suggestions received from concerned FGS meeting; corresponding action taken report are submitted in ***Annexure 6.4.7b.***
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal and Dean	
4.	2023-24	Professor and Head	Director of Research and Dean PG Studies, Registrar, Director of Extension Education, Associate Director of Research and Principal and Dean	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research and Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal and Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR LAST FIVE YEARS

During each academic year, the admission has been full as per sanctioned strength. However, some students may leave after getting admission or paying 1st semester fees due to their better placement or other personal reasons. Once they left, the vacant seat cannot be filled again and hence it remain unfilled, which is explained here as attrition %.

Table 6.4.167 PG: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
M. Sc. (Agri.) in Biochemistry	2020-21	07	06	14.29
	2021-22	04	02	50.00
	2022-23	02	02	0.00
	2023-24	05	01	80.00
	2024-25	05	05	0.00
	2025-26	05	05	0.00

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

1. ***CERA AND OTHER ONLINE E-RESOURCES:*** CeRA, the ICAR Consortium of e-resources in Agriculture, is effectively put to use with more than 3000 scholarly journals pertaining to the agriculture and allied sciences in full text.
2. ***E-BOOKS:*** The Springer e-books avaialbe with the university library are also extensively used by the faculty members and PG students alike for ASRB NET examination and general reading.
3. ***KRISHIKOSH:*** Besides uploading departmental theses to Krishikosh repository of ICAR, the department students also use the portal for literature review, identifying the gaps in their research and framing objectives.
4. ***INTERNET:*** Digital library with computers and internet facility is available and used by the PG Degree students. Wi-Fi Internet facility is also provided at all the hostels, which is available for all the time.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, CoA, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: 31.01.2026
Place: Junagadh

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Annexure 6.4.7a

Postgraduate students' feedback report for AY 2024-25

Department of Biochemistry			
No of Respondent: 24			
Particulars:			**Score**
Departmental Teaching - Learning Process			
1. How do you rate Student- Teacher relations?			3.6
2. How do you rate for completion of courses by the teachers?			3.7
3. How do you rate fairness in internal assessment in the department?			3.5
4. How do you rate practical exposure from the department?			3.5
5. How do you rate for statistical analysis facility provided by the department			3.4
6. Did teachers motivate /support you for solving your personal problems			3.6
P.G. Research facility			
1. How do you rate for your selection of research topic?			3.4
2. Did you get enough facilities for conducting experiment?			3.6
3. How do you rate material provided for conducting experiment?			3.7
4. How do you rate for major Guide for supporting in completion of Seminar and thesis project			3.4
Library facilities			
1. Books related to your subject are available in the library?			3.5
2. Internet facilities for learning and research purpose?			3.5
3. Availability of research journals (online /offline) for review purpose?			3.5
4. How do you rate for delivery of books system?			3.1
Hostel Facility			
1. How do you rate Hostel facilities?			3.5
2. How do you rate wi-fi facility?			3.4
3. How do you rate for food quality in mess?			3.2
4. How do you rate cleanliness in the hostel?			3.3
Sports facility			
1. How do you rate indoor sports facility?			3.4
2. How do you rate outdoor sports facility?			3.3
Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	3	2	1

Annexure 6.4.7b

Feedback received in the Faculty Group Meetings of Basic Sciences

PROCEEDING OF MEETING ON 7th FACULTY GROUP OF BASIC SCIENCE HELD ON 2nd DECEMBER, 2021 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COLLEGE OF AGRICULTURE, JAU, JUNAGADH

7.1: Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. H. P. Gajera, Professor and Head presented the action taken report of the 6th meeting of faculty group of " Basic Sciences". He has also presented teaching and research activities of Department of Biotechnology and Biochemistry. The house appreciated the presentation with following suggestions.

1. Add H-index; i10-index and No. of total citations of publications of each faculty in the presentation.
2. Arrange advanced training on analysis for PG students.

(**Action: Faculties of Department of Biotechnology and Biochemistry discipline**)

7.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Add H-index; i10-index and No. of total citations of publications of each faculty in the presentation.

(**Action: Faculties of Plant Physiology discipline**)

7.3 Department of English, JAU, CoA, JAU, Junagadh

Dr. P. I. Dave, Assistant Professor presented the activities of Library and English discipline. The house approved and appreciated.

1. Add the work load of all the English teacher of JAU, Junagadh.
2. English subject may be included in social science group of subject meeting.

(**Action: Faculties of English discipline**)

7.4 General Suggestions

Prof. (Dr.) N. K. Gontia, Chairman & Hon. Vice Chancellor, Junagadh Agricultural University gave the presidential remarks to evaluate the teaching and PG research activities of faculties of Basic Sciences group. Some of the important points are given below

1. Emphasize on importance of Basic science in agriculture in the era of climate changes.
2. Suggest to channelize the research work done by basic science up to the end users and outcome-based research.
3. Research fellows may be involved in teaching activities including practical.
4. Research papers should be published good NAAS rated journals.
5. Encourage the PG students to publish their research in reputed Journals.
6. Encourage the staff and students to apply in different prestigious awards.
7. Training/Dissertation/Project work to basic science students of other university may be initiated.

(Action: *All major guide and faculty members of FGS – Basic Sciences***)**

PROCEEDING OF 8th MEETING ON FACULTY GROUP OF SUBJECTS - BASIC SCIENCE
Venue: Seminar Hall, Department of Biotechnology, College of Agriculture, JAU, Junagadh. Date: January 27, 2023

8.1 Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. H. P. Gajera, Convener of FGS-BS and Professor & Head (Biotechnology) presented the action taken report on the proceeding of the 7th meeting of FGS-BS. The house approved the same after through discussion. He has also presented academic activities of UG and PG studies of Biotechnology and Biochemistry subjects. The house appreciated the presentation with following suggestions.

1. Job/Placement of students may be informed timely to placement cell by concern major guide.
2. Include JAU research for citation in PG thesis and research papers.

(Action: All the faculties, Department of Biotechnology and Biochemistry discipline)

8.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Information of the FGS report should be submitted strictly as per the format.
2. Job/Placement of students may be informed timely to placement cell by concern major guide.
3. Include JAU research for citation in PG thesis and research papers (Plant Physiology).

(Action: All the faculties of Plant Physiology discipline)

8.3 Department of Animal Science, CoA, JAU, Junagadh

Dr. N. K. Ribadiya, Assistant Professor and Head (Animal Sci.) presented the activities of animal science discipline. The house approved the presentation with following suggestions.

1. Information of the FGS report should be submitted strictly as per the format.

(Action: All the faculties of Animal Science discipline)

8.4 Presentation of Ph.D. Research work, Department of Biotechnology and Biochemistry, JAU, Junagadh

Two Ph.D. Students, (1) Ashwini M. N. and (2) Lakhani Komal G. presented their synopsis of Ph.D. research work. The house appreciated the presentation.

8.5 Presidential remarks

Dr. V. P. Chovatia, Chairman & Hon. Vice Chancellor, Junagadh Agricultural University gave the presidential remarks to evaluate the teaching and PG research activities of faculties of Basic Sciences group. Some of the important suggestions are given below

1. Emphasize more on Basic work related to Climate change in PG Research.
2. Encourage the PG students and faculties for published their research in reputed Journals having good NAAS rating/Impact factor.
3. Training/Dissertation/project work to basic science students of other university may be strengthened.
4. Encourage the Faculties and PG students to apply in different prestigious awards.

PROCEEDING OF MEETING ON 9th FACULTY GROUP SUBJECTS- BASIC SCIENCE, HORTICULTURE, ANIMAL SCIENCE HELD ON 25th JANUARY, 2024 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COA, JAU, JUNAGADH

8.1 Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. H. P. Gajera, Professor and Head (Biotechnology & Biochemistry) presented the action taken report of the 8th meeting FGS point wise and the house approved the same after thorough discussion. He also presented report of 9th FGS-Basic Science (BS) regarding teaching and research activities of Department of Biotechnology and Biochemistry. The house appreciated the presentation
with following suggestions.

1. Priorities should be given to cite JAU research in PG thesis writing.
2. Department wise credit hours or RAWEP should be calculate as per the norms.
3. Review the PG students progress timely

(Action: All the faculties and major guide, Department of Biotechnology and Biochemistry discipline)

8.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Use proper format of FGS.
2. Include self-citation of JAU research in PG thesis writing.

(Action: All the faculties of Plant Physiology discipline)

8.3 Department of Horticulture, CoA, JAU, Junagadh

Dr. N. D. Polara, Prof. and Head, Department of Horticulture, COA, JAU, Junagadh presented the activities of Horticulture discipline. The house appreciated the presentation with following suggestions.

1. Include self-citation of JAU research in PG thesis writing.
2. Use proper format of FGS
3. Hort 6.6 course to be transferred to PHT Department, CAET, JAU, Junagadh

(Action: Prof. and Head, Dept. of Horticulture, CoA, JAU, Junagadh)

8.4 Department of Animal Science, CoA, JAU, Junagadh

Dr. N. K. Ribadiya, Assistant Professor and Head (Animal Sci.) presented the teaching activities of animal science discipline. The house approved the presentation with following suggestion.

1. Use proper format for FGS.

(Action: Assistant Prof. and Head, Dept. of Animal Science, CoA, JAU, Junagadh)

8.5 Presentation of Ph.D. Research work, Department of Biotechnology and Biochemistry, JAU, Junagadh

Ph.D. Students, Kundan presented their synopsis of Ph. D research work. The house has appreciated the presentation and approved.

8.6 Presidential remarks

Dr. V. P. Chovatia, Chairman & Hon. Vice Chancellor, Junagadh Agricultural University gave the presidential remarks to evaluate the teaching and PG research activities of faculties of Basic Sciences and also for Horticulture and Animal Science group. He critically evaluated the teaching and research activities of each group and given

valuable suggestions to improve the education system. Some of the important points are given below

1. More emphasizeshould be given on ranking in NAAC.
2. Encourage the PG students and faculties for published their research in reputed Journals

having good NAAS rating/Impact factor along with thesis writing.

3. Encourage the staff and students to apply in different prestigious awards

PROCEEDING OF 10TH FACULTY GROUP OF BASIC SCIENCE HORTICULTURE AND ANIMAL SCIENCE HELD ON 13th JANUARY, 2025 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COLLEGE OF AGRICULTURE, JAU, JUNAGADH

10.1 Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. U. K. Kandoliya, Associate Professor presented the action taken report of the 9th meeting of faculty group of "Basic Sciences". He has also presented teaching and research activities of Department of Biotechnology and Biochemistry. The house appreciated the presentation with following suggestions.

1. The presentation must adhere strictly to the prescribed format, without including unnecessary information from previous years.
2. Research fellows and supporting staff under the ad-hoc scheme should be included in the staff position in report.
3. The list of experts for MBB and Biochemistry needs to be updated to include retired JAU experts.
4. Provide a list of books purchased by the library following departmental commendations.
5. Feedback from PG students should be collected by their respective guides and include the overall feedback in the report.

(Action: All the faculties, Department of Biotechnology and Biochemistry discipline)

10.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Collect feedback from PG students and include the general feedback in the report.

(Action: Faculty of Plant Physiology discipline)

10.3 Department of Horticulture

Dr. N. D. Polara, educational activities of Horticulture suggestions.

1. The Horticulture group from the College of Agriculture (CoA) will move to the College of made with the College of Horticulture, JAU, Junagadh.
2. Collect feedback from feedback in the report.

10.4 Department of Animal Science

Dr. N. K. Ribadiya, Assistant Professor, animal science discipline.

1. Collect feedback from feedback in the report.

10.5 Presentation of Ph.D. Research work, JAU, Junagadh

Ph. D. student Japada Ashish was approved by the house.

10.6 Presidential remarks

Dr. V. P. Chovatia, President important points are given below

1. NAAS rating or impact
2. Each faculty member should

3. knowledge in their respective subjects.
4. Motivate staff and students to apply for various prestigious award
(Action: All faculty members of FGS-Basic Sciences, Horti., Animal Sciences)

PROCEEDING OF MEETING ON 11th FACULTY GROUP OF BASIC SCIENCE AND ANIMAL SCIENCE HELD ON 12th SEPTEMBER, 2025 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COLLEGE OF AGRICULTURE, JAU, JUNAGADH
Venue: Seminar Hall, Department of Biotechnology Date: 12/09/2025

General suggestions:
11.1 All the faculty members of the group must attend the meeting.
11.2 The citation of the research papers of JAU faculties should be included in the PG research thesis and guide should check the same
11.3 All the major guide of PG students should follow the guidelines while submitting synopsis and final thesis will ensure high quality and reduce errors
11.4 Name of the registrar should be acknowledged in the PG thesis and major guide should ensure it.
11.5 Encourage the PG students and faculties for published their research in reputed Journals having good NAAS rating/Impact factor.
11.6 Every staff member has to take responsibility to improve University Ranking in various platforms/ accreditation.
11.7 Training for the staff for the updating in their subject.
(Action: All the members of Basic Science Group, JAU, Junagadh)

Action Taken:

All suggestions relevant to the Department of Biochemistry, based on the feedback received from the esteemed members of the house who remained present in the Faculty Group of Subjects Meetings, were implemented from time to time and the concerned reports were also presented in the subsequent meetings.

6.4:

Self-Study Report for M. Sc. (Agri.) in Molecular Biology and Biotechnology

6.4. SELF-STUDY REPORT FORM.SC. (AGRI.) IN MOLECULAR BIOLOGY AND BIOTECHNOLOGY AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PG DEGREE PROGRAM

The Department of Biotechnology was established at the College of Agriculture, Junagadh Agricultural University, Junagadh, during the academic year 2008-09 under a Plan Scheme, *vide* letter No. JAU/Reg./AdM.31 New Scheme/2008/23463-47 dated 07.08.2008. Prior to its establishment as an independent department, biotechnology activities were carried out through a Biotechnology Centre, with research responsibilities shared among faculty members from the Departments of Biochemistry and Genetics and Plant Breeding.

The Biotechnology department now offers M. Sc. programs in Plant Biotechnology / Plant Molecular Biology and Biotechnology since 2008, and in the coming years it will also offer one-year PG diploma course. Today, the Department of Biotechnology has emerged as a leading seat of learning in the field of Agricultural Biotechnology in India with emphasis on plants and microorganisms. The Department has good infrastructure and ample facilities for pursuing research in several priority areas of state/country's interests.

Besides the Department offering M.Sc. degrees in the discipline of Molecular Biology and Biotechnology, Biotechnology forms an integral part of the curriculum of UG and PG students of different disciplines of Agriculture, Veterinary Sciences, Fisheries Sciences and Basic Sciences. The department is also undertaking research projects and schemes related to biotechnological works important for agriculture.

Department of Biotechnology, College of Agriculture, JAU, Junagadh

STEPPING-STONES OF THE DEPARTMENT

- NABL accreditation of the food testing laboratory in the year 2012-14, 2014-16, 2016-18, 2018-20, 2020-22, 2022-24 and 2025-29.
- Over 569738 samples from other departments, colleges, universities, research stations, farmers and entrepreneurs have been analysed as of 2024-25 in Food Testing Laboratory, Junagadh Agricultural University.
- Accreditation team from ICAR (2020-21) appreciated the Food Testing laboratory consisting of world class facility for biochemical and molecular analytical services in India. Even foreign students from University of Venda, South Africa and Iran came for work at the Food Testing Laboratory, Junagadh Agricultural University, Junagadh.

- About 25 students of dissertations/hands on trainings from other universities have been done in Food Testing Laboratory, Junagadh Agricultural University, Junagadh along with 80 M.Sc. and Ph.D. students of Biochemistry and Biotechnology during the last five years.
- Work on biosensor has been appreciated at world level, with its patent granted on 13/07/2023 (Patent No 438688).
- Work of Food Testing Laboratory team on nano- fertilizer is embarked with an overarching objective to reduce fertilizer use by 1/5th of present consumption. It will soon be a boon for the farmers across the country.

MISSION, GOALS AND OBJECTIVES

MISSION:

- To advance education, research, and innovation in biochemistry with emphasis on plant, nutritional, and environmental aspects, thereby generating knowledge and technologies that enhance crop productivity, food quality, and sustainable agricultural development.

Goals:

- **Academic Excellence:** To impart high-quality postgraduate education in Biochemistry and equip students with advanced analytical and research skills.
- **Research & Innovation:** To undertake basic and applied research in plant biochemistry, stress physiology, nutrition, and molecular biology for addressing agricultural challenges.
- **Infrastructure Development:** To strengthen laboratories and facilities, particularly the Food Testing Laboratory, as a national-level hub for biochemical and molecular analysis.
- **Capacity Building & Training:** To train students, researchers, and entrepreneurs in modern biochemical techniques, analytical methods, and emerging areas such as biosensors and nanotechnology.
- **Extension & Outreach:** To provide biochemical testing, consultancy, and innovative solutions that benefit farmers, industries, and policy makers.
- **Recognition & Collaboration:** To establish the department as a recognized center of excellence in biochemistry through collaborations, patents, and international engagement.

OBJECTIVES:

- To run M.Sc. programs in Biochemistry with specialization in plantbiochemistry.
- To develop advanced infrastructure for postgraduate teaching and research.
- To strengthen the Food Testing Laboratory for biochemical and molecular analyses.
- To offer training and workshops for students, faculty, and researchers.
- To conduct research on crop quality, stress tolerance, fruit ripening, and environmental pollution.
- To support students in achieving academic excellence and professional growth.

ACCOMPLISHMENTS/ ACHIEVEMENTS OF LAST FIVE YEARS:

EXTERNAL FUNDED PROJECTS IN THE DEPARTMENT OF BIOTECHNOLOGY

(AS OF 31-07-2025)

2022-23:

- Microbial, Meta-omics and On-farm Evaluation study on Biostimulants (Beejamrit and Dravajivamrit) and Biorationals (Neemastra and Dashaparni Ark) by Gujarat State Biotechnology Mission, Gandhinagar.

2023-24:

- Microbial, Meta-omics and On-farm Evaluation study on Biostimulants (Beejamrit and Dravajivamrit) and Biorationals (Neemastra and Dashaparni Ark) by Gujarat State Biotechnology Mission, Gandhinagar.

2024-25:

- Microbial, Meta-omics and On-farm Evaluation study on Biostimulants (Beejamrit and Dravajivamrit) and Biorationals (Neemastra and Dashaparni Ark) by Gujarat State Biotechnology Mission, Gandhinagar.

2025-26:

- Microbial, Meta-omics and On-farm Evaluation study on Biostimulants (Beejamrit and Dravajivamrit) and Biorationals (Neemastra and Dashaparni Ark) by Gujarat State Biotechnology Mission, Gandhinagar.

RECOMMENDATIONS FROM THE DEPARTMENT OF BIOTECHNOLOGY FOR SCIENTIFIC COMMUNITY

2020-21:

1. Elemental, nutritional and microbiological analysis of panchagavya (ancient liquid organic)

The Scientific communities involved in panchagavya research or microbial research are recommended to use 19-day old panchagavya to study microbial diversity. The proportion of α-proteobacteria was found maximum in 19-dayold panchagavyasolution while 21-day panchagavya formulation was found to be dominated by Firmibacteria, ß-proteobacteria and Actinobacteria. The presence of unknown /novel microbes were also found highest in 21-day old Panchagavya, as revealed by Metagenomic analysis.

The results also revealed that, the panchagavya solution was dominated by the bacteria belonging to nitrogen fixing, phosphate solubilizers and potash mobilizers group. Moreover, it showed in vitro antagonism towards plant pathogenic fungi like Helminthosporium (47%), A. flavus (45%), A. niger (35%) and Sclerotiumrolfsii (40%). Elemental composition of Panchagavya showed higher concentration of Fe (158.94 ppm), Ca (2789.99 ppm), Mg (1553.76 ppm) and Mo (25.50 ppm). It also contained N-Methyl-2-pyrrolidinone used as insecticide, herbicide and fungicide. Phenylacetaldehyde is a second major compound found in pachagavyawhich has very important antibiotic capability.

2. Biochemical and molecular evaluation of A1 and A2 casein protein of milk in Holstein friesian cow and indigenous Gir cow

The scientific community involved in Cattle improvement are recommended to use Marker Assisted Selection to detect or distinguish A1A2 and A2A2 genotypic frequency among the Gir Bulls and Cows using below mentioned marker.

1	A1 Forward	5' CTTCCCTGGGCCCATCCA3'
	A1 Reverse	5' AGACTGGAGCAGAGGCAGAG 3'
2	A2 Forward	5' CTTCCCTGGGCCCATCCC3'
	A2 Reverse	5' AGACTGGAGCAGAGGCAGAG 3'

3. Genome sequencing of cumin (Cuminum cyminum) to reveal insight of its genomic architecture

The scientific community involved in Cumin improvement are recommended to use genomic information generated (https://drive.google.com/file/d/ 1ukln R77lYWJcR Ip8m40lLpm OP_ujqJz/view ?usp=sharing) for cumin in Marker Assisted Selection for the improvement of cumin. They are also advised to use the genes identified as mentioned below and SSRs identified in Marker Assisted Selection.

Sr. No.	Character	Number of genes	Gene identified
1	Flavonoid	21	U78D2, C75A2, 75A4, C75B3, C93C F3PH, FAOMT, FL3H3, MOMT, SOMT SOT5, UFOG, UFOG1, UFOG2, UFOG UFOG4, UFOG5, UFOG6, FOG7, UGF and Y1103
2	Chalcone synthase	9	6DCS, CHS1, CHS2, CHSA, CHSB, CHS CHSL1, CHSY, PKS5
3	Chalconeisomerase	4	CFI, CFI1, CFI2B, CFI3
4	Flavanone synthase	3	C93C1, FNSI, C93B1
5	Terpenoid synthase	15	BAMS, GBIS1, GBIS2, HUMS, TPS TPS05, TPS07, TPS08, TPS09, TPS TPS18, TPS22, TPS26, TPS29, TPS30
6	Disease resistance	89	ADR2, CDR1, CHS1, CSA1, DF230, DR206, DRL12, DRL13, DRL14, DRL15, DRL16,DRL17, DRL18, DRL19, DRL2, DRL20,DRL21, DRL23, DRL24, DRL25, DRL26,DRL27, DRL28, DRL29, DRL3, DRL30,DRL31, DRL32, DRL33, DRL34, DRL36,DRL37, DRL38, DRL39, DRL4, DRL40,DRL41, DRL42, DRL43, DRL45, DRL5,DRL7, DRL8, DRL9, DSC1, DSC2, EDR1,EDR2, EDR2L, EDR4, LAZ5, LOV1A,NDR1, R13L1, R13L2, R13L3, R13L4,RFL1, RGA1, RGA2, RGA3, RGA4,RLM1B, RLM3, RP8HA, RP8L2, RP8L3,RP8L4, RPM1, RPP1, RPP13, RPP4, RPP5,RPP8, RPS2, RPS4C, RPS4L, RPS4W,RPS5, RPS6C, RPS6R, RPS6R, SUMM2,TAO1, WR52C, WR52N, WR52R, WR52W,Y4117
7	Antifungal	4	DEF1, DEF15, DEF2, DEF4

Sr. No.	Character	Number of genes	Gene identified
8	Early flowering	13	ASHH2, EFM, ELF3, ELF6, HD16N, PA PIE1, REF6, RUP1, RUP2, SKIP, SWC VIP6
9	Aromatic	11	5MAT, ANTA, AVT3A, AVT3B, AVT3 DDC, ISS1, PGL1, PGL2, PGL3, SOT16
10	Drought	8	AL7A1, DIS1, ERG14, HDG11, LSM5, SAD2, SDIR1, SSP1A
11	Nematodes	2	ELF3, HSPR2

4. Transcriptome analysis in coriander for identification of candidate genes against stem gall disease

The scientific community involved in Coriander improvement is recommended to use the following set of 7 primers in the process of marker assisted selection for the identification of disease defence genes in coriander genotypes

Sr. No.	Gene Name	Forward Primer	Reverse Primer	Function
1.	RL31	GCCAAACCAAAAG GTGAGAA	CGGATACCCTTA GCCCAGAT	Jasmonic acid mediated signaling pathway
2.	A0A2Z5D854	CCACCGTTTCCAAT GCTAGT	GGAATCTCTCGG GCCTAAAC	Metal ion binding;
3.	A0A166CJ74	ATTGGCTGAGCTTT GGATTG	GGCTTGATGCTC CATTGTTT	Regulation of transcription, DNA-templated
4.	A0A166CJ74	CACGCATTTCTCCT CCTGAT	TCAGAGGGGGT TTTCTGATG	DNA-templated
5.	Y1934	ACTCGGTGTCACGG TTTTTC	CAAAAGCCGAG ATTGTGGAT	Molecular function DNA-binding
6.	TGA10	CCCTGTTGGGAAAC TTCGTA	GCTGCAAAGGT CCAGCTATC	Nitogen-activated protein kinase binding
7.	A0A164XUZ0	GAGTTGGAGTTCAG GGAGGA	GATGAGCGGGA TATCTGGAA	Affects Fungal Development and Pathogenicity of Fusarium graminearum
8.	A0A164XUZ0	CTGGCTGGAGAGAG GATGTC	CTACCGTGCCCAA GTTCTGT	Defense response to fungus
9.	A0A164XUZ0	AGACTGAAGTGGAC CCCAGA	TCCATGCAGATTT TTGCTGA	Transferring phosphorus-containing groups
10.	A0A164XUZ0	GAGTTGGAGTTCAG GGAGGA	GATGAGCGGGAT ATCTGGAA	Defense response to fungus

5. Transcriptome and Proteomic characterization for identification of candidate genes responsible for pistillate inflorescence and its reversion in castor

The scientific community involved in Castor improvement are recommended to use the set of 14 primers as mentioned below to distinguish the pistillate and monoecious plants in castor. They are also advised to use the castor database developed (http://webtom.cabgrid.res.in/castdb/) for the identification of gene of interest and selection of SSRs and their primers to be used under Marker Assisted Selection and molecular breeding.

Sr. No.	Name of the Gene	Forward primer	Reverse Primer	Gene Function
1	Dynamin-2A	GCTAAGCAAGGGTTCGTCAG	CTGGCAGGTCGATCAATTTT	Response to hormone stimulus
2	Auxin response factor	CACACATGGTGGGTTCTCAG	TGAGTTGGTGGTTGCATTGT	Organ development; and post-embryonic development
3	ATP-binding protein	CATTGGACAGGTCCTCCACT	AAGCAAGGTGAAGCAAGGAA	Regulation of ARF protein signal transduction
4	Spermidine synthase	GGTGCTGCATTTCTCTCCTC	TGCCCTGGAATAAATCTTGC	Polyamine biosynthetic process
5	Xaa-pro amino peptidase	GGATGGAAGCTTTGGCATAA	GCCCTTCTCACCAAAATTGA	Auxin transport
6	Conserved hypothetical protein	TCGAATGAAGAGGCCATTCT	GTGAGAAGGGCAAAAGCAAG	Abscisic acid metabolic process
7	MADS box protein	AAAGGTTGGCCTGAGGAGTT	GTCACTTGCCTGTTGCTTGA	Transcription, DNA-dependent
8	RNA polymerase sigma factor rpoD1	GATCTTCAGGCAAGCACTCC	ATATCCTCCCCTTGGTCCAC	DNA-dependent transcription, initiation
9	Protein with	TTGTCAAGGGCCAGTTC	TTGACCTGCTGTGTCCC	Guanylribonucl

Sr. No.	Name of the Gene	Forward primer	Reverse Primer	Gene Function
	unknown function	TTT	ATA	eoti de binding
10	Arginine/serine-rich splicing factor	CGGAAGCTTGATGACACTGA	GGCTTCTACTTCGGCTCCTT	Sex differentiation
11	Acid phosphatase	TCCTGTAACCGTTCCTTTCG	TGTTCAGGCTCGAAACCTCT	Phosphatase activity
12	DNA replication helicase dna2	AGGCTGTGAATAACCCAACG	CCCAATATCTTCGCCTTGAA	DNA metabolic process
13	Eukaryotic translation initiation factor 2c	CACGACTTTTTCCCGTTGAT	GAACTCCCTCTGGTGGCATA	Translation
14	s-adenosyl-methyltransferase mraw	TCTCCGTTCTTTCGTCGATT	GGGTCAACATCCATTCCAAC	rRNA methylation

2021-22:

1. Isolation and identification of salt tolerant strains of beneficial microorganisms from the coastal soils of Saurashtra region

Native halophilic bacterial strains isolated from agricultural soils of coastal regions of Saurashtra have potential for application in both industries and agriculture. The promising performance of these isolates in terms of plant growth promoting characteristics such as nitrogen fixing capacity, solubilization of phosphate and potash, production of IAA, siderophore along with production of biochemically important enzymes and bioactive compounds such as chitinase, cellulase, protease, carotene, ectoine and glycine betaine was observed.

Halophilic bacterial isolates were *Halomonas pacifica* strain_JAU_7B (MK955347), *H. pacifica* strain_JAU_20A (MK575078), *H. pacifica* strain_JAU_22A (MK042491), *H. pacifica* strain_JAU_22C (MK043087), *H. pacifica* strain_JAU_25A (MK116946), *H. pacifica* strain_JAU_29A (MK114047), *H. pacifica* strain_JAU_36A(MK114047), *H. pacifica* strain_JAU_36B (MK114047), *H. stenophila* strain_JAU_37A (MK961217), *Oceanobacillusaidingensis*strain_JAU_39B (MK148253), *H. pacifica* strain_JAU_40B (MK114047), *Bacillus haynesii*strain_JAU_41A (MK157609), *B. licheniformis* strain_JAU_43A (MK118996), *B. haynesii*strain_JAU_43B (MK157608) and *B. haynesii* strain_JAU_45A (MK157609) which confirmed through molecular characterization by 16srRNA.

2. Development and characterization of polymer based nanofertilizers and their response to wheat

Chitosan nanoparticles (CS-NPs) were synthesized and examined greater than 40 mV zeta potential indicating good stability. The urea, tricalcium phosphate and muriate of potash were used as sources for incorporation of N, P and K elements individually onto the CS-NPs and the elevation of size of the nanofertilizers, without aggregation of nanoparticles, were observed. Scanning electron micrograph illustrated spherical shape of the CS-NPs and gave the idea about the morphology of incorporated NPK nanofertilizers. The FTIR study indicated that there is an electrostatic interaction occurs between the charges of CS-NPs and the N P K elements, resulted to stretching of spectra (peak) at specific wavelength confirming the incorporation of N P and K elements on to the CS-NPs. The application of 5% NPK nanofertilizers (10 time less) on wheat suggested higher nutritional seed quality and maintained yield equivalent to chemical fertilizers. The cost-effective NPK-nanofertilizers thus developed may save the forex (subsidy) about 38.22%. It has better controlled-release system in a liquid formulation to enhance nutrient use efficiency and sustained crop growth.

2022-23:

1. Development of biochemical and molecular markers for heat tolerance in chickpea

The chickpea genotype namely ICC-4958 was identified highly tolerant when exposed to 42/37 ºC temperature at germination stage. This genotype had high antioxidant activity, ascorbic acid, glutathione, super oxide dismutase, ascorbate peroxidase, glutathione reductase along with Quinone oxidoreductase, glutaredoxine and heat shock protein 70. SSR markers namely Cam1536, TA27, TR 58 could also reveal this genotype different at DNA level. Hence, this genotype can be exploited in breeding to develop heat tolerance lines/varieties of chickpea.

2023-24:

1. Improvement of Groundnut oil quality for high oleic acid through CRISPR/Cas gene editing technology

The scientific communities involved in groundnut improvement through genome editing technology are recommended to use CRISPR/Cas9 technology and pRGEB31 vector for successfully editing the gene of interest.

2024-25:

1. Optimization of regeneration protocol using different plant growth regulator in Pomegranate (*Punica granatum* L.) cv. 'Bhagwa' Cultivar (2024-25)

A regeneration protocol was successfully developed from using nodal explant for pomegranate (*Punica granatum* L.) cv. 'Bhagwa,' highlighting the following key findings:

- Surface sterilization with Carbendazim-50% @ 10 min + Cefotaxime @ 7 min + Kanamycin @ 5 min + Ketokenazol @ 10 min + 0.1% $HgCl_2$ @ 3 min was effectively prevented contamination in nodal explant.
- Transfer of explants every 24 hours reduces 90% polyphenol accumulation.
- Shoot initiation was achieved using MS +0.2 mg/L BAP + 0.1 mg/L NAA.
- The highest number of multiple shoots was observed using MS + 0.2 mg/L BAP + 0.1 mg/L KIN.
- Root induction was optimal with MS + 0.3 mg/L IBA using WPM media for root development.
- Hardening was most effective when plantlets were acclimatized in a 3:1 soil-to cocopeat ratio, with a 94% survival rate.

Table 6.4.168 PG: Awards/recognition received by faculty members (Department of Biotechnology)

Sr. No.	Name of Faculty	Name of Award	Authority	Year
1.	Dr. M. V. Parakhia	Young Microbiologist Award	Agro Environmental Development Society (AEDS), Majhara Ghat, Rampur, U. P., India.	2020-21
2.	Dr. A. G. Vala	Academic excellence award	The International Multidisciplinary Research Foundation, Bangalore.	2020-21
3.	Dr. R. S. Tomar	Fellow of SHRD	Society of Horticultural Research and Development, New Delhi	2022-23
4.	Dr. A. G. Vala	Young Scientist Awards	Asia-Pacific: SCIFAX	2022-23
5.	Dr. A. G. Vala	Young Scientist Awards	Science Father	2022-23
6.	Dr. S. B. Bhatt	Senior Scientist Award -Gujarat State	Microbiology Society of India	2022-23
7.	Dr. M. V. Parakhia	Excellence in research award	1st international conference organized by GNFSU, IIMTU, Meerut and HARWS	2023-24
8.	Dr. S. B. Bhatt	Distinguished scientist award	Gujarat Natural Farming and Science University, Anand, India.	2023-24
9.	Dr. S. B. Bhatt	Senior scientist award	Microbiology Society India	2023-24
10.	Dr. S. B. Bhatt	Best popular article award	The Science world International Magazine	2023-24
11.	Dr. A. G. Vala	Young researcher award	Institutional Research	2024-25

Table 6.4.169 PG: Awards received by PG degree students (Department of Biotechnology)

Sr. No.	Name of Student	Name of Award	Year
1.	Hirpara Darshna G.	ICAR National Award - 2019 **with cash prize of 50000/- Rs: Jawaharlal Nehru Award for Outstanding Doctoral Thesis** Research in Agricultural and Allied Sciences 2019 in the category of Biotechnology at 92nd foundation day of ICAR and award ceremony at Indian Council of Agricultural Research (ICAR), New Delhi on July 16, 2020	2020-21

Sr. No.	Name of Student	Name of Award	Year
2.	Likhindra Reang	**"Best Poster presentation" 1st Rank** in National Conference entitled "Innovations in Biological Sciences" held at Saurashtra University, Rajkot on 2020	2020-21
3.	Savani Khyati R	**Late Dr. Diwakar M. Patel Gold medal** for Best research work in M. Sc. from Anand Agriculture University, Anand	2020-21
4.	Bhadani Rushita V.	**Dr. A. V. Barad´s Late Parents Smt. Amarba& Shri Virsangbhai barad Memorial Gold Plated Silver medal** for securing highest overall grade point average in faculty of Agriculture or Horticulture in Doctoral Degree from Junagadh Agricultural University, Junagadh on Jan 8th, 2022	2021-22
5.	Savani Khyati R	**2nd position for oral presentation** for research paper entitled "Metabolomisc of developing anthers and sepals influenced by salicylic acid functionalized nano-chitosan particles to attenuate damage under heat stress in cotton" in International Conference on Biotechnological Initiative for climate resilient Agriculture at RPCAU, PUSA, Bihar on Jan 7-9th, 2022	2021-22
6.	Hirpara Darshna G.	**Best Ph. D. thesis award** – 2018 & 2019: For Commendable Thesis work for Ph. D. Degree from The Gujarat Association for Agricultural Sciences (GAAS), Ahmedabad on 2nd February, 2023.	2022-23
7.	Hirpara Darshna G.	**Shri Chaitanya Mehta Award-2020 with cash prize of 11000/- Rs**: For Commendable presentation of Ph. D. Thesis work sponsored by Dr. K. G. Mehta, Ahmedabad from The Gujarat Association for Agricultural Sciences (GAAS), Ahmedabad on 2nd February, 2023.	2022-23
8.	Hirpara Darshna G.	**Best oral presentation - first prize** in National Conference on "Emerging Paradigm in Agricultural Microbiology" held at Atmiya University, Rajkot on 11th February, 2023.	2022-23
9.	Ashwini M. N.	**ICAR SRF** from Indian Council of Agricultural Research (ICAR), New Delhi in the year 2023	2022-23
10.	Lakhani Komal	**Prime minister Fellowship** from A PPP Initiative of Science & Engineering Research Board (SERB) Department of Science & Technology, Government of India and Confederation of Indian Industry (CII) in the year 2023	2023-24

Table 6.4.170 PG: Year-wise NET qualified PG/Ph.D. Students in Biotechnology

Sr. No.	Year	No. of students qualified NET
1.	2020-21	Exam not Coundected
2.	2021-22	04
3.	2022-23	02
4.	2023-24	Exam not Coundected
5.	2024-25	Exam not Coundected
6.	2025-26	01 (CSIR NET -2025)
	Total	07

Table 6.4.171 PG: Research publications of faculty Members (Department of Biotechnology)

Sr. No.	Particular	Number of publications during the last five years
1.	National/International Journal	431
	6.0 and above	81
	4.0-6.0	324
	< 4.0	26
2.	Books Published/Book Chapter	43
3.	Practical Manuals	26

Table 6.4.172 PG: Seminar / workshop / symposia organized by the Department of Biotechnology during 2020-21 to 2025-26

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2021-22				
1.	Hands-on training on "Pesticide Residues in Food and Environmental Samples"	Aug. 09-13, 2021	Department of Biotechnology, College of Agriculture, JAU, Junagadh (Jointly organized by Agilent University and Department of Biochemistry)	50
2022-23				
2.	Hands-on five days training on "Next generation sequencing"	Nov. 21-25, 2022	Department of Biotechnology, College of Agriculture, JAU, Junagadh (jointly organized by Department of Biochemistry and GBRC, Gandhinagar)	12
2023-24				
3.	NAHEP-IDP sponsored National training on "Application of Next Generation DNA sequencing technology in Agriculture"	June. 26-30, 2023	Department of Biotechnology, College of Agriculture, JAU, Junagadh	50
2024-25				
4.	National workshop on NABL Awareness Program including Soil Testing recognition program, titled "NABL Accreditation and Its Benefits"	July. 20, 2024	Department of Biotechnology, College of Agriculture, JAU, Junagadh (Jointly organized by Department of Biochemistry and NABL)	85

6.4.2. FACULTY STRENGTH (AS OF 31-07-2025)

In total, six faculty members are actively engaged in teaching and PG research of Plant Molecular Biology and Biotechnology. However, seven faculties from research stations and other departments are required to complete the academic of PG teaching and guiding. There are five vacant faculty positions at the department (as of July 31, 2025).

Table 6.4.173 PG: Details of faculty strength (Department of Biotechnology)

Sr. No	Sanctioned Faculty for PG	Faculty in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Professor	0+1*	1	Not recommended by ICAR	1
2.	Associate Professor	1+4*	3		4
3.	Assistant Professor	5+2*	1		6
	Total	6+7*	5		11

* Faculty assigned for both teaching and research works.

6.4.3 TECHNICAL /SUPPORTING STAFF (AS OF 31-07-2025)

Technical and Supporting staff are enough and required for lab analysis of departmental and other agency projects.

Table 6.4.174 PG: Details of technical/supporting staff strength as of 31.07.2025 (Department of Biotechnology)

Sr. No.	Sanctioned staff	Staff in position place	Vacant	Recommended by ICAR	Staff sanctioned by the GoG
1.	Technical/Supporting staff	12	01	Not recommended by ICAR	13
2.	Administrative staff	02	01		03
	Total	14	03		16

* Pooled from other departments

6.4.4. CLASSROOMS AND LABORATORIES

Classroom for PG teaching is well furnished with AC, Projector, Computer, UPS and CCTV. Principal of the college and Head of the Department routinely monitor the classes taken by faculties either through CCTV or personal visits. PG laboratories are well equipped with instruments and equipment required for PG research in basic and applied field of agriculture.

Table 6.4.175 PG: Classroom infrastructure in the department

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Department of Biotechnology					
1.	Classroom-PG	24.00	30	PG teaching	AC, Projector, Computer, UPS, CCTV
2.	Seminar Hall	48.00	80	PG seminar, trainings, workshops	AC, Projector, Computer, UPS, CCTV

PG Classroom

Seminar Hall

The Food Testing Laboratory (FTL) at Junagadh Agricultural University, Junagadh (Gujarat) is a joint venture of JAU, Ministry of Food Processing Industries (New Delhi), ICAR (New Delhi) and Gujarat Agro Industries Corporation (GAIC). It includes building, interior and laboratory equipments. This laboratory is first of its kind providing professional interface to public and private sectors. FTL also provided central instrumentation facilities for PG and Departmental research of JAU. Laboratory facilities and equipments available in food testing laboratory are utilized for basic research in the field of Biochemistry/ Microbiology/Plant Biotechnology/ Nanotechnology/Bioinformatics.

Table 6.4.176 PG: Departmental PG laboratories established (As of 31-07-2025)

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Biochemistry					
1.	PG Laboratory	154.57	35	PG Practical and Research	AC, Computer, UPS, CCTV
2.	Food Testing Laboratory	1080.00	80	PG Practical and Research	Analytical sophisticated instruments, extraction platforms, and post-data analysis facilities

PG laboratories

Food Testing Laboratory

Table 6.4.177 PG: List of major equipment available with the Department of Biotechnology

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
Department of Biochemistry				
1.	PG Laboratory	Water Purification system	1	3.7
2.	PG Laboratory	PCR with Accessories	1	17.7
3.	PG Laboratory	Ultra-high-speed Refrigerated centrifuge (Plastocraft)	1	3.8
4.	PG Laboratory	Capillary electrophoresis	1	25.0
5.	PG Laboratory	DE -Auto clave	1	1.2
6.	PG Laboratory	U. V. 220 Volt Spectrophotometer with Accessories (PC)	1	4.8
7.	PG Laboratory	Sartorius German Make Micro Balance	1	5.1
8.	PG Laboratory	Gel Documentation System GDS 8000 with Accessories	1	3.1
9.	PG Laboratory	Freeze vertical -25 C	4	1.5
10.	PG Laboratory	Various Capacity Balance	7	10.0
11.	PG Laboratory	Pico drop Spectrophotometer	2	5.7

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
12.	PG Laboratory	Alico U.V. Spectrophoto.	2	2.3
13.	PG Laboratory	Veriti-96 Thermal cycler PCR machine	2	3.6
14.	FTL	Inverted Microscope	1	14.3
15.	FTL	Express Grinder	1	1.9
16.	FTL	Gene sequencer	1	98.5
17.	FTL	Micro Manipulator	1	31.0
18.	FTL	Vario scan flash top/bottom	1	25.7
19.	FTL	Snap ID	2	1.1
20.	FTL	Fully Automatic nucleic acid extraction system	1	21.0
21.	FTL	Gel Documentation system	1	30.0
22.	FTL	High Through Sequencer system	1	284.8
23.	FTL	Blotting Device system	1	9.9
24.	FTL	Bioinformatics setup system	1	149.0
25.	FTL	Deep fridge with Accessories	1	4.7
26.	FTL	Concentrator System	1	6.7
27.	FTL	Refrigerator Shaking Incubator	1	4.9
28.	FTL	Biocare Autoclave Fermented	1	20.4
29.	FTL	Laminar Air Flow	1	3.6
30.	FTL	Lovibond BOD	1	1.4
31.	FTL	BOD Incubator	1	1.4
32.	FTL	Microbiological Blender	1	5.5
33.	FTL	Photobio Reactors with Accessories	1	9.1
34.	FTL	Media Preparator with system	2	9.5
35.	FTL	Microscope	1	24.9
36.	FTL	Flowcyto meter	1	35.0
37.	FTL	HPLC Model LC 10-A with Accessories	1	7.1
38.	FTL	Lyophilizer with accessories	1	3.7
39.	FTL	Gerhardt soxhtherm	1	8.5
40.	FTL	Altra Centrifuge Max (BackmanCulter)	1	44.1
41.	FTL	Ingns rotary flash evaporator	1	4.6
42.	FTL	Solvent extraction dinox	1	31.7
43.	FTL	Sapbox	1	132.5
44.	FTL	FTIR with Accessories	1	11.3
45.	FTL	HPLC system with Accessories	1	27.9
46.	FTL	Elan-9000 Mass Spectrophotometer (ICPMS)	1	55.3
47.	FTL	836-tietrendo with aces.	1	12.6
48.	FTL	797-voltramatic system	1	11.1
49.	FTL	GCMS QP-2010 Plus	1	72.9
50.	FTL	IR moisture balance	1	3.0
51.	FTL	LN-2 Safety Cooling System	1	1.3
52.	FTL	Spectrofloro photometer	1	9.7

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
53.	FTL	"JASCO" Infrared spectrophotometer	1	6.8
54.	FTL	Microtrac Particle Size Analyzer	1	31.6
55.	FTL	T.Q.D. Aquity UPLC	1	93.0
56.	FTL	Acquity UPLC system	1	52.0
57.	FTL	Automatic Fibre Extraction System	1	9.2
58.	FTL	Rio meter	1	4.5
59.	FTL	Ion Meter	1	3.5
60.	FTL	Rotary Evaporator	1	1.5
61.	FTL	Pan analytical with Accessories	1	5.7
62.	FTL	XRF Spectro.with Accessories	1	29.5
63.	FTL	Gerhardt turbotherm	1	19.1
64.	FTL	Gluten Analyzer (LCGC)	1	8.5
65.	FTL	C.H.N. Analyzer	1	16.4
66.	FTL	Atomic Absorption Spectrophotometer	1	26.0
67.	FTL	Multi skin vacu.minifold	1	2.9
68.	FTL	K F coulometer	1	4.0
69.	FTL	Protein Fractionators System	1	19.9
70.	FTL	Spot Spicker&Digestor System	1	46.4
71.	FTL	Protein Analysis Scanner	1	54.4
72.	FTL	Surface Plasma Resonance System (SPR)	1	115.9
73.	FTL	2 D Gel Electrophoresis	1	29.9
74.	FTL	PCR mycycler System	1	3.4
75.	FTL	Inverted Microscope	1	14.3
76.	FTL	Hot Air Oven (Nova)	1	0.98
77.	FTL	Bioinformatics work station with accessories	1	209.45
78.	FTL	Refrigerated Hi-speed Centrifuge (Neuaion refrigerated centrifuge with LCD dispaly)	1	2.49
79.	FTL	Chiller (IKA movable with wheels recirculating chiller)	1	3.48
80.	FTL	Incubator with shaker (iGenelabserve TFT display orbital shaking incubator)	1	4.89
81.	FTL	Microplate reader (Dual life plate Elisa reader & washer)	1	2.99
82.	FTL	Flame Photometer (Elico)	1	1.60

Major equipment available in the Department of Biotechnology, CoA, JAU, Junagadh	
Name of equipment: SEM	**Name of equipment:** Bioinformatics setup system
Name of equipment: Microscope	**Name of equipment:** Incubator
Name of equipment: Capillary electrophoresis	**Name of equipment:** UV-Visible spectrophotometer

Table 6.4.178 PG: Theory and Practical batches for the PG program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semesters	Batch of students in theory class	Batch of students in practical class
1.	M. Sc. (Agri.) in Molecular Biology and Biotechnology	Odd	1 Batch (46 students)	1 Batch (15 students)
2.		Even	1 Batch (58 students)	1 Batch (11 students)

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty members preparetheory note, practical manual, multiple choice questioner book, from various books, research papers and reference books practical manuals for each subject of degree program and distributed to students at free of cost. The same material is uploaded in university website also.
- Many faculties with five years experiences in UG/PG teaching also contributed to the ICAR E-learning portal as course creator, unit reviewer and course reviewer.
- Students get practical exposure in separate laboratory of each discipline.

PRACTICAL AND HANDS-ON-TRAINING

- The students are rigorously exposed to practical trainings on pesticide residues and analysis in the food samples received.
- Students are frequently exposed to farm visits in nearby farmer's field to study various pest and diseases prevalence as well as to collect samples.
- Sufficient exposure is also given to PG students in DNA sequencing and anlysis.

6.4.6. SUPERVISION OF STUDENTS IN PG DEGREE PROGRAM

Apart from UG teaching, faculty members are involved in PG teaching /guiding of students. The details of qualified /supervised faculties are given Table 6.4.179.

Table 6.4.179 PG: Number of PG students supervised (guided) by faculty in the last five years in Molecular Biology and Biotechnology

Degree Program	No. of students being supervised (guided) by faculty for PG Degree	No. of qualified faculty members
M. Sc. (Agri.) in Molecular Biology and Biotechnology	29	09

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*) (2020-21 TO 2025-26)

- Information was collected from the outgoing students (after thesis submission) to know their future plans and to get their feedback for further improvements. Feedback from students, parents, farmers, and industrialists revealed that students are getting education as per schedule and sufficient facilities at hostels, mess, gym., sport ground, Wi-Fi are provided **(Annexure 6.4.7a).**
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per schedule where in Deans of all faculties, nominated Professors and Research Scientists of different faculties and renowned academicians are members. Based on the Board of study recommendation, the Academic Council takes the decision on academic matter for implementation in the university/college.
- ***STUDENT ADVISORY COMMITTEE:*** It is framed in the college in which four to five students are allotted to each faculty. They are frequently discussing the

educational problems as well as the hostel related problems and authorities are implementing accordingly.

- ***STUDENT REPRESENTATIVE COUNCIL:*** It works within the college ambit and frequently discusses the teaching and learning process with students, getting their feedback and subsequent implementation.
- ***FACULTY GROUP OF SUBJECTS:*** Faculty group of subjects for Basic Sciences which includes Biotechnolgy, Biochemistry and Plant Physiology subjects are conducted every year to monitor evaluations of subject wise performance of PG students and quality of teaching by faculties. The meetings are chaired by Hon'ble Vice-Chancellor. The research synopsis of PG/Ph.D. students are presented in this meeting and suggestions given by faculties to improve the quality of PG research.

Table 6.4.180 PG: Year-wise Faculty Group of Subject Meetings of Basic Sciences

Sr. No.	Year	Convener	Dignitaries remaining present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	Suggestions received from concerned FGS meeting; corresponding action taken report are submitted in ***Annexure 6.4.7b***.
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal and Dean	
4.	2023-24	Professor and Head	Director of Research and Dean PG Studies, Registrar, Director of Extension Education, Associate Director of Research and Principal and Dean	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research and Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal and Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR THE LAST FIVE YEARS

During each academic year, the admission has been full as per sanctioned strength. However, some students may leave after getting admission or paying 1st semester fees due to their better placement or other personal reasons. Once they left, the vacant seat cannot be filled again and hence it remain unfilled, which is explained here as attrition %.

Table 6.4.181 PG: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
M. Sc. (Agri.) in Molecular Biology and Biotechnology	2020-21	08	06	25.00
	2021-22	04	03	25.00
	2022-23	07	06	14.28
	2023-24	04	03	25.00
	2024-25	04	04	0.00
	2025-26	04	04	0.00

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

1. ***CERA AND OTHER ONLINE E-RESOURCES:*** CeRA, the ICAR Consortium of e-resources in Agriculture, is effectively put to use with more than 3000 scholarly journals pertaining to the agriculture and allied sciences in full text.
2. ***E-BOOKS:*** The Springer e-books avaialbe with the university library are also extensively used by the faculty members and PG students alike for ASRB NET examination and general reading.
3. ***KRISHIKOSH:*** Besides uploading departmental theses to Krishikosh repository of ICAR, the department students also use the portal for literature review, identifying the gaps in their research and framing objectives.
4. ***INTERNET:*** Digital library with computers and internet facility is available and used by the PG Degree students. Wi-Fi Internet facility is also provided at all the hostels, which is available for all the time.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, CoA, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: 31.01.2026
Place: Junagadh

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Annexure 6.4.7a

Postgraduate students' feedback report for AY 2024-25

Department of Biotechnology, CoA, JAU, Junagadh			
No of Respondent: 27			
Particulars:			**Score**
Departmental Teaching - Learning Process			
1. How do you rate Student- Teacher relations?			3.8
2. How do you rate for completion of courses by the teachers?			3.5
3. How do you rate fairness in internal assessment in the department?			3.6
4. How do you rate practical exposure from the department?			3.4
5. How do you rate for statistical analysis facility provided by the department			3.9
6. Did teachers motivate /support you for solving your personal problems			3.5
P.G. Research facility			
1. How do you rate for your selection of research topic?			3.3
2. Did you get enough facilities for conducting experiment?			3.8
3. How do you rate material provided for conducting experiment?			3.6
4. How do you rate for major Guide for supporting in completion of Seminar and thesis project			3.5
Library facilities			
1. Books related to your subject are available in the library?			3.4
2. Internet facilities for learning and research purpose?			3.3
3. Availability of research journals (online /offline) for review purpose?			3.7
4. How do you rate for delivery of books system?			3.4
Hostel Facility			
1. How do you rate hostel facilities?			3.4
2. How do you rate wi-fi facility?			3.0
3. How do you rate for food quality in mess?			3.1
4. How do you rate cleanliness in the hostel?			3.2
Sports facility			
1. How do you rate indoor sports facility?			3.5
2. How do you rate outdoor sports facility?			3.3
Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	3	2	1

Annexure 6.4.7b

Feedback received in the Faculty Group Meetings of Basic Sciences

PROCEEDING OF MEETING ON 7th FACULTY GROUP OF BASIC SCIENCE HELD ON 2nd DECEMBER, 2021 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COLLEGE OF AGRICULTURE, JAU, JUNAGADH

7.1: Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. H. P. Gajera, Professor and Head presented the action taken report of the 6th meeting of faculty group of " Basic Sciences". He has also presented teaching and research activities of Department of Biotechnology and Biochemistry. The house appreciated the presentation with following suggestions.

1. Add H-index; i10-index and No. of total citations of publications of each faculty in the presentation.
2. Arrange advanced training on analysis for PG students.

(**Action: Faculties of Department of Biotechnology and Biochemistry discipline**)

7.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Add H-index; i10-index and No. of total citations of publications of each faculty in the presentation.

(**Action: Faculties of Plant Physiology discipline**)

7.3 Department of English, JAU, CoA, JAU, Junagadh

Dr. P. I. Dave, Assistant Professor presented the activities of Library and English discipline. The house approved and appreciated.

1. Add the work load of all the English teacher of JAU, Junagadh.
2. English subject may be included in social science group of subject meeting.

(**Action: Faculties of English discipline**)

7.4 General Suggestions

Prof. (Dr.) N. K. Gontia, Chairman & Hon. Vice Chancellor, Junagadh Agricultural University gave the presidential remarks to evaluate the teaching and PG research activities of faculties of Basic Sciences group. Some of the important points are given below

1. Emphasize on importance of Basic science in agriculture in the era of climate changes.
2. Suggest to channelize the research work done by basic science up to the end users and outcome-based research.
3. Research fellows may be involved in teaching activities including practical.
4. Research papers should be published good NAAS rated journals.
5. Encourage the PG students to publish their research in reputed Journals.
6. Encourage the staff and students to apply in different prestigious awards.
7. Training/Dissertation/Project work to basic science students of other university may be initiated.

(Action: *All major guide and faculty members of FGS – Basic Sciences***)**

PROCEEDING OF 8th MEETING ON FACULTY GROUP OF SUBJECTS - BASIC SCIENCE
Venue: Seminar Hall, Department of Biotechnology, College of Agriculture, JAU, Junagadh. Date: January 27, 2023

8.1 Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. H. P. Gajera, Convener of FGS-BS and Professor & Head (Biotechnology) presented the action taken report on the proceeding of the 7th meeting of FGS-BS. The house approved the same after through discussion. He has also presented academic activities of UG and PG studies of Biotechnology and Biochemistry subjects. The house appreciated the presentation with following suggestions.

1. Job/Placement of students may be informed timely to placement cell by concern major guide.
2. Include JAU research for citation in PG thesis and research papers.

(Action: All the faculties, Department of Biotechnology and Biochemistry discipline)

8.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Information of the FGS report should be submitted strictly as per the format.
2. Job/Placement of students may be informed timely to placement cell by concern major guide.
3. Include JAU research for citation in PG thesis and research papers (Plant Physiology).

(Action: All the faculties of Plant Physiology discipline)

8.3 Department of Animal Science, CoA, JAU, Junagadh

Dr. N. K. Ribadiya, Assistant Professor and Head (Animal Sci.) presented the activities of animal science discipline. The house approved the presentation with following suggestions.

1. Information of the FGS report should be submitted strictly as per the format.

(Action: All the faculties of Animal Science discipline)

8.4 Presentation of Ph.D. Research work, Department of Biotechnology and Biochemistry, JAU, Junagadh

Two Ph.D. Students, (1) Ashwini M. N. and (2) Lakhani Komal G. presented their synopsis of Ph.D. research work. The house appreciated the presentation.

8.5 Presidential remarks

Dr. V. P. Chovatia, Chairman & Hon. Vice Chancellor, Junagadh Agricultural University gave the presidential remarks to evaluate the teaching and PG research activities of faculties of Basic Sciences group. Some of the important suggestions are given below

1. Emphasize more on Basic work related to Climate change in PG Research.
2. Encourage the PG students and faculties for published their research in reputed Journals having good NAAS rating/Impact factor.
3. Training/Dissertation/project work to basic science students of other university may be strengthened.
4. Encourage the Faculties and PG students to apply in different prestigious awards.

PROCEEDING OF MEETING ON 9th FACULTY GROUP SUBJECTS- BASIC SCIENCE, HORTICULTURE, ANIMAL SCIENCE HELD ON 25th JANUARY, 2024 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COA, JAU, JUNAGADH

8.1 Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. H. P. Gajera, Professor and Head (Biotechnology & Biochemistry) presented the action taken report of the 8th meeting FGS point wise and the house approved the same after thorough discussion. He also presented report of 9th FGS-Basic Science (BS) regarding teaching and research activities of Department of Biotechnology and Biochemistry. The house appreciated the presentation
with following suggestions.

1. Priorities should be given to cite JAU research in PG thesis writing.
2. Department wise credit hours or RAWEP should be calculate as per the norms.
3. Review the PG students progress timely

(Action: All the faculties and major guide, Department of Biotechnology and Biochemistry discipline)

8.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Use proper format of FGS.
2. Include self-citation of JAU research in PG thesis writing.

(Action: All the faculties of Plant Physiology discipline)

8.3 Department of Horticulture, CoA, JAU, Junagadh

Dr. N. D. Polara, Prof. and Head, Department of Horticulture, COA, JAU, Junagadh presented the activities of Horticulture discipline. The house appreciated the presentation with following suggestions.

1. Include self-citation of JAU research in PG thesis writing.
2. Use proper format of FGS
3. Hort 6.6 course to be transferred to PHT Department, CAET, JAU, Junagadh

(Action: Prof. and Head, Dept. of Horticulture, CoA, JAU, Junagadh)

8.4 Department of Animal Science, CoA, JAU, Junagadh

Dr. N. K. Ribadiya, Assistant Professor and Head (Animal Sci.) presented the teaching activities of animal science discipline. The house approved the presentation with following suggestion.

1. Use proper format for FGS.

(Action: Assistant Prof. and Head, Dept. of Animal Science, CoA, JAU, Junagadh)

8.5 Presentation of Ph.D. Research work, Department of Biotechnology and Biochemistry, JAU, Junagadh

Ph.D. Students, Kundan presented their synopsis of Ph. D research work. The house has appreciated the presentation and approved.

8.6 Presidential remarks

Dr. V. P. Chovatia, Chairman & Hon. Vice Chancellor, Junagadh Agricultural University gave the presidential remarks to evaluate the teaching and PG research activities of faculties of Basic Sciences and also for Horticulture and Animal Science group. He critically evaluated the teaching and research activities of each group and given

valuable suggestions to improve the education system. Some of the important points are given below

1. More emphasizeshould be given on ranking in NAAC.
2. Encourage the PG students and faculties for published their research in reputed Journals

having good NAAS rating/Impact factor along with thesis writing.

3. Encourage the staff and students to apply in different prestigious awards

PROCEEDING OF 10TH FACULTY GROUP OF BASIC SCIENCE HORTICULTURE AND ANIMAL SCIENCE HELD ON 13th JANUARY, 2025 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COLLEGE OF AGRICULTURE, JAU, JUNAGADH

10.1 Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. U. K. Kandoliya, Associate Professor presented the action taken report of the 9th meeting of faculty group of "Basic Sciences". He has also presented teaching and research activities of Department of Biotechnology and Biochemistry. The house appreciated the presentation with following suggestions.

1. The presentation must adhere strictly to the prescribed format, without including unnecessary information from previous years.
2. Research fellows and supporting staff under the ad-hoc scheme should be included in the staff position in report.
3. The list of experts for MBB and Biochemistry needs to be updated to include retired JAU experts.
4. Provide a list of books purchased by the library following departmental commendations.
5. Feedback from PG students should be collected by their respective guides and include the overall feedback in the report.

(Action: All the faculties, Department of Biotechnology and Biochemistry discipline)

10.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Collect feedback from PG students and include the general feedback in the report.

(Action: Faculty of Plant Physiology discipline)

10.3 Department of Horticulture

Dr. N. D. Polara, educational activities of Horticulture suggestions.

1. The Horticulture group from the College of Agriculture (CoA) will move to the College of made with the College of Horticulture, JAU, Junagadh.
2. Collect feedback from feedback in the report.

10.4 Department of Animal Science

Dr. N. K. Ribadiya, Assistant Professor, animal science discipline.

1. Collect feedback from feedback in the report.

10.5 Presentation of Ph.D. Research work, JAU, Junagadh

Ph. D. student Japada Ashish was approved by the house.

10.6 Presidential remarks

Dr. V. P. Chovatia, President important points are given below

1. NAAS rating or impact
2. Each faculty member should

3. knowledge in their respective subjects.
4. Motivate staff and students to apply for various prestigious award
(Action: All faculty members of FGS-Basic Sciences, Horti., Animal Sciences)

PROCEEDING OF MEETING ON 11th FACULTY GROUP OF BASIC SCIENCE AND ANIMAL SCIENCE HELD ON 12th SEPTEMBER, 2025 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COLLEGE OF AGRICULTURE, JAU, JUNAGADH
Venue: Seminar Hall, Department of Biotechnology Date: 12/09/2025

General suggestions:
11.1 All the faculty members of the group must attend the meeting.
11.2 The citation of the research papers of JAU faculties should be included in the PG research thesis and guide should check the same
11.3 All the major guide of PG students should follow the guidelines while submitting synopsis and final thesis will ensure high quality and reduce errors
11.4 Name of the registrar should be acknowledged in the PG thesis and major guide should ensure it.
11.5 Encourage the PG students and faculties for published their research in reputed Journals having good NAAS rating/Impact factor.
11.6 Every staff member has to take responsibility to improve University Ranking in various platforms/ accreditation.
11.7 Training for the staff for the updating in their subject.
(Action: All the members of Basic Science Group, JAU, Junagadh)

Action Taken:

All suggestions relevant to the Department of Biotechnology, based on the feedback received from the esteemed members of the house who remained present in the Faculty Group of Subjects Meetings, were implemented from time to time and the concerned reports were also presented in the subsequent meetings.

6.4:

Self-Study Report for Doctorate Degree Programmes

6.4:
Self-Study Report for Ph.D. in Agronomy

6.4. SELF-STUDY REPORT FOR PH.D. IN AGRONOMY AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PH.D. PROGRAM

The Department of Agronomy was started with the establishment of College of Agriculture, Junagadh in 1960. At that time, about 100 ha donated land was assigned to the Department of Agronomy. The land was developed and divided into blocks with roads, irrigation, drainage, buildings, and sheds etc. facilities. After release of first UG students' batch, the PG program was started in Agronomy.

Department of Agronomy, College of Agriculture, JAU, Junagadh

STEPPING-STONES OF THE DEPARTMENT

- The Department of Agronomy was started with the establishment of College of Agriculture, Junagadh in 1960.
- The PG program in Agronomy was started in 1964.
- The Ph.D. program in Agronomy was started in 1966.
- The affiliation of the college was transferred to Saurashtra University, Rajkot in 1968.
- The College achieved a major milestone with it joining to the new-born Gujarat Agricultural University in 1972.
- The education medium was in vernacular language (Gujarati) during initial years of the College and was changed to English medium from the first semester of academic year 1977.
- The College came under the jurisdiction of Junagadh Agricultural University with the quadfurcation of the erstwhile Gujarat Agricultural University into four new Agricultural Universities from May 01, 2004.

MISSION, GOALS AND OBJECTIVES

MISSION: To provide education as well as practical and skill-oriented training to the students in Agronomy discipline.

GOAL: To develop agricultural professionals with excellence in fundamental knowledge and field experience in agronomy discipline.

OBJECTIVES:

- To impart UG and PG education in Agronomy discipline.
- To provide practical field training to UG and PG students.
- To avail farm facilities for research to PG students of the college.
- To conduct research in agronomic aspects.
- To impart training to farmers, line departments, NGOs etc.

ACCOMPLISHMENTS / ACHIEVEMENTS OF THE LAST FIVE YEARS

EXTERNAL FUNDED PROJECTS IN THE DEPARTMENT OF AGRONOMY

1. Evaluation of bio-efficacy and phytotoxicity of BASTA 20 SL (Glufosinate Ammonium SL) against weeds in cotton and its residual effect on succeeding crop (other agency project)
2. Evaluation of pre-mixture herbicide, RIL-202/F1 (35.9% SE) for its efficacy, phytotoxicity & residue against important weeds in groundnut as pre-emergent application (other agency project)
3. Evaluation of bioefficacy of BASTA 20 SL (Glufosinate Ammonium SL) against weeds in non-crop area (other agency project)
4. Evaluation of bio-efficacy and phytotoxicity of BASTA 20 SL (Glufosinate Ammonium SL) against weeds in cotton and its residual effect on succeeding crop (other agency project)
5. Bio-efficacy and Phytotoxicity Evaluation of Coded Herbicide CH-2414 against Broad Spectrum Weed Management with Comparison to Standard Treatment on Wheat Crop (Other agency project)
6. Bio-efficacy and Phytotoxicity Evaluation of Coded Herbicide CH-2021 against Broad Spectrum Weed Management with Comparison to Standard Treatment on Wheat Crop (Other agency project)
7. Evaluation of the Bio-efficacy, Phytotoxicity and Residue Trials of CIX-404 + Surfactant in Groundnut (Other agency project)
8. Evaluation of the Bio-efficacy, Phytotoxicity and Residue Trials of CIX-404 + Surfactant in Groundnut (Other agency project)
9. Bio-efficacy and Phytotoxicity Evaluation of Coded Herbicide CH-2414 against Broad Spectrum Weed Management with Comparison to Standard Treatment on Wheat Crop (Other agency project)

10. Bio-efficacy and Phytotoxicity Evaluation of Coded Herbicide CH-2021 against Broad Spectrum Weed Management with Comparison to Standard Treatment on Wheat Crop (Other agency project)
11. Evaluation of the Bio-efficacy, Phytotoxicity and Residue Trials of CIX-404 + Surfactant in Groundnut (Other agency project)
12. Evaluation of bio-efficacy and phytotoxicity of GOD-H007 64.5% SG against inter row weed control in Cotton and its effects on succeeding crops (Other agency project)
13. Evaluation of bio-efficacy and phytotoxicity of Maxxcott ZC against weeds in groundnut crop and its carryover effects on succeeding crops (Other agency project)
14. Evaluation of bio-efficacy and phytotoxicity of GOD-H007 64.5% SG (herbicide) against inter row weed control in Cotton and its effects on succeeding crops (Other agency project).
15. Evaluation of bio-efficacy and phytotoxicity of Maxxcott ZC against weeds in groundnut crop and its carryover effects on succeeding crops (Other agency project).
16. Studies on bio-efficacy of GOD-H011 against weed flora, its phytotoxic effect on cotton plant and carryover and residual effects of GOD-H011 on succeeding crops (Other agency project).
17. Studies on bio-efficacy of GOD-H011 against weed flora, its phytotoxic effect on guar plant and carryover and residual effects of GOD-H011 on succeeding crops (Other agency project).
18. Studies on bio-efficacy of GOD-H012 against weed flora, its phytotoxic effect on cotton plant and carryover and residual effects of GOD-H012 on succeeding crops (Other agency project).
19. Studies on bio-efficacy of GOD-H013 against weed flora, its phytotoxic effect on cotton plant and carryover and residual effects of GOD-H013 on succeeding crops (Other agency project).

RECOMMENDATIONS FROM THE DEPARTMENT OF AGRONOMY FOR FARMERS

Year: 2020-21

1.	Evaluation of various green manure crops under different time of sowing
The farmers of South Saurashtra Agro-climatic Zone interested in green manuring are advised to sow sunhemp or dhaincha during June-July and incorporate in soil at initiation of flowering for adding higher quantity of green biomass, N, P and K in soil.	
2.	Weed management in coriander
The farmers of Saurashtra region growing coriander are advised to keep weed free condition up to 45 DAS by hand weeding as and when required for effective weed management and to obtain higher seed yield and net realization.	
3.	Weed management in chickpea
The farmers of Saurashtra region growing irrigated chickpea are advised to keep weed free condition up to 45 DAS by interculturing and hand weeding as and when required for effective weed management and to obtain higher seed yield and net realization.	

4.	Weed management in summer guar
The farmers of Saurashtra region growing summer guar are advised to keep weed free condition up to 45 DAS by interculturing and hand weeding as and when required for effective weed management and to obtain higher seed yield and net realization.	
5.	Integrated nutrient management in soybean
The farmers of South Saurashtra Agro-climatic Zone growing *Kharif* soybean are advised to apply either Biocompost 2 t/ha + FYM 2.5 t/ha + *Rhizobium* 2 L/ha + PSB 2 L/ha or Biocompost 4 t/ha or FYM 5 t/ha as soil application to obtain higher yield and net realization along with maintenance of soil fertility.	
6.	Weed management in green gram
The farmers of South Saurashtra Agro-climatic Zone growing *Kharif* green gram are advised to do interculturing and hand weeding at 20 and 40 days after sowing for effective weed management and to obtain higher seed yield and net realization.	
7.	Weed management in black gram
The farmers of South Saurashtra Agro-climatic Zone growing *Kharif* black gram are advised to do interculturing and hand weeding at 20 and 40 days after sowing for effective weed management and to obtain higher seed yield and net realization.	
8.	Effect of tillage and post-emergence herbicides on growth and yield of soybean
The farmers of South Saurashtra Agro-climatic Zone growing *Kharif* soybean are advised to prepare the field by rotavator and apply pendimethalin 0.9 kg/ha (30% EC @ 60 ml/10 L water) as pre-emergence *fb* pre-mix sodium acifluorfen + clodinafop propargyl 245 g/ha (16.5% + 8% EC @ 20 ml/10 L water) as post-emergence at 30 DAS for effective weed management and to obtain higher seed yield and net realization.	

Year: 2021-22

1.	Development and evaluation of microbial consortia enriched vermicompost formulation in wheat
The farmers of South Saurashtra Agro-climatic Zone growing wheat organically are recommended to apply FYM 5 t/ha along with vermicompost 2 t/ha enriched with *Azotobacter* (2 L), PSB (2 L), KSB (2 L), *Trichoderma harzianum* (3 kg), *Pseudomonas fluorescens* (3 L) and *Beauveria bassiana* (3 kg) to obtain higher yield and net return as well as to improve soil health. For enrichment of vermicompost, *Azotobacter* (2 L), PSB (2 L), KSB (2 L), *Trichoderma harzianum* (3 kg), *Pseudomonas fluorescens* (3 L) and *Beauveria bassiana* (3 kg) should be mixed with vermicompost 2 tonne with little water sprinkled (Moisture content 20%) and apply 10 days after incubation in the field.	
2.	Evaluation of microbial consortia enriched vermicompost in *Kharif* groundnut
The farmers of South Saurashtra Agro-climatic zone growing Kharif groundnut organically are recommended to apply FYM 5 t/ha along with vermicompost 2 t/ha enriched with Rhizobium (2 L), PSB (2 L), KSB (2 L), Trichoderma harzianum (3 kg), Pseudomonas fluorescens (3 L) and Beauveria bassiana (3 kg) to obtain higher yield and net return as well as to improve soil health. For enrichment of vermicompost, Rhizobium (2 L), PSB (2 L), KSB (2 L), Trichoderma harzianum (3 kg), Pseudomonas fluorescens (3 L) and Beauveria bassiana (3 kg) should be mixed with vermicompost 2 tonne with little water sprinkled (Moisture content 20%) and apply 10 days after incubation in the field.	

3.	Response of *Rabi* castor based intercropping systems to drip irrigation

The farmers of South Saurashtra Agro-climatic Zone growing *Rabi* castor based intercropping system are recommended to irrigate the castor and intercrops through drip irrigation at 0.8 PEF to obtain higher castor seed equivalent yield and net realization along with higher WUE. Farmers are also recommended to sow gram as an intercrop with *Rabi* castor sown at 180 cm spacing in 1:3 row proportion to obtain higher castor seed equivalent yield and net realization.

System details:

Details	Operating Time	
	Month	Minutes
Lateral spacing: 60 cm	November	270
Dripper spacing: 40 cm	December	
Dripper discharge rate: 4 lph	January	216
Operating pressure: 1.2 kg/cm^2	February	
Operating frequency: Alternate day	March	300

4.	Evaluation of land configuration and intercropping system in Bt. Cotton

The farmers of South Saurashtra Agro-climatic Zone adopting Bt. Cotton based intercropping system are recommended to sow cotton under broad bed and furrow system (Broad bed 210 cm wide, furrow 30 cm wide & 20 cm deep) to obtain higher seed cotton equivalent yield and net return along with soil moisture conservation. The farmers are also recommended to sow cotton + green gram or black gram in 1:2 row proportion for getting higher seed cotton equivalent yield and net realization.

Year: 2022-23

1.	Effect of NPK levels on growth, yield and nutrient uptake by isabgol

The farmers of South Saurashtra Agro-climatic Zone growing isabgol are recommended to apply 30 kg nitrogen, 30 kg phosphorus and 30 kg potash/ha along with FYM 5 t/ha at the time of sowing and remaining 30 kg N at as top dressing at 45 DAS for getting higher seed yield and net realization.

2.	Weed Management in *Kharif* Maize

The farmers of south Saurashtra Agro-climatic zone growing *Kharif* maize are recommended to apply atrazine 500 g/ha (50% WP 20 ml/10 L water) as pre-emergence *fb* Topramezone 25 g/ha (33.6% SC 1.488 g/10 L water) as post-emergence at 30 DAS **OR**

Atrazine 500 g/ha (50% WP 20 ml/10 L water) as pre-emergence *fb* Tank-mix halosulfuron 30 g/ha (75% WG 0.8 g/10 L water) + Topramezone 12.5 g/ha (33.6% SC 0.744 g/10 L water) as post-emergence at 30 DAS (T7) **OR**

HW at 15 and 30 DAS for effective weed management and achieving higher grain yield and net realization.

For effective management of purple nutsedge, farmers of south Saurashtra Agro-climatic zone growing *Kharif* maize are recommended to apply atrazine 500 g/ha (50% WP 20 ml/10 L water) as pre-emergence *fb* halosulfuron-methyl 60 g/ha (75% WG 1.6 g/10 L

water) as post-emergence at 30 DAS OR Atrazine 500 g/ha (50% WP 20 ml/10 L water) as pre-emergence *fb* Tank-mix halosulfuron 30 g/ha (75% WG 0.8 g/10 L water) + Topramezone 12.5 g/ha (33.6% SC 0.744 g/10 L water) as post-emergence at 30 DAS OR HW at 15 and 30 DAS.

Year: 2023-24

1.	**Evaluation of some cow-based bio-enhancers and botanicals for organic cultivation of *Rabi* onion**

The farmers of South Saurashtra Agro-climatic Zone growing *Rabi* onion under organic farming are recommended to apply FYM 10 t/ha to obtain higher yield and net realization.

The farmers who are interested in cow-based farming are recommended to apply FYM 5 t/ha along with *Panchagavya* 3 % spray at 30, 45 and 60 DAS OR FYM 5 t/ha along with *Jivamrut* 500 l/ha with irrigation at sowing, 30 and 45 DAS.

Year: 2024-25

1.	**Real time nitrogen fertilization using leaf colour chart in wheat**

The farmers of South Saurashtra Agro-climatic Zone growing wheat are recommended to apply either 60 kg N/ha as basal + 30 kg N/ha when LCC ≤ 3 + 30 kg N/ha when LCC ≤ 3 or 40 kg N/ha as basal + 40 kg N/ha when LCC ≤ 3 + 40 kg N/ha when LCC ≤ 3 besides FYM 5 t/ha for securing higher yield and net realization. Take LCC observation at weekly interval for LCC value.

2.	**Effect of drip irrigation schedules and plastic mulch on yield of *Rabi* sweet corn**

The farmers of South Saurashtra Agro-climatic Zone growing *Rabi* sweetcorn sown at 40-80-40 cm x 20 cm in paired row planting are recommended to irrigate the crop with surface irrigation at 1.0 IW/CPE with wheat straw mulch (5 t/ha) (15-20 DAS) for securing higher yield and net realization.

3.	**Effect of levels and schedules of nitrogen fertigation on growth and yield of summer sesame**

The farmers of South Saurashtra Agro-climatic zone growing summer sesame are recommended to apply basal dose of fertilizer (10-25-0 kg N-P_2O_5-K_2O/ha) at time of sowing and then N fertigation with 50 kg/ha in water soluble form through drip fertigation (one week after sowing) in six equal splits at 10 days interval for getting higher yield and net returns.

Particulars	**Details**	**Particulars**	**Details**
Lateral Spacing	90 cm	Opereting pressure	1.2 kg/cm^2
Dripper Spacing	60 cm	Opereting frequency	Alternate day
Dripper discharge rate	4 lit./hr.	Irrigation schedule	1.0 PPF

4.	**Effect of NPKS levels on growth, yield and nutrient uptake by *Kharif* soybean**

The farmers of South Saurashtra Agro-climatic Zone growing *Kharif* soybean are recommended to apply 30 kg nitrogen, 60 kg phosphorus and 30 kg sulphur at the time of sowing besides FYM 5 t/ha for getting higher seed yield and net realization.

5.	Bio-efficacy evaluation of pre-mix herbicides in summer soybean

The farmers of south Saurashtra Agro-climatic zone growing summer soybean are recommended to apply pendimethalin 30% EC (60 ml/10 L water) 900 g/ha as pre-emergence *fb* pre-mix propaquizafop 2.5% + imazethapyr 3.75% ME (40 ml/10 L water) 50+75 g/ha as post-emergence at 30 DAS **OR** pre-mix pendimethalin 30%+ imazethapyr 2% EC (50 ml/10 L water) 750+50 g/ha as pre-emergence *fb* pre-mix fluazifop-p-butyl 11.1%+ fomesafen 11.1% SL (20.3 ml/10 L water) 125+125 g/ha as post-emergence at 30 DAS **OR** pre-mix pendimethalin 30%+ imazethapyr 2% EC (50 ml/10 L water) 750+50 g/ha as pre-emergence *fb* IC & HW at 30 DAS **OR** pendimethalin 30% EC (60 ml/10 L water) 900 g/ha as pre-emergence *fb* pre-mix imazamox 35% + imazethapyr 35% WG (2 g/10 L water) 35+35 g/ha as post-emergence at 30 DAS for effective weed management and achieving higher seed yield and net realization.

6.	Dynamics of soil weed seedbank in *Kharif* groundnut

The farmers of south Saurashtra Agro-climatic zone growing *Kharif* groundnut are recommended to use following practices for effective management of wheat residue, weeds, better management and reduction of soil weed seedbank along with profitable cultivation of groundnut and for sustaining of soil health;

Wheat residue incorporation *fb* reduced tillage (Rotavator) and application of waste decomposer 75 ml/ha with pre-sowing irrigation and *Trichoderma viride* 5 kg/ha + 20 kg N/ha and suicidal germination (Application of Ethylene 2 L/ha + KNO_3 2 kg/ha with pre-sowing irrigation *fb* Killing the weed flush by subsequent light harrowing) along with Inter-culturing and hand weeding at 15, 30 & 45 DAS according to availability of labourers.

7.	Bio-efficacy evaluation of different herbicides in *Bt* cotton

The farmers of south Saurashtra Agro-climatic zone growing *Bt*. cotton are recommended to do IC & HW at 20, 40 and 60 DAS OR apply tank-mix pendimethalin 30% + pyrithiobac sodium 10% EC (30 + 7.5 ml/10 of water) 450 +37.5 g/ha as pre-emergence *fb* pre-mix pyrithiobac sodium 6% + quizalofop-ethyl 4% EC (25 ml/10 of water) 75+50 g/ha as post-emergence at 30 DAS *fb* IC & HW at 60 DAS OR tank-mix pendimethalin 30% + pyrithiobac sodium 10% EC (30+7.5 ml/10 of water) 450 + 37.5 g/ha as pre-emergence *fb* IC & HW at 30 & 60 DAS OR pendimethalin 30% EC (60 ml/10 of water) 900 g/ha as pre-emergence *fb* IC & HW at 30 & 60 DAS as per availability of labours for effective weed management and achieving higher seed cotton yield and net realization.

8.	Response of castor to subsoiling and furrow irrigation

The farmers of South Saurashtra Agro-climatic zone are recommended to sow the castor in in-row subsoiling (by subsoiler at 45 cm depth) prepared before sowing and irrigate the crop through furrow irrigation at 15 days interval (0.8 IW/CPE ratio) after cessation of monsoon for getting higher yield and net realization.

RECOMMENDATIONS FROM THE DEPARTMENT OF AGRONOMY FOR SCIENTIFIC COMMUNITY

Year: 2020-21

1.	Weed management in coriander
Under Saurashtra region, effective weed management along with higher seed yield of coriander can be achieved by application of tank-mix pendimethalin 450 g/ha + oxadiargyl 30 g/ha as pre-emergence *fb* HW at 30 DAS or paraquat 500 g/ha as early post-emergence at 7 DAS *fb* HW at 30 DAS or pendimethalin 750 g/ha as pre-emergence *fb* HW at 30 DAS.	
2.	**Weed management in chickpea**
Under Saurashtra region, effective weed management along with higher seed yield of chickpea and net return can be achieved by application of pendimethalin 750 g/ha as pre-emergence *fb* IC & HW at 30 DAS or pre-mix pendimethalin + imazethapyr 750 g/ha as pre-emergence *fb* IC & HW at 30 DAS.	
3.	**Weed management in summer guar**
Under Saurashtra region, effective weed management along with higher seed yield of guar and net return can be achieved by application of tank-mix pendimethalin 450 g/ha + oxadiargyl 30 g/ha as pre-emergence *fb* IC & HW at 30 DAS or pre-mix pendimethalin + imazethapyr 750 g/ha as pre-emergence *fb* IC & HW at 30 DAS.	
4.	**Weed management in green gram**
Under South Saurashtra Agro-climatic Zone, effective weed management along with higher seed yield of *Kharif* green gram and net return can be achieved by application of pre-mix pendimethalin + imazethapyr 750 g/ha as pre-emergence *fb* IC & HW at 40 DAS or pendimethalin 900 g/ha as pre-emergence *fb* IC & HW at 40 DAS.	
5.	**Weed management in black gram**
Under South Saurashtra Agro-climatic Zone, effective weed management along with higher seed yield of *Kharif* black gram and net return can be achieved by application of pre-mix pendimethalin + imazethapyr 750 g/ha as pre-emergence *fb* IC & HW at 40 DAS.	

Year: 2023-24

1.	Calibration and validation of CERES model (DSSAT 4.6) for different cultivars of wheat under different sowing time

CERES-Wheat model of DSSAT family was calibrated and validated for GW 499, GW 451 and GJW 463 cultivars of wheat. The model simulations of grain yield of wheat were validated with less than 10 percent error. The genetic coefficients are recommended for use in optimization for crop management and yield prediction of wheat crop as under

Symbol	Description	GW 499	GW 451	GJW 463
PHINT	Phyllochron interval (^{0}days)	73.4	71.2	72.8
P1V	Vernalization coefficient	0.50	0.40	0.50
P1D	Photoperiodism coefficient	1.80	1.90	2.00
P5	Grain filling duration coefficient	3.25	3.15	3.10
G1	Kernel number coefficient	5.55	5.60	5.50
G2	Kernel weight coefficient	4.20	4.35	4.25
G3	Spike number coefficient	5.25	5.35	5.30

DSSAT model can be used for predicting wheat grain yield and 331tat re331ical events under various agro-climatic conditions. The model may also be used to improve and evaluate the current practices of wheat growth management to increase the crop production.

2.	**Calibration and validation of CERES model (DSSAT 4.6) for different cultivars of wheat under different sowing time**

It is informed to the scientific community that wheat crop under South Saurasthra Agro-climatic condition can be sown around 15th November (Minimum temperature 15 to 17 0C and Maximum temperature 32 to 34 0C) and prefer varieties GW 499, GW 451 and GJW 463 for getting higher yield and net return.

3.	**Dynamics of weed flora in major *Rabi* crops**

- It is informed to scientific community that information on weed dynamics in wheat, chickpea and coriander during *Rabi* season is as below:
- Total sixteen existing weed species of eleven different families were identified and observed during *Rabi* season. From total sixteen species of weeds, the families constituted as Amaranthaceae (02), Asteraceae (03), Chenopodiaceae (01), Cyperaceae (01), Euphorbiaceae (01), Leguminosae (01), Liliaceae (01), Poaceae (03), Portulacaceae (01), Solanaceae (01) and Tiliaceae (01).
- Total weeds in floristic composition were *Cyperus rotundus*, *Asphodelus tenuifolius*, *Echinochloa colona*, *Eluropus villosus*, *Dactyloctenium aegyptium*, *Digera arvensis*, Eclipta *alba*, *Euphorbia hirta*, *Parthenium hysterophorus*, *Indigofera glandulosa*, *Portulaca oleracea*, *Corchorus olitorious*, *Tridax procumbens*, *Physalis minima*, *Amaranthus spinosus* and *Chenopodium album*.
- Highest weeds were observed of families; *Asteraceae* ≥ *Poaceae* > *Amaranthaceae*.
- *Cyperus rotundus*, *Asphodelus tenuifolius*, *Chenopodium album*, *Echinocloa colona*, *Physalis minima*, *Digera arvensis*, *Eluropus vilosus*, *Indigofera glandulosa*, *Eclipta alba* and *Euphorbia hirta* were found to be the most common weed species in *Rabi* season.
- The most dominant succession of *Cyperus rotundus*, *Asphodelus tenuifolius* and *Echinochloa colona* and *Digera arvensis* were noted throughout season.
- *Echinochloa colona* with wheat, *Asphodelus tenuifolius*, *Indigofera glandulosa* and *Physalis minima* with chickpea and coriander; *Cyperus rotundus* with all crops throughout *Rabi* season were associated than other weed species.
- Dry weight of weeds increased over time. The lowest weed dry weight was registered in wheat, followed by coriander and the highest weed dry weight at all the stages was recorded in chickpea.
- Among the crops, monocots > dicots > sedges in wheat, monocots > sedges > dicots were observed in chickpea and coriander. Among weed management practices, monocots > dicots > sedges in unweeded, monocots in weed free, monocots > sedges in HW and monocots > sedges > dicots order in herbicidal treatment was observed.
- The weed late to emerge was observed *i.e.*, *Eluropus villosus* up to 15 DAS.
- Uprooting of weeds at 15 days interval decreased periodical weed dry weight, followed by two hand weeding and application of pre- & post-emergence herbicides. Whereas, the undisturbed weedy condition progressively increased weed dry weight.

- Number of weeds decreased with time. The weed count at all the stages was more or less same in wheat, chickpea and coriander.
- Removal of existing weeds put forth the emergence of new weeds. HW at 15 & 30 DAS and application of pre- & post-emergence herbicides were almost equally effective in suppressing weed count. Whereas, undisturbed condition reduced weed count over time, but had the highest weed count at all the stages as compared to weed control methods.
- The most densely weeds *viz.*, *Asphodelus tenuifolius, Echinochloa colona* and *Cyperus rotundus* and least densely were *Tridax procumbens, Chenopodium album* and *Corchorus olitorious*. Removal of weeds at 15 days interval increased yields of wheat, chickpea and coriander. Manual weeding and herbicidal weed control were found equally effective in increasing crop yield.
- Weed species vary according to crop and weed management practices.

4.	**Dynamics of weed flora in major *Kharif* crops**

- The scientific community is informed that information on weed dynamics in groundnut, soybean and pearl millet during *Kharif* season is as below:
- From total nineteen weeds species, families constituted as Aizoaceae, Amaranthaceae, Asteraceae, Commelinaceae, Cyperaceae, Euphorbiaceae, Fabaceae, Lamiaceae, Lythraceae, Poaceae, Portulacaceae, Solanaceae and Tiliaceae. Highest weeds observed of families; Poaceae > Asteraceae > Euphorbiaceae.
- Total weeds in floristic composition were *Cyperus rotundus, Echinochloa colona, Eluropus villosus, Dactyloctenium aegyptium, Digitaria sanguinalis; Digera arvensis, Eclipta alba, Euphorbia hirta, Indigofera glandulosa, Tridax procumbens, Leucas aspera, Phyllanthus niruri, Corchorus olitorious, Commelina benghalensis, Portulaca oleracea, Ammannia baccifera, Parthenium hysterophorus, Physalis minima and Trianthema portulacastrum.*
- The most dominant succession of *Cyperus rotundus, Echinochloa colona, Commelina benghalensis, Leucas aspera* and *Digera arvensis* were noted throughout season.
- *Echinochloa colona* and *Eluropus villosus* with pearl millet, *Indigofera glandulosa* with groundnut and soybean; *Cyperus rotundus* throughout the *Kharif* season were associated.
- Among the crops, monocots > dicots > sedges in pearl millet, dicots > sedges > monocots were observed in soybean and groundnut. Among weed management practices, dicots > monocots > sedges in unweeded, monocots in weed free and HW and monocots > sedges > dicots order in herbicidal treatment was observed.
- The herbicidal treatments have lowest monocot weeds up to 30 DAS.
- Dry weight of weeds increased over time. Uprooting of weeds at 15 days interval decreased periodical weed dry weight, followed by hand weeding and herbicidal treatments. Whereas, the undisturbed weedy condition progressively increased weed dry weight.
- Number of weeds decreased with time. Weed species vary according periodical stages, crops and weed management practices.
- The most densely weeds *viz.*, *Echinochloa colona and Cyperus rotundus* and least densely were *Tridax procumbens, Parthenium hysterophorus* and *Trianthema portulacastrum.*

- The weeds late to emerge were *Digitaria sanguinalis* up to 15 DAS, *Eluropus villosus* up to 30 DAS and *Ammannia baccifera* up to 45 DAS.
- Removal of existing weeds put forth the emergence of new weeds specially weed *i.e.*, *Ammannia baccifera* and *Cyperus rotundus*.
- *Ammannia baccifera* found dominating around 45 DAS in weed free condition when the rainfall amount was more.
- The *Phyllanthus niruri* dominant only in earlier season, hence it has completed life cycle within 30-45 DAS.

Year: 2024-25

1.	**Dynamics and depletion of soil weed seedbank in wheat**

It is informed to scientific community that for effective weed management along with weed seedbank depletion and achieving higher grain yield of wheat, apply ethylene 2 L/ha + KNO_3 2 kg/ha with pre-sowing irrigation as suicidal germination *fb* killing the weed flush by subsequent harrowing *fb* HW at 30 DAS. Further, the seed physical extraction method is more precise over the seed emergence method for proper estimation of soil weed seedbank.

Table 6.4.1 Ph.D.: Awards/recognition received by faculty (Department of Agronomy)

Sr. No	Name of Faculty	Name of Award	Authority	Year
1.	Dr. R. K. Mathukia	International Scientist Life Time Achievement Award	VDGOOD Professional Association, Villupuram	2020
2.	Dr. B. S. Gohil	GAAS Best Ph.D. Thesis Award	GAAS, Ahmedabad	2020
3.	Dr. B. S. Gohil	GAAS Best Presentation Award	GAAS, Ahmedabad	2020
4.	Dr. P. J. Gohil	GAAS Award	GAAS, Ahmedabad	2023
5.	Dr. B. S. Gohil	ISWS Young Weed Scientist Award	ISWS, Jabalpur	2024
6.	Dr. B. S. Gohil	Young Scientist Award	SARSD, New Delhi	2024
7.	Dr. B. S. Gohil	Young Agronomist Award	GNFSU, Halol	2024

Table 6.4.2 Ph.D.: Awards received by PG Degree students (Department of Agronomy)

Sr. No.	Name of Student	Name of Award	Year
1	Ms. S. R. Lalani	Best Oral Presentation in International webinar	2020
2	Ms. S. R. Lalani	Best Oral Presentation in International e-symposium	2020
3	Ms. S. R. Lalani	Best Article Award	2020
4	Mr. V.V. Rupareliya	Chancellor Gold Medal for the Best Overall Performance in Doctoral Degree	2021
5	Mr. K. V. Hirapara	Chancellor's Gold Medal in Doctoral Degree	2022
6	Mr. K. V. Hirapara	Gold-Plated Silver Medal in Master's Degree	2022
7.	Mr. Muchhadiya R. M.	Best Oral Presentation in National Symposium	2023
8.	Ms. Bhatt Kajol	Gold-Plated Silver Medal for Highest GPA	2023
9.	Ms. K. B. Sangani	Gold-Plated Silver Medal for Highest GPA	2024

Table 6.4.3 Ph.D.: Year-wise NET Qualified PG/Ph.D. students in Agronomy

Sr. No.	Year	No. of students qualified NET
1.	2020-21	23
2.	2021-22	-
3.	2022-23	11
4.	2023-24	11
5.	2024-25	-
	Total	55

Table 6.4.4 Ph.D.: Research publications of faculty members (Department of Agronomy)

Sr. No.	Particular	Number of publications during Last Five Years
1.	National/International Journal	
	6.0 and above	07
	4.0-6.0	45
	< 4.0	02
2.	Books Published/Book Chapter	28
3.	Practical Manuals	07

Table 6.4.5 Ph.D.: Seminar / workshop / symposia organized by the Department of Agronomy during 2020-21 to 2025-26

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2020-21				
1.	Vocational Training Programme on "Integrated Nutrient Management"	08/02/2021 to 12/02/2021	JAU, Junagadh	78
2022-23				
1.	Training Programme on Integrated Farming System for Sustainable Agriculture	26/06/2023 to 30/06/2023	JAU, Junagadh	50
2023-24				
1.	Workshop on Battling the Invasive: *Parthenium* Management from Awareness to Action	17/08/2024	JAU, Junagadh	150
2.	Hands on training on how to take daily precision meteorological observations	06/08/2024	JAU, Junagadh	28

6.4.2. FACULTY STRENGTH (AS OF 31-07-2025)

The Department has sufficient sanctioned and filled up faculty position. Besides this, teaching and guiding the PG students are also given to the faculties from research stations and other offices.

Table 6.4.6 Ph.D.: Details of faculty strength (Department of Agronomy)

Sr. No	Sanctioned Faculty	Faculty in place	Vacant position	Faculty recommended by the ICAR	Faculty sanctioned by GoG
1.	Professor	01	00	Not Recommended by ICAR	01
2.	Associate Professor	01	03		04
3.	Assistant Professor	05	01		06
Total		07	04		11

6.4.3. TECHNICAL/SUPPORTING STAFF (AS OF 31-07-2025)

The Department has sufficient sanctioned and filled up supporting staff position. Moreover, technical and administrative staff are outsourced as per the need.

Table 6.4.7 Ph.D.: Details of technical/supporting staff strength as of 31.07.2025 (Department of Agronomy)

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Recommended by the ICAR	Staff sanctioned by the GoG
1.	Technical/Supporting staff	14	09	Not Recommended by ICAR	23
2.	Administrative staff	04	01		05
Total		18	10		28

6.4.4. CLASSROOMS AND LABORATORIES

a) Number of classrooms

There are two lecture halls for conducting theory classes and one conference hall for seminar/presentation purpose in the Department and one practical classroom for conducting practical at the Instructional Farm.

Table 6.4.8 Ph.D.: Classroom infrastructure in the Department of Agronomy

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
1.	Conference Hall	43.87	30	Teaching, seminar, meeting	PG
2.	Lecture Hall-1	57.53	30	Teaching	PG
3.	Lecture Hall-2	56.77	30	Teaching	PG
4.	Practical Classroom	362.70	70	Practical	UG & PG

Lecture Hall

Conference Hall

b) Functional PG laboratories

This Department has one laboratory for chemical analysis of soil and plant samples and museum for exhibition purpose. The Agro Meteorology Cell has one laboratory having meteorological instruments and models. The laboratories of Soil Science and Agril. Chemistry Department and Central Instrumentation Laboratory are also being utilized for soil and plant analysis purpose.

Table 6.4.9 Ph.D.: PG laboratories established in the Department of Agronomy

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
1	Lab-1	63.33	15	Research	PG
2	Museum	63.33	30	Exhibition	PG

Museum

c) List of most important equipment available

The laboratory consisting all the required equipments/instruments, some costly equipments are indicated in the table below.

Table 6.4.10 Ph.D.: List of major equipment in the Department of Agronomy

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in lakh)
1	Lab-1	Electronic Balance	1	1.46
2	Lab-1	SPAD Meter	1	2.36
3	Lab-1	Infrared Thermometer	1	2.95
4.	Lab-1	GreenSeeker	1	0.62

Green Seeker	**SPAD Meter**

d) Farm facility

This Department has full-fledged and well-developed farm equipped with buildings, roads, farm protection wall/fencing, electricity, tractors, farm implements, threshers, threshing yards, sheds, stores/godowns, irrigation & drainage facility, *etc*.

Table 6.4.11 Ph.D.: Farm Facilities available with the Department of Agronomy

Sr. No.	Name of Farm/ Cafeteria	Area (ha)	No. of Experiments continue		Details of activities
			Departmental	Students	
1	Instructional Farm	38.23	8	58	Practical crop production, ELP and PG experiments
2	Model Organic Farm	8.75	3	4	Training and research on organic farming and organically certified seed production
3	Micro irrigation Scheme	4.00	2	8	Research on micro irrigation
4	Weed Control Scheme	8.00	4	2	Weed control research and seed production
5	Mechanized Commercial Farm	20.28	1	0	Research on tillage technology and seed production
6	Seed Farm	6.82	0	0	Seed production
7	Farming System Research Centre	6.00	2	0	Research on integrated farming and seed production
8	Crop Cafeteria	1.00	-	-	Season-wise growing of important field crops

Krushigadh

Crop Cafeteria

Weed Control Research Farm

Mechanised Commercial Farm

Farming System Research Farm

Vermicomposting Unit

e) Theory and practical batches for the Ph.D. program (2024-2025)

The theory and practical classes of Ph.D. students who are majoring and minoring agronomy subject are conducted in one batch every semester.

Table 6.4.12 Ph.D.: Theory and practical batches for Ph.D. program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semester	Batch of students in theory class		Batch of students in practical class	
			Batch	No. of students	Batch	No. of students
1	Ph. D. in Agronomy	Odd	1	11	1	11
2		Even	1	11	1	11

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty members prepare comprehensive theory notes for each subject of the degree programme by referring to standard textbooks, research papers, and reference books, and distribute them to students free of cost. Practical manuals are also developed, published, and provided to students. The same study material is also uploaded to the Google Classroom accounts of courses for easier access.
- Many faculties with five years' experience in UG/PG teaching also contributed to ICAR E-learning portal as course creators, unit reviewers and course reviewers, and the links of which have been shared with the students.
- Students get practical exposure in the departmental laboratory and farms of various research stations.
- Classes, guest lectures and special lectures are also organized through online platforms such as Google Classroom, Microsoft Teams, and Zoom *etc*, complementing the offline sessions.
- PPT, lecture notes, practical manual *etc*. are uploaded in respective subject Google Class Room and WhatsApp groups for detail study.
- During the COVID-19 pandemic, examinations were also conducted by the department in online mode; subsequently, they transitioned back to the conventional offline mode post-pandemic.

PRACTICAL AND HANDS-ON-TRAINING

- The Department has well-developed and well-equipped farms, namely the Instructional Farm, Micro-Irrigation Scheme, Organic Farming Model Farm, Weed Control Research Farm, Integrated Farming System Farm, Mechanized Commercial Farm, Seed Farm, and Tillage Technology Farm. Students regularly visit these farms during the study period as well as practical classes, and they also conduct research experiments on these farms.
- Students are regularly exposed to farm visits in nearby farmers' fields to study various cultural practices and to understand farmers' problems. During these visits, they also interact with farmers on agronomic aspects.

6.4.6. SUPERVISION OF STUDENTS IN PH.D. PROGRAM

Apart from the faculty of the Department, scientists/faculty working in the various research stations and university offices are being allotted Ph.D. students for guiding.

Table 6.4.13 Ph.D.: Number of students supervised by faculty in last five years

Name of the Degree Program	No. of students supervised (guided) by faculty for Ph.D. Degree in the last five years
Ph. D. in Agronomy	38

- Teachers of the Department are actively involved in guiding postgraduate students as Major Guides and as members of advisory committees. Each advisory committee, besides the Major Guide, consists of three members—one from Agricultural Statistics and the others from minor and allied subjects.
- Seminar topic is finalized after discussion in meeting of advisory committee, faculties and PG students.
- Research works for students is finalized in the presence of all the faculty members of department, minor guide, statistician and students.
- Advisory committee takes frequent field visits to supervise and guide the students.
- Head of Department arranges preliminary written examination of eligible candidates.
- Advisory committee arranges preliminary viva of students.
- Surprise visits by Principal and the HoD to the laboratories, farm and classrooms for improvement in teaching.

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*)

- Generally, good feedback is received from current and passed-out students as well as from parents, industries, employers, farmers *etc.* (Annexure 6.4.7a)
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per the prescribed schedule, and comprises the Deans of all faculties, nominated Professors, Research Scientists from different faculties, and renowned academicians, who discuss the feedback received from different stakeholder during the meetings. Based on the recommendations of the Board of Studies, the Academic Council takes decisions on academic matters for implementation in the University and its constituent colleges.
- ***STUDENT ADVISORY COMMITTEE:*** It comprises a four-member advisory committee, chaired by the Major Guide, with the other members drawn from the minor subject, allied subject, and statistics. The committee guides the student in selecting the research problem, seminar topics, and related academic/research activities. The members also frequently visit the experimental fields and provide necessary guidance and feedback to the students.
- ***STUDENT REPRESENTATIVE COUNCIL (SRC) AND STUDENT COUNSELLING AND PLACEMENT CELL (SCPC):*** Feedback collected with student interactions is reviewed by the committee members and appropriate measures are implemented based on the feedback received.
- ***FACULTY GROUP OF SUBJECTS:*** Faculty Group of Subjects is a unique and robust mechanism of JAU, which is held once in a year wherein the workload of faculty and progress of the students are thoroughly discussed with suggestions for improvement.

The suggestions received by the Department of Agronomy in the Faculty Group of Subjects during the last five years are given hereunder.

Table 6.4.14 Ph.D.: Faculty Group Meetings for Natural Resource Management group

Sr. No.	Year	Convener	Faculties remain present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Director of Student Welfare, Principal & Dean and Registrar	Suggestions received from concerned FGS meetings; corresponding action taken reports are submitted in **Annexure 6.4.7b, pg. 62 to 67.**
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Director of Student Welfare, Principal & Dean and Registrar	
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal & Dean	
4.	2023-24	Professor and Head	Director of Research & Dean PG Studies, Registrar, Director of Extension Education, Principal & Dean and Associate Director of Research	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research & Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal & Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR THE LAST FIVE YEARS

Table 6.4.15 Ph.D.: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
Ph. D. in Agronomy	2020-21	05	05	00.00
	2021-22	05	05	00.00
	2022-23	04	02	50.00
	2023-24	04	02	50.00
	2024-25	04	02	50.00

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

1. ***CERA AND OTHER ONLINE E-RESOURCES:*** Junagadh Agricultural University has subscribed to the ICAR Consortium for e-Resources in Agriculture (CeRA). Through this, faculty and students access more than 3,000 reputed journals in Agriculture and allied sciences with full-text availability.
2. ***ONE NATION, ONE SUBSCRIPTION (ONOS):*** Both faculty members and PG students of the department also regularly access One Nation, One Subscription (ONOS) portal of GoI, besides open access research domains such as Google Scholar,

ResearchGate and Academia are utilized for networking among peers and other scholars.

3. ***E-BOOKS:*** The University Library provides access to Springer e-books. At a time, 25 users can simultaneously access an e-book. Additionally, the library has a collection of more than 200 Indian e-books for academic use.
4. ***KRISHIKOSH:*** Junagadh Agricultural University is an active member of Krishikosh, the national repository of theses submitted to Agricultural Universities and ICAR institutes. All postgraduate and doctoral theses submitted to the department are regularly uploaded to this repository for wider accessibility.
5. ***INTERNET:*** Digital library with computers and internet facility is available and used by the UG and PG students. Internet facility is also provided at all the hostels which is available for all the time.

- The students are taught by PowerPoint presentations and audio-visual aids are systematically utilized during lectures and practical sessions.
- Students are also given exposure to use JAU iKrushi Sanhita, a mobile application developed by the University, besides encouraging them to regularly listen to Junagadh Janvani 91.2 FM for information on crop-specific advisory and strategies.
- Various video platforms, including Google Classroom, Google Meet, Zoom, and Microsoft Teams, are regularly used for arranging online lectures by esteemed faculty members, recruiters and career counsellers.
- The concerned course teachers also upload lecture-wise PPT, note, assignments, *etc.* to Google Classroom and semester-wise WhatsApp groups.
- The department also strictly adheres to the Anti-Plagiarism norms stipulated by the university.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, CoA, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: 31.01.2026
Place: Junagadh

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Glimpses of activities at Department of Agronomy, CoA, JAU, Junagadh

Dignitaries' Visits

Students Involved in Grading of Produce

Farmers' Field Visits

PG Research Supervision

Annexure 6.4.7a

Postgraduate Students' Feed Back Report for AY 2024-25	
Department of Agronomy, CoA, JAU, Junagadh (n = 26)	
Particulars	**Average Score**
Departmental Teaching - Learning Process	
1. How do you rate Student- Teacher relations?	3.8
2. How do you rate for completion of courses by the teachers?	3.7
3. How do you rate fairness in internal assessment in the department?	3.9
4. How do you rate practical exposure from the department?	3.6
5. How do you rate for statical analysis facility provided by the department	3.5
6. Did teachers motivate /support you for solving your personal problems	4.0
P.G. Research facility	
1. How do you rate for your selection of research topic?	3.7
2. Did you get enough facilities for conducting experiment?	3.9
3. How do you rate material provided for conducting experiment?	3.8
4. How do you rate for major Guide for supporting in completion of Seminar and thesis project	3.9
Library facilities	
1. Books related to your subject are available in the library	3.5
2. Internet facilities for learning and research purpose	3.3
3. Availability of research journals (online /offline) for review purpose	3.6
4. How do you rate for delivery of books system?	3.5
Hostel Facility	
1. How do you rate Hostel facilities?	3.1
2. How do you rate wi-fi facility?	3.2
3. How do you rate for food quality in mess?	3.2
4. How do you rate cleanliness in the hostel?	3.1
Sports Facility	
1. How do you rate indoor sports facility?	3.9
2. How do you rate outdoor sports facility?	3.7

Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	**3**	**2**	**1**

Annexure 6.4.7b: Suggestions Received in the Faculty Group Meetings

Action taken report on the proceedings of 6th meeting of FGS-NRM held on November 24, 2020 at conference hall, Department of Agril. Economics, CoA, JAU, Junagadh

#	Suggestions received	Action Taken
6.1	Publication of research papers and popular articles by the faculty is not up to satisfactory level, hence faculty have to take this matter as serious and should have to publish in >5 NAAS rated journals (***Action:*** *All faculty members, FGS-NRM*).	Faculty members mostly published their research papers in above 5 NAAS ratted journals.
6.2	Research papers based on departmental research should be published (***Action:*** *All faculty members, FGS-NRM*).	We have already published our departmentally research work in above 5 NAAS rated journals.
6.3	Our previous research should be cited in the new research articles (**Action**: All faculty members, FGS-NRM).	The suggestion is implemented.
6.4	The RAWEP should be implemented properly (***Action:*** *HoD, Agronomy and Agril.Chemistry & Soil Science*).	The suggestion is implemented.
6.5	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET and their placement (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	Department already maintain NET/SRF/JRF pass out student's register.
6.6	Junior teachers should be involved in research projects (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	The suggestion is implemented.
6.7	Training organized by the College/Department, its feedback and resource persons should be included in the report (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	Department organized five trainings and its resource person are mentioned in the report.
6.8	There is need to prepare guidelines for presence of PG students in seminar when there are multiple groups (***Action:*** *Principal, COA, Junagadh*).	---
6.9	First semester UG course should be offered by respective HoD (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	---
6.10	Need to prepare guidelines and format for teaching workload including courses, seminar, guiding (Major/Minor/Member), RAWE/ELP, etc. (***Action:*** *Principal, COA, Junagadh*).	Implemented
6.11	Upgrade teaching material with latest technology, varieties, etc. (***Action:*** *All*	E- Resources (Videos, booklets, live specimens, presentations with

	teaching faculty members, FGS-NRM).	audio *etc.*) developed by our faculties during these COVID-19 eras for easy-to-understand UG and PG courses.
6.12	Outsourced manpower and research fellow should be included in staff position status of the report (***Action:*** *HoD, Agronomy and Agril. Chem. & Soil Sci. and Principals, Polytechnics*).	The suggestions are accepted.
6.13	Enhance digital learning by preparing video of practicals, PCP, ELP, educational tour, etc. and include in digital library like YouTube (***Action:*** *All teaching faculty members, FGS-NRM & HoDs*).	Department faculties are recorded their lectures videos for students and also uploaded on ICAR e-*shiksha* portal. Our faculty also arrange tour for ELP students.
6.14	Polytechnics have also to prepare the report as per format of Agronomy and Soil Science (***Action:*** *Principals, Polytechnics*).	---
6.15	Photographs of lab, infrastructure and awards should be included in the report (***Action:*** *HoD, Agronomy and Agril. Chem. & Soil Sci. and Principals, Polytechnics*).	The suggestion is implemented.
6.16	All faculty and PG students should apply for outstanding achievement/thesis awards and report to the concerned department. (***Action:*** *All faculty members, FGS-NRM*).	The suggestion is implemented.
6.17	Teaching workload should be equally distributed to faculty members (***Action:*** *HoD, Agronomy and Agril. Chem. & Soil Sci. and Principals, Polytechnics*).	The suggestion is implemented.
6.18	Major guides has to visit their PG students' experiments regularly (***Action:*** *Concerned faculty members, FGS-NRM*).	The suggestion is implemented.
6.19	All the members of faculty group of NRM shall have to provide related information strictly as per the format and in time (***Action:*** *All faculty members, FGS-NRM*).	The suggestion is implemented
6.20	If possible, ISBN number of manual should be taken and manual should be cross-checked by external experts (***Action:*** *All faculty members, FGS-NRM*).	----
6.21	All the faculties should have to attend PG seminars (***Action:*** *All faculty members, FGS-NRM*).	The suggestion is implemented

Action Taken Report on the Proceedings of 7th Meeting of FGS-NRM Held on December 02, 2021 at Conference Hall, Department of Agril. Economics, CoA, JAU, Junagadh

#	Suggestions received	Action taken
7.1	Publication of research papers and popular articles by the faculty is not up to satisfactory level, hence faculty have to take this matter as serious and should have to publish in >5 NAAS rated journals (***Action**: All faculty members, FGS-NRM*).	Implemented
7.2	Research papers based on departmental research should be presented in seminar/symposia and then published in good journals (***Action**: All faculty members, FGS-NRM*).	Implemented
7.3	Our previous research should be cited in the new research articles (**Action**: All faculty members, FGS-NRM).	Implemented
7.4	The records of the placement of UG & PG students should be maintained at college as well as at department level (***Action**: Principal, COA, HoD, Agronomy and Agril. Chemistry & Soil Science*).	Implemented
7.5	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Implemented
7.6	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major/Minor/Member), RAWE/ELP, etc. (***Action**: Associate Director of Research & Principal, COA, Junagadh*).	Accepted
7.7	Good quality photographs of the laboratory, infrastructure developed, award and recognition should be included in the report (***Action**: HoD, Agronomy, Agril. Chemistry & Soil Science and Principals, Polytechnics*).	Included
7.8	All the documentations done by the department should be properly documented for future reference (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Implemented
7.9	Every month, a meeting of the PG students should be organised at department level to discuss about experiments and other works (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Accepted
7.10	All the Ph.D. students should be treated as staff members and they should be assigned departmental work as well as practical teaching (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Not finalised

7.11	Information of the FGS should be submitted timely and strictly as per the format (***Action:*** *All faculty members, FGS-NRM*).	Some improvement is observed, still some faculty have not followed the instructions
7.12	If possible, ISBN number of manuals should be taken and manuals should be cross-checked by external experts (***Action:*** *All faculty members, FGS-NRM*).	Implemented
7.13	The PG table of the department should be designated as PG Coordinator or Co-Coordinator (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	Accepted
7.14	Arrange a felicitation programme for the students who have passed SRF/JRF/ARS/NET (***Action:*** *Principal, CoA, Junagadh*).	Implemented
7.15	There should be a combined presentation of all the Polytechnics of Agriculture (***Action:*** *Principals, Polytechnics*).	Implemented
7.16	Principal, Polytechnic should be designated as Principal (Poly.) (***Action:*** *Principals, Polytechnics*).	Partially implemented
7.17	The strength of the students in polytechnics should be increased up to 50 including EWS and PCP should be included in the syllabus (***Action*** *Principals, Polytechnics*).	Implemented
7.18	Polytechnics should arrange 2-3 programmes in a year, so Vice Chancellor and University Officers can visit (***Action:*** *Principals, Polytechnics*).	Implemented
7.19	All the faculties should have to attend PG seminars (***Action:*** *All faculty members, FGS-NRM*).	Implemented

Action Taken Report on the Proceedings of 8th Meeting of FGS-NRM Held on January 25, 2023 at Conference Hall, Department of Agril. Economics, JAU, Junagadh

#	Suggestions received	Action taken
8.1	All the PG students should cite at least 10 references of JAU faculty's research in their thesis (***Action:*** *All the PG students & faculty members, FGS-NRM*).	Implemented
8.2	The faculties should participate in seminar / symposia and present the research papers based on departmental research and then published in good journals (***Action:*** *All faculty members, FGS-NRM*).	Implemented
8.3	The records of the placement of UG & PG students should be maintained at college as well as at department level (***Action:*** *Principal, COA, HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented
8.4	The record should be maintained every year for students passed out the competitive examinations like JRF / SRF / NET (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented

8.5	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major / Minor / Member), RAWE/ELP, etc. (***Action:*** *Associate Director of Research & Principal, COA, Junagadh*).	Implemented
8.6	Good quality photographs of the laboratory, infrastructure developed, award and recognition should be included in the report (***Action:*** *HoD, Agronomy, Soil Science & Agril. Chemistry and Principals, Polytechnics*).	Implemented
8.7	Every month, a meeting of the PG students should be organised at department level to discuss about experiments and other works (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented
8.8	Information of the FGS should be submitted timely and strictly as per the format (***Action:*** *All faculty members, FGS-NRM*).	Accepted, still some faculty are not providing information in prescribed format.

Action Taken Report on the Proceedings of 9th Meeting of FGS-NRM Held on February 01, 2024 at Conference Hall, Department of Agril. Economics, JAU, Junagadh

#	Suggestions received	Action taken
9.1	All the PG students should cite at least 10 references of JAU faculty's research in their thesis (***Action:*** *All the PG students & faculty members, FGS-NRM*).	Implemented, PG students have cited relevant research of JAU faculties in their thesis
9.2	The faculties should participate in seminar / symposia and present the research papers based on departmental research and then published in NASS rated journals (***Action:*** *All faculty members, FGS-NRM*).	Implemented
9.3	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented
9.4	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major/Minor/Member), RAWE/ELP, etc. (***Action:*** *Associate Director of Research and Principal & Dean , CoA, Junagadh*).	Implemented
9.5	Every month, a meeting of the PG students should be organised at department level to discuss about experiments and other works (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented, Seven meeting were organised
9.6	Information of the FGS should be submitted timely and strictly as per the format (***Action:*** *All faculty members, FGS-NRM*).	Accepted & implemented

9.7	Verify of how many recommended books were purchased by the university library and if any important books were not purchased, further recommend to the library (***Action:*** College library, CoA, JAU, Junagadh).	Implemented
9.8	Review the printed journals of UG courses from the experts or teacher from the other university (***Action:*** *All faculty members, FGS-NRM*).	Accepted & implemented

Action Taken Report on the Proceedings of 10th Meeting of FGS-NRM Held on January 04, 2025 at Conference Hall, Department of Agril. Economics, JAU, Junagadh

#	Suggestions received	Action taken
10.1	Information of the FGS should be submitted timely and strictly as per the format. (***Action:*** *All faculty members, FGS-NRM*).	Implemented and information submitted timely by all the faculties.
10.2	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET and send to Principal and Dean *(**Action:** HoD, Agronomy and Soil Science & Agril. Chemistry)*.	Record has been maintained and also submitted to Principal & Dean.
10.3	All the PG students should cite at least 10 references of JAU faculties' research in their thesis *(**Action:** All the PG students & faculty members, FGS-NRM)*.	PG students and their guides are instructed to cite references of JAU faculty's research.
10.4	All the NRM faculty remain present strictly in FGS meeting *(**Action:** All faculty members, FGS-NRM)*.	The message has been conveyed the faculties to remain present in the meeting strictly.
10.5	PG research and departmental research published in high NAAS rated journals *(**Action:** All faculty members, FGS-NRM)*.	Papers have been published in higher NAAS rated journals.
10.6	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major /Minor/ Member), RAWE/ELP, etc. *(**Action:** Asso. Director of Research & Principal, CoA, Junagadh)*.	The report of 11th FGS-NRM meeting is prepared as per the revised FGS information Performa.
10.7	The faculties should participate in seminar /symposia/training as per their discipline only. *(**Action:** All faculty members, FGS-NRM)*.	Faculties are attending relevant seminar /symposia/ training etc. of the discipline.

6.4:

Self-Study Report for Ph.D. in Agricultural Meteorology

6.4. SELF-STUDY REPORT FOR PH.D. IN AGRICULTURAL METEOROLOGY AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PH.D. PROGRAM

The Department of Agronomy was started with the establishment of College of Agriculture, Junagadh in 1960. The Agricultural Meteorology Cell was started in 1990 under the Department of Agronomy.

STEPPING-STONES OF THE PH.D. PROGRAM

- The Department of Agronomy was started with the establishment of College of Agriculture, Junagadh in 1960.
- The affiliation of the college was transferred to Saurashtra University, Rajkot in 1968.
- The College achieved a major milestone with it joining to the new-born Gujarat Agricultural University in 1972.
- The education medium was in vernacular language (Gujarati) during initial years of the College and was changed to English medium from the first semester of academic year 1977.
- The Agricultural Meteorology Cell was started in 1990 under the Department of Agronomy.
- The PG program in Agril. Meteorology was started in 2000.
- The College came under the jurisdiction of Junagadh Agricultural University with the quadfurcation of the erstwhile Gujarat Agricultural University into four new Agricultural Universities from May 01, 2004.

MISSION, GOALS AND OBJECTIVES

MISSION:

- To provide education as well as practical and skill-oriented training to students in Agricultural Meteorology discipline.

GOAL:

- To develop agricultural professionals with excellence in fundamental principles and applied knowledge in Agricultural Meteorology discipline.

OBJECTIVES:

- To impart UG and PG education in Agricultural Meteorology discipline.
- To provide practical field training to UG and PG students.
- To provide Agromet Advisory Services.
- To conduct research in agro-meteorological aspects.
- To impart training to farmers, line departments, NGOs *etc*.

6.4.2. FACULTY STRENGTH (AS OF 31-07-2025)

The Cell has sufficient sanctioned and filled up faculty position. Besides, faculty from research stations are shared for teaching and guiding the students.

Table 6.4.16 Ph.D.: Details of faculty strength (Agricultural Meteorology Cell)

Sr. No	Sanctioned Faculty	Faculty in place	Vacant position	Faculty recommended by the ICAR	Faculty sanctioned by GoG
1	Professor	0	0	Not Recommended by ICAR	0
2	Associate Professor	0	0		0
3	Assistant Professor	4	0		4
Total		4	0		4

6.4.3. TECHNICAL/SUPPORTING STAFF (AS OF 31/07/2025)

The Department of Agronomy has sufficient sanctioned and filled up supporting staff position. Moreover, technical and administrative staff are outsourced as per the need.

Table 6.4.17 Ph.D.: Details of Technical/Supporting staff strength as of 31.07.2025 (Agricultural Meteorology Cell)

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Recommended by the ICAR	Staff sanctioned by the GoG
1	Technical/Supporting staff	-	-	Not Recommended by ICAR	-
2	Administrative staff	-	-		-
Total		-	-		-

Note: As there is no separate Department of Agril. Meteorology, technical/ Supporting /administrative staff of Agronomy is being shared for Agril. Meteorology.

6.4.4. CLASSROOMS AND LABORATORIES

a) Number of classrooms

There are two lecture halls for conducting theory classes and one conference hall for seminar/presentation purpose in the Department of Agronomy and one practical classroom for conducting practical at the Instructional Farm.

Table 6.4.18 Ph.D.: Classroom infrastructure in the Agricultural Meteorology Cell

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
1	Conference Hall	43.87	30	Teaching, seminar, meeting	PG
2	Lecture Hall-1	57.53	30	Teaching	PG
3	Lecture Hall-2	56.77	30	Teaching	PG
4	Practical Classroom	362.70	70	Practical	UG & PG

b) Functional PG laboratories

The Agril. Meteorology Cell has one laboratory having meteorological instruments and models. The laboratories of Agronomy, Soil Science and central instrumentation laboratory are also utilized for the purpose of soil and plant analysis.

Table 6.4.19 Ph.D.: Departmental PG laboratories established (As of 31-07-2025)

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
1	Lab-1	63.33	15	Research	PG
2	Agmet lab	35.00	30	Teaching	PG
3	Museum	63.33	30	Exhibition	PG

c) List of most important equipments available

The laboratory consists all the required equipments/instruments/models, some costly equipments are indicated in the table below.

Table 6.4.20 Ph.D.: List of major equipment in Agricultural Meteorology Cell

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
1	Lab-1	Electronic Balance	1	1.46
2	Lab-1	SPAD Meter	1	2.36
3	Lab-1	Infrared Thermometer	1	2.95
4	Agmet lab	Meteorological instruments	17	1.30

d) Farm facility

The Department of Agronomy has full-fledged and well-developed farm equipped with buildings, roads, farm protection wall/fencing, electricity, tractors, farm implements, threshers, threshing yards, sheds, stores/godowns, irrigation & drainage facility, *etc*. These farm facilities are used by the Agril. Meteorology Cell to conduct field research programs including PG experiments.

Table 6.4.21 Ph.D.: Farm Facilities available with the Agrometeorology Cell

Sr. No.	Name of Farm/ Cafeteria	Area (ha)	No. of Experiments continue		Details of activities
			Departmental	Students	
1	Instructional Farm	38.23	9	58	Practical crop production, ELP and PG experiments
2	Crop Cafeteria	1.00	-	-	Season-wise growing of important field crops
3	Agromet Observatory	0.24	-	-	Recording of standard meteorological observations

e) Theory and practical batches for the Ph.D. program (2024-25)

The theory and practical classes of PG students of Agricultural Meteorology discipline are conducted in one batch in every semester.

Table 6.4.22 Ph.D.: Theory and practical batches for the Ph.D. program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semester	Batch of students in theory class		Batch of students in practical class	
			Batch	No. of students	Batch	No. of students
1	Ph.D. in Agricultural Meteorology	Odd	0	0	0	0
2		Even	0	0	0	0

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty members prepare comprehensive theory notes for each subject of the degree programme by referring to standard textbooks, research papers, and reference books, and distribute them to students free of cost. Practical manuals are also developed, published, and provided to students. The same study material is also uploaded to the Google Classroom accounts of courses for easier access.
- Many faculties with five years' experience in UG/PG teaching also contributed to ICAR E-learning portal as course creators, unit reviewers and course reviewers, and the links of which have been shared with the students.
- Students get practical exposure in separate laboratory of each discipline and farms of various research stations.
- Classes, guest lectures and special lectures are also organized through online platforms such as Google Classroom, Microsoft Teams, and Zoom *etc*, complementing the offline sessions.
- PPT, lecture notes, practical manual *etc*. are uploaded in respective subject Google Class Room and WhatsApp groups for detail study.
- During the COVID-19 pandemic, examinations were also conducted by the department in online mode; subsequently, they transitioned back to the conventional offline mode post-pandemic.

PRACTICAL AND HANDS-ON-TRAINING

- The Agricultural Meteorology Cell and Department of Agronomy have well developed and equipped farms *viz.*, Agro. Meteorological Observatory, Instructional Farm, Micro irrigation, Organic Farming Model Farm, Weed Control Research Farm, Integrated Farming System Farm, Mechanized Commercial Farm, Seed Farm, and Tillage Technology Farm. The students are visiting these farms during study period as well as in practical class. The students conduct field experiments at these farms. Besides, a rich database of observatory-wise climatic indicators is available.
- Students are frequently exposed to farm visits in nearby farmer's fields to study various cultural practices as well as to know the farmers' problems related to weather. They also interact with the farmers about meteorological aspects.

6.4.6. SUPERVISION OF STUDENTS IN PH.D. PROGRAM

Apart from the faculty of the Department, scientists/faculty working in the various research stations and university offices are being allotted PG students for guiding.

Table 6.4.23 Ph.D.: Number of students supervised by faculty in the last five years

Ph.D. degree program	No. of students supervised (guided) by faculty for Ph.D. Degree in the last five years
Agricultural Meteorology	0

- Teachers of the Department are actively involved in guiding postgraduate students as Major Guides and as members of advisory committees. Each advisory committee, besides the Major Guide, consists of three members—one from Agricultural Statistics and the others from minor and allied subjects.
- Seminar topic is finalized after discussion in meeting of advisory committee, faculties and PG students.
- Research works for students is finalized in the presence of all the faculty members of department, minor guide, statistician and students.
- Advisory committee takes frequent field visits to supervise and guide the students.
- Head of Department arranges preliminary written examination of eligible candidates.
- Advisory committee arranges preliminary viva of students.
- Surprise visits by Principal and the HoD to the laboratories, farm and classrooms for improvement in teaching.

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*)

- Generally, very good feedback is received from current and passed-out students as well as from parents, industries, employers, farmers *etc.* (Annexure 6.4.7a)
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per schedule wherein, Deans of all faculties, nominated Professors and Research Scientists of different faculties and renowned academicians are members. Based on the Board of Study recommendation, the Academic Council takes the decision on academic matter for implementation in the university/college.
- ***STUDENT ADVISORY COMMITTEE:*** There is four-member advisory committee. Major guide is chairman and other members from minor subject, allied subject and statistics. Committee members guide the student to select research work, seminar topics, *etc.* Committee members frequently visit the experimental field and guide the students.
- ***STUDENT REPRESENTATIVE COUNCIL (SRC) AND STUDENT COUNSELLING AND PLACEMENT CELL (SCPC):*** Feedback collected with student interactions is reviewed by the members and appropriate measures are implemented based on the feedback received.
- ***FACULTY GROUP OF SUBJECTS:*** Faculty Group of Subjects meeting held once in a year and the workload of faculty and progress of the students are thoroughly discussed with suggestions for improvement. The suggestions received by the Department of Agronomy in the Faculty Group of Subjects during the last five years are given hereunder.

Table 6.4.24 Ph.D.: Faculty Group Meetings for Natural Resource Management

Sr. No.	Year	Convener	Faculties remain present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Director of Student Welfare, Principal & Dean and Registrar	Suggestions received from concerned FGS meetings; corresponding action taken reports are submitted in **Annexure 6.4.7b, pg. 62 to 67.**
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Director of Student Welfare, Principal & Dean and Registrar	
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal & Dean	
4.	2023-24	Professor and Head	Director of Research & Dean PG Studies, Registrar, Director of Extension Education, Principal & Dean and Associate Director of Research	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research & Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal & Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR THE LAST FIVE YEARS

Table 6.4.25 Ph.D.: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
Ph.D. in Agricultural Meteorology	2020-21	0	0	0
	2021-22	0	0	0
	2022-23	0	0	0
	2023-24	0	0	0
	2024-25	0	0	0

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

1. ***CERA AND OTHER ONLINE E-RESOURCES:*** Junagadh Agricultural University has subscribed to the ICAR Consortium for e-Resources in Agriculture (CeRA). Through this, faculty and students access more than 3,000 reputed journals in Agriculture and allied sciences with full-text availability.
2. ***ONE NATION, ONE SUBSCRIPTION (ONOS):*** Both faculty members and PG students of the department also regularly access One Nation, One Subscription (ONOS) portal of GoI, besides open access research domains such as Google Scholar, ResearchGate and Academia are utilized for networking among peers and other scholars.

3. ***E-BOOKS:*** The University Library provides access to Springer e-books. At a time, 25 users can simultaneously access an e-book. Additionally, the library has a collection of more than 200 Indian e-books for academic use.
4. ***KRISHIKOSH:*** Junagadh Agricultural University is an active member of Krishikosh, the national repository of theses submitted to Agricultural Universities and ICAR institutes. All postgraduate and doctoral theses submitted to JAU are regularly uploaded to this database for wider accessibility.
5. ***INTERNET:*** Digital library with computers and internet facility is available and used by the UG and PG students. Internet facility is also provided at all the hostels which is available for all the time.

- The students are taught by PowerPoint presentations and audio-visual aids are systematically utilized during lectures and practical sessions.
- Students are also given exposure to use JAU iKrushi Sanhita, a mobile application developed by the University, besides encouraging them to regularly listen to Junagadh Janvani 91.2 FM for information on crop-specific advisory and strategies.
- Various video platforms, including Google Classroom, Google Meet, Zoom, and Microsoft Teams, are regularly used for arranging online lectures by esteemed faculty members, recruiters and career counsellers.
- The concerned course teachers also upload lecture-wise PPT, note, assignments, *etc.* to Google Classroom and semester-wise WhatsApp groups.
- The department also strictly adheres to the Anti-Plagiarism norms stipulated by the university.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, CoA, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: 31.01.2026
Place: Junagadh

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Departmental Entrance

Agromet Observatory

PG Research

Annexure 6.4.7a

Postgraduate Students' Feed Back Report for AY 2024-25	
PG Students in Agrometeorology **(n = 6)**	
Particulars	**Average Score**
Departmental Teaching - Learning Process	
1. How do you rate Student- Teacher relations?	3.2
2. How do you rate for completion of courses by the teachers?	3.8
3. How do you rate fairness in internal assessment in the department?	3.8
4. How do you rate practical exposure from the department?	3.5
5. How do you rate for statical analysis facility provided by department?	3.8
6. Did teachers motivate /support you for solving your personal problems?	3.9
P.G. Research facility	
1. How do you rate for your selection of research topic?	3.6
2. Did you get enough facilities for conducting experiment?	3.8
3. How do you rate material provided for conducting experiment?	3.7
4. How do you rate for major Guide for supporting in completion of Seminar and thesis project	3.9
Library facilities	
1. Books related to your subject are available in the library	3.5
2. Internet facilities for learning and research purpose	3.6
3. Availability of research journals (online /offline) for review purpose	3.6
4. How do you rate for delivery of books system?	3.5
Hostel Facility	
1. How do you rate Hostel facilities?	3.3
2. How do you rate wi-fi facility?	3.1
3. How do you rate for food quality in mess?	3.2
4. How do you rate cleanliness in the hostel?	3.0
Sports Facility	
1. How do you rate indoor sports facility?	3.8
2. How do you rate outdoor sports facility?	3.9

Rating Criteria

Very good	Good	Average	Poor
4	3	2	1

Annexure 6.4.7b: Suggestions Received in the Faculty Group Meetings

Action taken report on the proceedings of 6th meeting of FGS-NRM held on November 24, 2020 at conference hall, Department of Agril. Economics, CoA, JAU, Junagadh

#	Suggestions received	Action Taken
6.1	Publication of research papers and popular articles by the faculty is not up to satisfactory level, hence faculty have to take this matter as serious and should have to publish in >5 NAAS rated journals (***Action:*** *All faculty members, FGS-NRM*).	Faculty members mostly published their research papers in above 5 NAAS ratted journals.
6.2	Research papers based on departmental research should be published (***Action:*** *All faculty members, FGS-NRM*).	We have already published our departmentally research work in above 5 NAAS rated journals.
6.3	Our previous research should be cited in the new research articles (**Action**: All faculty members, FGS-NRM).	The suggestion is implemented.
6.4	The RAWEP should be implemented properly (***Action:*** *HoD, Agronomy and Agril.Chemistry & Soil Science*).	The suggestion is implemented.
6.5	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET and their placement (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	Department already maintain NET/SRF/JRF pass out student's register.
6.6	Junior teachers should be involved in research projects (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	The suggestion is implemented.
6.7	Training organized by the College/Department, its feedback and resource persons should be included in the report (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	Department organized five trainings and its resource person are mentioned in the report.
6.8	There is need to prepare guidelines for presence of PG students in seminar when there are multiple groups (***Action:*** *Principal, COA, Junagadh*).	---
6.9	First semester UG course should be offered by respective HoD (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	---
6.10	Need to prepare guidelines and format for teaching workload including courses, seminar, guiding (Major/Minor/Member), RAWE/ELP, etc. (***Action:*** *Principal, COA, Junagadh*).	Implemented
6.11	Upgrade teaching material with latest technology, varieties, etc. (***Action:*** *All*	E- Resources (Videos, booklets, live specimens, presentations with

	teaching faculty members, FGS-NRM).	audio *etc.*) developed by our faculties during these COVID-19 eras for easy-to-understand UG and PG courses.
6.12	Outsourced manpower and research fellow should be included in staff position status of the report (***Action:*** *HoD, Agronomy and Agril. Chem. & Soil Sci. and Principals, Polytechnics*).	The suggestions are accepted.
6.13	Enhance digital learning by preparing video of practicals, PCP, ELP, educational tour, etc. and include in digital library like YouTube (***Action:*** *All teaching faculty members, FGS-NRM & HoDs*).	Department faculties are recorded their lectures videos for students and also uploaded on ICAR e-*shiksha* portal. Our faculty also arrange tour for ELP students.
6.14	Polytechnics have also to prepare the report as per format of Agronomy and Soil Science (***Action:*** *Principals, Polytechnics*).	---
6.15	Photographs of lab, infrastructure and awards should be included in the report (***Action:*** *HoD, Agronomy and Agril. Chem. & Soil Sci. and Principals, Polytechnics*).	The suggestion is implemented.
6.16	All faculty and PG students should apply for outstanding achievement/thesis awards and report to the concerned department. (***Action:*** *All faculty members, FGS-NRM*).	The suggestion is implemented.
6.17	Teaching workload should be equally distributed to faculty members (***Action:*** *HoD, Agronomy and Agril. Chem. & Soil Sci. and Principals, Polytechnics*).	The suggestion is implemented.
6.18	Major guides has to visit their PG students' experiments regularly (***Action:*** *Concerned faculty members, FGS-NRM*).	The suggestion is implemented.
6.19	All the members of faculty group of NRM shall have to provide related information strictly as per the format and in time (***Action:*** *All faculty members, FGS-NRM*).	The suggestion is implemented
6.20	If possible, ISBN number of manual should be taken and manual should be cross-checked by external experts (***Action:*** *All faculty members, FGS-NRM*).	----
6.21	All the faculties should have to attend PG seminars (***Action:*** *All faculty members, FGS-NRM*).	The suggestion is implemented

Action Taken Report on the Proceedings of 7th Meeting of FGS-NRM Held on December 02, 2021 at Conference Hall, Department of Agril. Economics, CoA, JAU, Junagadh

#	Suggestions received	Action taken
7.1	Publication of research papers and popular articles by the faculty is not up to satisfactory level, hence faculty have to take this matter as serious and should have to publish in >5 NAAS rated journals (***Action**: All faculty members, FGS-NRM*).	Implemented
7.2	Research papers based on departmental research should be presented in seminar/symposia and then published in good journals (***Action**: All faculty members, FGS-NRM*).	Implemented
7.3	Our previous research should be cited in the new research articles (**Action**: All faculty members, FGS-NRM).	Implemented
7.4	The records of the placement of UG & PG students should be maintained at college as well as at department level (***Action**: Principal, COA, HoD, Agronomy and Agril. Chemistry & Soil Science*).	Implemented
7.5	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Implemented
7.6	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major/Minor/Member), RAWE/ELP, etc. (***Action**: Associate Director of Research & Principal, COA, Junagadh*).	Accepted
7.7	Good quality photographs of the laboratory, infrastructure developed, award and recognition should be included in the report (***Action**: HoD, Agronomy, Agril. Chemistry & Soil Science and Principals, Polytechnics*).	Included
7.8	All the documentations done by the department should be properly documented for future reference (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Implemented
7.9	Every month, a meeting of the PG students should be organised at department level to discuss about experiments and other works (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Accepted
7.10	All the Ph.D. students should be treated as staff members and they should be assigned departmental work as well as practical teaching (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Not finalised

7.11	Information of the FGS should be submitted timely and strictly as per the format (***Action:*** *All faculty members, FGS-NRM*).	Some improvement is observed, still some faculty have not followed the instructions
7.12	If possible, ISBN number of manuals should be taken and manuals should be cross-checked by external experts (***Action:*** *All faculty members, FGS-NRM*).	Implemented
7.13	The PG table of the department should be designated as PG Coordinator or Co-Coordinator (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	Accepted
7.14	Arrange a felicitation programme for the students who have passed SRF/JRF/ARS/NET (***Action:*** *Principal, CoA, Junagadh*).	Implemented
7.15	There should be a combined presentation of all the Polytechnics of Agriculture (***Action:*** *Principals, Polytechnics*).	Implemented
7.16	Principal, Polytechnic should be designated as Principal (Poly.) (***Action:*** *Principals, Polytechnics*).	Partially implemented
7.17	The strength of the students in polytechnics should be increased up to 50 including EWS and PCP should be included in the syllabus (***Action*** *Principals, Polytechnics*).	Implemented
7.18	Polytechnics should arrange 2-3 programmes in a year, so Vice Chancellor and University Officers can visit (***Action:*** *Principals, Polytechnics*).	Implemented
7.19	All the faculties should have to attend PG seminars (***Action:*** *All faculty members, FGS-NRM*).	Implemented

Action Taken Report on the Proceedings of 8th Meeting of FGS-NRM Held on January 25, 2023 at Conference Hall, Department of Agril. Economics, JAU, Junagadh

#	Suggestions received	Action taken
8.1	All the PG students should cite at least 10 references of JAU faculty's research in their thesis (***Action:*** *All the PG students & faculty members, FGS-NRM*).	Implemented
8.2	The faculties should participate in seminar / symposia and present the research papers based on departmental research and then published in good journals (***Action:*** *All faculty members, FGS-NRM*).	Implemented
8.3	The records of the placement of UG & PG students should be maintained at college as well as at department level (***Action:*** *Principal, COA, HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented
8.4	The record should be maintained every year for students passed out the competitive examinations like JRF / SRF / NET (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented

8.5	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major / Minor / Member), RAWE/ELP, etc. (***Action:*** *Associate Director of Research & Principal, COA, Junagadh*).	Implemented
8.6	Good quality photographs of the laboratory, infrastructure developed, award and recognition should be included in the report (***Action:*** *HoD, Agronomy, Soil Science & Agril. Chemistry and Principals, Polytechnics*).	Implemented
8.7	Every month, a meeting of the PG students should be organised at department level to discuss about experiments and other works (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented
8.8	Information of the FGS should be submitted timely and strictly as per the format (***Action:*** *All faculty members, FGS-NRM*).	Accepted, still some faculty are not providing information in prescribed format.

Action Taken Report on the Proceedings of 9th Meeting of FGS-NRM Held on February 01, 2024 at Conference Hall, Department of Agril. Economics, JAU, Junagadh

#	Suggestions received	Action taken
9.1	All the PG students should cite at least 10 references of JAU faculty's research in their thesis (***Action:*** *All the PG students & faculty members, FGS-NRM*).	Implemented, PG students have cited relevant research of JAU faculties in their thesis
9.2	The faculties should participate in seminar / symposia and present the research papers based on departmental research and then published in NASS rated journals (***Action:*** *All faculty members, FGS-NRM*).	Implemented
9.3	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented
9.4	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major/Minor/Member), RAWE/ELP, etc. (***Action:*** *Associate Director of Research and Principal & Dean , CoA, Junagadh*).	Implemented
9.5	Every month, a meeting of the PG students should be organised at department level to discuss about experiments and other works (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented, Seven meeting were organised
9.6	Information of the FGS should be submitted timely and strictly as per the format (***Action:*** *All faculty members, FGS-NRM*).	Accepted & implemented

9.7	Verify of how many recommended books were purchased by the university library and if any important books were not purchased, further recommend to the library (***Action:*** College library, CoA, JAU, Junagadh).	Implemented
9.8	Review the printed journals of UG courses from the experts or teacher from the other university (***Action:*** *All faculty members, FGS-NRM*).	Accepted & implemented

Action Taken Report on the Proceedings of 10th Meeting of FGS-NRM Held on January 04, 2025 at Conference Hall, Department of Agril. Economics, JAU, Junagadh

#	Suggestions received	Action taken
10.1	Information of the FGS should be submitted timely and strictly as per the format. (***Action:*** *All faculty members, FGS-NRM*).	Implemented and information submitted timely by all the faculties.
10.2	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET and send to Principal and Dean *(**Action:** HoD, Agronomy and Soil Science & Agril. Chemistry)*.	Record has been maintained and also submitted to Principal & Dean.
10.3	All the PG students should cite at least 10 references of JAU faculties' research in their thesis *(**Action:** All the PG students & faculty members, FGS-NRM)*.	PG students and their guides are instructed to cite references of JAU faculty's research.
10.4	All the NRM faculty remain present strictly in FGS meeting *(**Action:** All faculty members, FGS-NRM)*.	The message has been conveyed the faculties to remain present in the meeting strictly.
10.5	PG research and departmental research published in high NAAS rated journals *(**Action:** All faculty members, FGS-NRM)*.	Papers have been published in higher NAAS rated journals.
10.6	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major /Minor/ Member), RAWE/ELP, etc. *(**Action:** Asso. Director of Research & Principal, CoA, Junagadh)*.	The report of 11th FGS-NRM meeting is prepared as per the revised FGS information Performa.
10.7	The faculties should participate in seminar /symposia/training as per their discipline only. *(**Action:** All faculty members, FGS-NRM)*.	Faculties are attending relevant seminar /symposia/ training etc. of the discipline.

6.4:
Self-Study Report
for Ph.D.
in Soil Science

6.4. SELF-STUDY REPORT FOR PH.D. IN SOIL SCIENCE AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PH.D. DEGREE PROGRAM

Junagadh Agricultural University (JAU) is one of the leading State Agricultural Universities in India. Established in 2004 as an independent institution following its bifurcation from the erstwhile Gujarat Agricultural University, JAU has steadily strengthened its role in addressing emerging challenges in agriculture and contributing meaningfully to the formulation and implementation of state agricultural policies. The university has emerged as a key hub for education, research, and extension, with a strong focus on sustainable agriculture, natural resource management, and farmer-centric innovations suited to the agro-climatic conditions of Gujarat. Agricultural research at JAU has always been viewed as a collaborative endeavor rather than an individual pursuit, emphasizing interdisciplinary approaches and collective problem-solving. This spirit of collaboration is well reflected in the long and distinguished legacy of the Department of Soil Science and Agricultural Chemistry. Established in 1960, the department has evolved over the decades through the dedicated efforts of nearly four generations of researchers, teachers, and scientists. Their sustained contributions in teaching, research, and extension have significantly advanced soil fertility management, plant nutrition, and sustainable land-use practices in the Saurashtra region.

Department of Soil Science and Agricultural Chemistry

STEPPING-STONES OF THE DEPARTMENT

- Established in 1960, the department has evolved over the decades through the dedicated efforts of nearly four generations of researchers, teachers, and scientists.
- Accredited for postgraduate programmes in Agricultural Chemistry and Soil Science since 1964, the department has so far guided 150 Master's degree students.
- Its alumni are successfully serving in diverse capacities across academia, banking, government departments, private organizations, and non-governmental organizations (NGOs).
- At present, the department has six faculty members, offering 63 credits across faculties, and 33 PG/Ph.D. pursuing full-time degree programmes.

MISSION, GOALS AND OBJECTIVES

MISSION:

- To provide high-quality education, training, and skill development to students, enabling them to become professionally competent managers of soil resources for the benefit and well-being of society.
- To enhance the quality of life by delivering research-based knowledge and educational opportunities focused on the sustainable use and effective management of land resources.

GOALS:

- To advance knowledge in soil science and promote the development of technologies for sustainable soil use and management, thereby ensuring food security and environmental protection.

OBJECTIVES:

Educational

- To provide undergraduate, postgraduate, and doctoral education in Soil Science and Agricultural Chemistry.
- To strengthen the practical and experiential components of the curriculum, ensuring that students gain adequate hands-on exposure in agricultural fields.
- To introduce relevant vocational and professional courses related to the agricultural faculty.
- To provide integrated agricultural education at all levels for developing students' efficiency, technical skills, and professional attitude, along with ensuring placement support.

Research

- To conduct research on fundamental and applied aspects of soil science, focusing on the physical, chemical, and biological properties of soils, fertilizers, and manures, and their interactions with soil and plants.
- To improve and maintain soil fertility for achieving sustained and optimum agricultural production.
- To promote the utilization of organic residues and agricultural wastes as manure, and to carry out soil test-crop response correlation studies for accurate fertilizer recommendations.
- To characterize soils for fertility and assess their suitability for different agricultural crops.
- To characterize irrigation water and evaluate its suitability for various crops.
- To assess salinity and sodicity issues in regional soils and recommend suitable reclamation measures.
- To develop and promote site-specific nutrient management strategies for diverse cropping systems.

Extension

- To educate farmers on balanced plant nutrition through Integrated Nutrient Management (INM) practices.
- To provide consultancy services to farmers through personal interaction, telephone support, and field visits.

ACCOMPLISHMENTS/ ACHIEVEMENTS OF LAST FIVE YEARS

EXTERNAL FUNDED PROJECTS IN THE DEPARTMENT OF SOIL SCIENCE AND AGRICULTURAL CHEMISTRY (AS OF 31-07-2025)

1. Balance Nutrient Management on Groundnut (*Monsoon*) -Wheat (*Winter*) Cropping Sequence on LTFE.
2. Soil test-based fertilizers recommendation for targeted yield of Bt cotton in Saurashtra region of Gujarat.
3. Integrated Resource Management in Agriculture and Allied Field for Stakeholder under Farmer First Programme (FFP) project.
4. Management of potassium for maximization of yield and quality of Bt. cotton in Saurashtra region.

RECOMMENDATIONS MADE BY THE DEPARTMENT OF SOIL SCIENCE AND AGRICULTURAL CHEMISTRY FOR FARMERS

Year: 2020-21

1. Effect of multi-micronutrient formulations on chickpea (2017-18).

The farmers of South Saurashtra Agro-climatic Zone growing chickpea in medium black calcareous soil are recommended to apply micronutrients as per soil test value or multi micronutrients formulation Grade-V (40 kg/ha) as basal in addition to recommended dose of chemical fertilizers (20-40-0 N-P_2O_5-K_2O kg/ha) for getting higher yield and net return.

2. Effect of foliar application of various fertilizers on growth, yield and nutrients uptake by onion (2018-19)

The farmers of South Saurashtra Agro-climatic Zone growing onion in medium black calcareous soil are recommended to apply 75% RDF (56-45-37.5-15 kg/ha N-P_2O_5-K_2O-S) + 1 % (100 g/10 liter water) foliar spray of water soluble fertilizer (19-19-19 N-P-K) and 1 % Banana pseudostem sap both at 45 and 60 day after transplanting for getting higher yield and net return.

3. Effect of foliar application of water soluble fertilizer on growth, yield and nutrients uptake by *Bt*. cotton (2017-18)

The farmers of South Saurashtra Agro-climatic Zone growing *Bt* cotton in medium black calcareous soil are advised to apply 75% RDF (180-37.5-112.5 N-P_2O_5-K_2O kg/ha) + two spray of 2.0 % water soluble fertilizer (19-19-19) at 50 and 75 DAS for getting higher yield and net return.

Year: 2021-22

4. Effect of nano boron on yield and nutrients uptake by summer groundnut (2018-19)

The farmers of Saurashtra region growing summer groundnut in medium black calcareous soil are advised to apply three sprays of 0.2% (20 ml/10 lit water) nano boron or 0.2% (20 g/10 lit water) boric acid at 30, 45 and 60 DAS in addition to recommended dose of fertilizers (25-50-50 N-P_2O_5-K_2O kg ha^{-1}) to summer groundnut for getting higher yield and net return.

5. Effect of different levels of NPK and time of application on cucumber yield under protected condition (2020-21)

The farmers of Saurashtra region growing cucumber during kharif under protected conditions (Poly house) are advise to apply 80-50-50 kg/ha N-P_2O_5-K_2O in four equal split i.e. basal, 30, 45and 60 DAS in form of water soluble fertilizer (19-19-19 NPK) and remaining nitrogen from urea through fertigation in addition to FYM 20 t/ha as basal for getting higher yield and net return.

6. Integrated management practices in groundnut under poor drained medium black calcareous soil (2019-20)

The farmers of South Saurashtra Agro-climatic Zone growing *kharif* groundnut under poorly drained (*Rechak*) medium black calcareous soil are recommended to apply tanch 50 t/ha every three year for getting higher yield and net return. If tanch is not available then apply FYM 10 t/ha.

Year: 2022-23

7. Effect of N, P and K levels on growth, yield and nutrients uptake by bottle gourd (2020)

The farmers of South Saurashtra Agro-climatic Zone growing bottle gourd in summer season are recommended to apply 125-75-75 kg N-P_2O_5-K_2O/ha for achieving higher yield and net return. Nitrogen should be applied in three equal splits (Basal and remaining nitrogen at 30 and 45 days after sowing as spot application), full dose of phosphurus and potash as basal.

8. Effect of fresh cow dung on yield, quality and uptake of nutrients in groundnut (2020)

The farmers of South Saurashtra Agro-climatic Zone growing *kharif* groundnut are recommended to apply slurry of 1500 kg/ha fresh (upto five days) cow dung (cow dung : water - 1:3) through drenching at the time of sowing **or** RDN (12.5 kg/ha) through FYM (about 2.5 t/ha) + 25:50 kg P_2O_5:K_2O per ha for getting higher yield and net return.

2023-24:

9. Effect of fresh cow dung on yield and yield attributes of garlic (2020-21)

The farmers of South Saurashtra Agro-climatic Zone growing garlic are recommended to apply slurry (cow dung: water - 1:3) of 1500 kg/ha fresh cow dung (up to five days) with irrigation at the time of sowing for getting higher yield and net return.

2024-25

10. Effect of cow dung on yield and nutrients uptake by wheat (2021-22)

The farmers of South Saurashtra Agro-climatic Zone growing wheat are recommended to apply 60% RDF) 72-36-36 kg N-P_2O_5-K_2O) to wheat along with slurry (cow dung: water - 1:3) of 1500 kg/ha fresh cow dung (up to five days) (1/2 at basal and 1/2 at 30 DAS) with irrigation at the time of sowing for getting higher yield and net return.

RECOMMENDATIONS MADE BY THE DEPARTMENT OF DEPARTMENT OF SOIL SCIENCE AND AGRICULTURAL CHEMISTRY FOR SCIENTIFIC COMMUNITY

Year: 2020-21

1. Soil test based fertilizer recommendation for targeted yield of wheat (2018-19)

The scientist of soil testing laboratories are informed that the nutrients requirement for production of one quintal wheat grain was assessed as 3.81, 0.82 and 3.40 kg; N, P_2O_5 and K_2O, respectively and the fertilizer prescription equations are: for N: [FN = 6.82 x T - 1.01 x SN - 0.27 x FYM], P: [FP_2O_5 =1.80 x T - 2.25 x SP - 0.09 x FYM] and K:[FK_2O: = 3.14 x T - 0.46 x SK - 0.27 x FYM] with FYM 10 t/ha. While, without FYM nutrients requirement for production of one quintal wheat grain was assessed as 3.52, 0.77 and 3.02 kg; N, P_2O_5 and K_2O, respectively and the fertilizer prescription equations are: for N: [FN = 8.53 x T - 1.19 x SN], P: [FP_2O_5 =2.61 T - 3.07 x SP] and K:[FK_2O: = 5.03 x T - 0.68 x SK]. Targeted yield concept could be effectively adopted from 40 to 50 q/ha for site specific fertilizer recommendation to achieve high yields of wheat in the medium black calcareous soils of Saurashtra region of Gujarat.

2. Establishment of critical limit of zinc for summer green gram in medium black calcareous soils (2020)

For recommending Zn application to green gram crop grown in calcareous soils of Saurashtra, STL of Gujarat should consider the critical limit 0.70 ppm in soil and 47.0 ppm in green gram plant at 45 DAS.

3. Establishment of critical limit of zinc for pigeonpea crop in medium black calcareous soils (2019-20)

For recommending Zn application to pigeonpea crop grown in calcareous soils of Saurashtra, STL of Gujarat should consider the critical limit of 0.63 ppm in soil and 33.9 ppm in pigeonpea plant at 60 DAS.

4. Effect of saline irrigation water on garlic (2018-19)

It is for the information to scientific community especially for the plant breeder that garlic varieties GJG-5 recorded value of different salt tolerance criteria like higher mean salinity index (77.00 %), comparable mean bulb yield (54.78 g/pot), minimum yield decline (43.61 %) at EC 5.0 dS m^{-1} and for 50 % yield reduction at EC 9.32 as well as lower Na/K ratio in bulb and straw. Garlic varieties GJG-5 were found more salt tolerant as compared to GG-4, G-282 and GG-2 on the basis of salinity indices.

5. Effect of saline irrigation water on sesamum (2018-19)

It is for the information to scientific community especially for the plant breeder that sesamum variety Guj. Til-3 recorded value of different salt tolerance criteria like higher mean seed yield (19.69 g/pot), comparable with other varieties of mean salinity index (71.82 %), yield decline (38.51 %) at EC 5.0 dS m^{-1} and for 50% yield reduction at EC 9.47 dS m^{-1}, as well as lower Na/K ratio in seed (0.253) and straw (0.551). The seed yield was found the highest with G Til 3 followed by GJT-5, G Til 2 and G Til 4.

6. Evaluation of salt tolerance of onion (*Allium cepa*) varieties with and without FYM (2017-18)

It is for the information to scientific community especially for the plant breeder that among the four varieties *viz:* Pilipatti, Agri. found light red, Talaja red, GJRO-11, the variety Agri. found light red recorded significantly the highest bulb yield (7290 kg/ha), bulb girth (3.59 cm), bulb length (3.70 cm) and lowest Na/K ratio in fodder (0.56) with saline irrigation water having EC 4.00 to 12.70 (dS m^{-1}). Application of FYM @ 20 t/ha significantly increase bulb yield of onion and soil EC. The variety Agri. found light red recorded superior in salt tolerance up to the saline irrigation water EC 12.70 (dS m^{-1}).

Year: 2021-22

7. Evaluation of cowpea varieties for salinity tolerance (2019-20)

It is for the information of scientific community especially for plant breeders that cowpea variety GC 1 recorded higher mean salinity index (81.07) and mean seed yield (15.81 g/plant), minimum yield decline (29.1 %) at EC 8.0 dSm^{-1} and for 50 % yield reduction at EC 7.68 dS/m, as well as lower Na/K ratio in seed and stalk. Cowpea varieties GC 1 was found more salt tolerance as compared to AVC 1, Pusa Falguni and GC 2 on the basis of salinity indices.

8. Effect of saline irrigation water on pearl millet (2019-20)

It is for the information to scientific community especially for the plant breeder that pearl millet hybrid GHB 1129 recorded superior values of different salt tolerance criteria like higher mean salinity index (79.25%), higher mean grain yield (504.0 g/plot), minimum yield decline (32.49%) at 8.0 dS/m and for 50% yield reduction at 11.21 dS/m, as well as lower Na/K ratio in grain and fodder. Pearlmillet hybrid GHB 1129 was found more salt tolerant as compared to GHB 538, GHB 732 and GHB 558 on the basis of salinity indices.

9. Periodical evaluation of soil fertility status of Saurashtra region (2020)

Nutrient index values for available N, P_2O_5, K_2O and S were 1.50, 1.68, 2.68 and 2.19, respectively. While, nutrient index values for DTPA extractable micronutrients were 1.47, 2.70, 2.07 and 3.00 for Fe, Mn, Zn and Cu, respectively. Based on nutrient index values, the soils of Saurashtra region categorized in low in available N and Fe, medium in available P_2O_5, S and Zn whereas, high in available K_2O, Mn and Cu.

10. Establishment of critical limit of zinc for soybean crop in medium black calcareous soils (2021)

While, recommending Zn application to *kharif* soybean crop grown in calcareous soils of Saurashtra, STL of Gujarat should consider the critical limit of 0.55 ppm in soil and 42.44 ppm in soybean plant at 45 DAS.

Year: 2022-23

11. Optimization of nutrient package in *Bt* cotton under irrigated condition (2019-20)

If soil status of available nitrogen and phosphorus is low and potassium is high, than apply 180:50:113 kg/ha N:P_2O_5:K_2O to Bt cotton. N fertilizer applies in five splits of 20% each *viz:* as basal, at 30, 60, 90 and 120 DAS and K_2O in two splits *viz;* 50% as basal and at 30 DAS and P_2O_5 as basal. In addition, apply Azatobactor, PSB and KSB each 3 lit/ha through drenching for getting higher yield.

Year: 2023-24

12. Evaluation of soil texture of Junagadh district (2022)

It is informed to scientific community that, soil texture of Junagadh district is clayey, consisting of soil separate viz; sand 29.05 %, silt 24.67 % and clay 46.23 % i.e. 64 % area of soils of Junagadh district. Among the different talukas, Malia, Mangrol and Visavadar talukas soils falls under clay loam texture, while, in Vanthali, Bhesan, Keshod, Manavadar, Mendarda and Junagadh talukas soils falls under clayey texture.

13. Effect of FYM with and without phosphorus on groundnut (GG 20) yield (2019-20)

It is informed to scientific community that in *kharif* groundnut application of FYM 10 t ha^{-1} along with 20 kg P_2O_5 ha^{-1} every year gave higher yield and net return and also increases phosphorus content and uptake by pod and haulm. Application of FYM 10 t ha^{-1} along with 20 kg P_2O_5 ha^{-1} every year also increasing the phosphorus level in soil as compared to control.

Year: 2024-25

14. Effect of silicon on chickpea under saline irrigation water (2023-24)

It is for the information to scientific community that, chickpea crop irrigated with saline irrigation water yield was decreased with increase in salinity levels from 2.0 to 8.0 dS m^{-1}. With increase in soil application of silicon in form of SiO2 at the time of sowing from 0 to 300 ppm there was increased in yield and Si content in soil and decreased in Na/K ratio in plant and soil, $EC_{2.5}$, SAR and ESP of soil under saline irrigation water.

15. Effect of silicon on wheat under saline irrigation water (2023-24)

It is for the information to scientific community that, wheat crop irrigated with saline irrigation water, yield was decreased with increase in salinity levels from 2.0 to 8.0 dS m^{-1}. With increase in soil application of silicon in form of SiO_2 at the time of sowing from 0 to 300 ppm there was increased in yield and Si content in soil and decreased in Na/K ratio in plant and soil under saline irrigation water.

16. Study on relative salinity tolerance of leafy vegetables (2022-23)

Among the different leafy vegetable crops like coriander, fenugreek and spinach, higher mean salinity index (69.12) and mean seed yield (619.64 g/plot), minimum yield decline (52.87 %) at EC 8.0 dS/m and for 50 % yield reduction at EC 8.02 dS/m, as well as lower Na/K ratio in seed and stalk were observed with spinach. Spinach crop found more salt tolerance as compared to coriander and fenugreek on the basis of salinity indices.

17. Soil test based fertilizer recommendation for targeted yields of coriander(2022-23)

The scientist of soil testing laboratories are informed that the nutrients requirement for production of one quintal coriander grain was assessed as 3.92, 0.51 and 2.61 kg; N, P_2O_5 and K_2O, respectively and the fertilizer prescription equations are: for N: [FN : 8.13 x T - 0.46 x SN - 0.23 x FYM], P: [FP_2O_5 : 4.75 x T - 3.60 x SP - 0.24 x FYM] and K: [FK_2O : 8.05 x T - 0.56 x SK - 0.26 x FYM] with FYM 5 t/ha. While, without FYM the fertilizer prescription equations are: for N: [FN : 11.16 x T - 0.63 x SN], P: [FP_2O_5 : 9.41 T - 7.13 x SP] and K:[FK_2O : 9.23 x T - 0.63 x SK]. Targeted yield concept could be effectively adopted from 12.5 to 17.5 q/ha for site specific fertilizer recommendation to achieve high yields of coriander in the medium black calcareous soils of Saurashtra region of Gujarat.

18. Evaluation of soil textural classes in the soils of different talukas of Rajkot district (2025)

It is to inform to scientific community that in Rajkot district overall soil texture class is clay (28.83, 27.0 and 44.67 % sand, silt and clay, respectively), i.e. 51 % area of soils of Rajkot district. Among the different talukas, Gondal and Jetpur talukas soils are comes under Silty clay loam soil texture. While remaining talukas like Rajkot taluka, Padadhari, Jam-Kandorna, Kotda-Sangani, Vinchhiya, Dhoraji, Upleta, Jasdan and Lodhika comes under clay soil texture.

Table 6.4.26 Ph.D.: Awards/recognition received by faculty members (Department of Soil Science and Agricultural Chemistry)

Sr. No.	Name of Faculty	Name of Award	Authority	Year
1.	Dr. A. V. Rajani	Golden Achievers Award	Council for Academic Performance & Appraisal (Regd.), Delhi	2022-23
2.	Dr. S. G. Savalia	Member	ASRB, NET and JRF paper setting	2022-23
3.	Dr. S. G. Savalia	Member	ICAR Accreditation committee	2022-23
4.	Dr. S.G. Savalia	GAAS award for best extention work	GAAS, Ahmedabad	2023-24
5.	Dr. S. G. Savalia	Member	ASRB, NET and JRF paper setting	2023-24
6.	Dr. S. G. Savalia	Member	ICAR acreditation peer review team	2023-24
7.	Dr. A. S. Jadeja	GAAS award for best extention work	GAAS, Ahmedabad	2023-24
8.	Dr. J.J. Vaghani	BEST AICRP (OILSEEDS)	ICAR- Indian Istitute of Oilseed Research, Rajendranagar, Hyderabad	2023-24
9.	Dr. A. S. Jadeja	Best thesis presentation	AAU, Anand	2024-25
10.	Dr. A. S. Jadeja	Best oral presentation	Conference, JAU, Junagadh	2024-25
11.	Dr. K. P. Bhuriya	Young research award	Hindustan Agricultural welfare Research Society, Agra (U. P)	2024-25
12.	Mr. K. P. Bhuriya	Editor	Agriculture E-News letter Magazin	2024-25
13.	Dr. H. L Sakarvadiya	Reviewer	International Journal of Agriculture Sciences	2024-25

Sr. No.	Name of Faculty	Name of Award	Authority	Year
14.	Dr. L. C. Vekariya	Reviewer	International Research Journal of Pure and Applied Chemistry	2024-25
15.	Dr. L. C. Vekariya	Reviewer	Trends in bioscience	2024-25
16.	Dr. K.B. Parmar	Reviewer	An Asian Journal of Agriculture Sciences	2024-25
17.	Dr. A. S. Jadeja	Reviewer	International Journal of Agriculture Sciences	2024-25
18.	Dr. A. S. Jadeja	Reviewer	The Pharma Innovation	2024-25
19.	Pro. P. I. Jetapara	Young Women Scientist Award	Agri meet foundation, Bharat, UGC-MMTTC JNVU Jodhpur.	2025-26

Table 6.4.27 Ph.D.: Awards received by Ph.D. degree students (Department of Soil Science and Agricultural Chemistry)

Sr. No.	Name of Student	Name of Award	Year
1.	Kachhiyapatel Krishna A.	State level best thesis award, ISSS, AAU, Anand	2022-23
2.	Mr. Chirag Gorashiya	World environment day, JAU, Junagadh	2023-24
3.	Mr. Chirag Gorashiya	Inter college competition, COA, JAU, Junagadh	2023-24
4.	Mr. Chirag Gorashiya	Best poster presentation, G20 event by COA, JAU, Junagadh	2023-24
5.	Vasoya Mansi	Inter college competition, COA, JAU, Junagadh	2023-24
6.	Kachiyapatel Krishna	Best poster presentation, National conference on climate change by NAU, Navsari	2023-24

Table 6.4.28 Ph.D.: Year-wise NET qualified PG/Ph.D. Students in Soil Science and Agricultural Chemistry

Sr. No.	Year	No. of students qualified NET
1.	2020-21	01 (UGC NET)
2.	2021-22	01
3.	2022-23	---
4.	2023-24	03 (UGC NET)
5.	2024-25	Exam not conducted
Total		05

Table 6.4.29 Ph.D.: Research publications of faculty Members (Department of Soil Science and Agricultural Chemistry)

Sr. No.	Particular	Number of publications during Last Five Years
1.	National/International Journal	95
	6.0 and above	02
	4.0-6.0	93
	< 4.0	00
2.	Books Published/Book Chapter	21
3.	Practical Manuals	22

Table 6.4.30 Ph.D.: Seminar / workshop / symposia organized by the Department of Soil Science & Agricultural Chemistry from 2020-21 to 2025-26

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2020-21				
1.	Soil Testing as a business opportunity	04-01-2021 to 08-01-2021	JAU, Junagadh	50
2.	Integrated Nutrient Management of Fertilizer Dealers	17-02-20 to 05-03-2020	JAU, Junagadh	79
2021-22				
3.	Integrated Nutrient Management of Fertilizer Dealers	09-08-21 to 26-08-21	JAU, Junagadh	59
4.	Integrated Nutrient Management of Fertilizer Dealers	20-09-21 to 07-10-21	JAU, Junagadh	54
5.	Integrated Nutrient Management of Fertilizer Dealers	18-10-21 to 02-11-21	JAU, Junagadh	61
6.	Integrated Nutrient Management of Fertilizer Dealers	09-12-21 to 23-12-21	JAU, Junagadh	64
2022-23				
7.	Integrated Nutrient Management of Fertilizer Dealers	01-04-2022 to 15-04-2022	JA, Junagadh	71
8.	Integrated Nutrient Management of Fertilizer Dealers	02-05-2022 to 16-05-2022	JAU, Junagadh	77
9.	Integrated Nutrient Management of Fertilizer Dealers	01-06-2022 to 15-06-2022	JAU, Junagadh	92

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
10.	Integrated Nutrient Management of Fertilizer Dealers	27-06-2022 to 11-07-2022	JAU, Junagadh	67
11.	Integrated Nutrient Management of Fertilizer Dealers	25-07-2022 to 08-08-2022	JAU, Junagadh	75
12.	Integrated Nutrient Management of Fertilizer Dealers	29-08-2022 to 12-09-2022	JAU, Junagadh	75
13.	Integrated Nutrient Management of Fertilizer Dealers	15-09-2022 to 29-09-2022	JAU, Junagadh	80
14.	Five days training programme on soil testing as a business opportunity	19-09-2022 to 23-09-2022	JAU, Junagadh	45
15.	Integrated Nutrient Management of Fertilizer Dealers	06-10-2022 to 20-10-2022	JAU, Junagadh	73
16.	Integrated Nutrient Management of Fertilizer Dealers	03-11-2022 to 17-11-2022	JAU, Junagadh	81
2023-24				
17.	Integrated Nutrient Management of Fertilizer Dealers	19-12-2022 to 02-01-2023	JAU, Junagadh	92
18.	Integrated Nutrient Management of Fertilizer Dealers	06-01-2023 to 20-01-2023	JAU, Junagadh	99
19.	Integrated Nutrient Management of Fertilizer Dealers	14-03-2023 to 28-03-2023	JAU, Junagadh	75
20.	Integrated Nutrient Management for fertilizer dealers	11-04-2023 to 25-04-2023	JAU, Junagadh	78
21.	Integrated Nutrient Management for fertilizer dealers	01-05-2023 to 15-05-2023	JAU, Junagadh	78
22.	Integrated Nutrient Management for fertilizer dealers	17-05-2023 to 02-06-2023	JAU, Junagadh	71
23.	Integrated Nutrient Management for fertilizer dealers	08-06-2023 to 23-06-2023	JAU, Junagadh	70
24.	Integrated Nutrient Management for fertilizer dealers	03-07-2023 to 17-07-2023	JAU, Junagadh	48
25.	Integrated Nutrient Management for fertilizer dealers	21-08-2023 to 04-09-2023	JAU, Junagadh	89
26.	Integrated Nutrient Management for	25-09-2023 to	JAU,	86

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
	fertilizer dealers	09-10-2023	Junagadh	
27.	Integrated Nutrient Management for fertilizer dealers	19-10-2023 to 02-11-2023	JAU, Junagadh	80
28.	Integrated Nutrient Management for fertilizer dealers	14-12-2023 to 28-12-2023	JAU, Junagadh	75
2024-25				
29.	Integrated Nutrient Management for fertilizer dealers	12/03/2024 to 26/03/2024	JAU, Junagadh	81
30.	Integrated Nutrient Management for fertilizer dealers	15-04-2024 to 29-04-2024	JAU, Junagadh	103
31.	Integrated Nutrient Management for fertilizer dealers	08-07-2024 to 22-07-2024	JAU, Junagadh	72
32.	Integrated Nutrient Management for fertilizer dealers	02-08-2024 to 16-08-2025	JAU, Junagadh	37

6.4.2. FACULTY STRENGTH AS ON (AS OF 31-07-2025)

The department has sufficicent sanctioned and filled up faculty position. besides this, teaching, and guiding the PG students are also given to the faculties from research stations and other offices.

Table 6.4.31 Ph.D.: Details of faculty strength (Department of Soil Science and Agricultural Chemistry)

Sr. No	Sanctioned Faculty for Ph. D.	Faculty in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Associate Professor	01	01	Not recommended by ICAR	02
2.	Assistant Professor	05	01		06
	Total	06	02		08

6.4.3 TECHNICAL /SUPPORTING STAFF AS ON (AS OF 31-07-2025)

Table 6.4.32 Ph.D.: Details of technical/supporting staff strength as of 31.07.2025 (Department of Soil Science and Agricultural Chemistry)

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Recommended by ICAR	Staff sanctioned by the GoG
1.	Technical/Supporting staff	07	07	Not recommended by ICAR	14
2.	Administrative staff	01	02		03
Total		08	09		17

6.4.4. CLASSROOMS AND LABORATORIES

a) No. of classrooms

This department has one lecture hall for conducting theory class at the Department of Soil Science and agricultural Chemistry.

Table 6.4.33 Ph.D.: Classroom infrastructure in the department

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Soil Science & Agricultural Chemistry					
1	PG Classroom	41.00	40	Theory and practical teaching	AC, Projector, Computer with Internet

PG CLASSROOM

b) Functional PG laboratories

This department has nine laboratories for chemical analysis of soil, water and plant samples for PG students, research experiment and farmers.

Table 6.4.34 Ph.D.: Departmental PG laboratories established (As of 31-07-2025)

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Soil Science					
1	MSS Research Lab	60	15	Research	Salinity Indices
2	Micronutrients Research Lab	60	15	Research	Micronutrient analysis
3	G-1 Research Lab	60	15	Research	Soil Plant NPK
4	Soil Water Analysis Lab	120	10	Research	All instruments related to soil analysis

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
5	STCR Lab	62	10	Research	Plant analysis
6	Soil Survey Lab	41	10	Research	Fertility estimation
7	LTFE Lab	41	10	Research	Soil Plant analysis
8	PG/Ph.D. Research Lab	41	10	Practical and research	PG/Ph.D. research work
9	UG/Ph.D. dual purpose Lab	180	50	Practical	UG/Ph.D. dual

PG LABORATORY

Table 6.4.35 Ph.D.: List of major equipment available in the Department of Soil Science and Agricultural Chemistry

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
Department of Soil Science and Agricultural Chemistry				
1	Soil Water Analysis Lab	Robotic Clay Fraction Analyser	1	40.91
2	Soil Water Analysis Lab	Atomic temperature correction water quality meter/ion analyser	1	3.08
3	PG Lab	Pressure plate Apparatus	1	45.00
4	PG Lab	Automatic Shaker	1	1.20
5	PG Lab	Water Distillery System	1	0.80
6	PG Lab	Plant Nitrogen analyser	1	0.40

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
7	Micronutrients Research Lab	Atomic absorption spectroscopy	1	20.00
8	Micronutrients Research Lab	Atomic absorption spectroscopy with graphite farness	1	40.00
9	Micronutrients Research Lab	MP-AES	1	45.00
10	MSS Research Lab	Vacuum Unit	1	0.40
11	G-1 Research Lab	automated nitrogen analyser	1	15.00
12	Soil Water Analysis Lab	UV Spectrophotometer	1	5.00
13	Soil Water Analysis Lab	Flame photometer	1	1.30
14	Soil Water Analysis Lab	EC meter, pH meter	1	2.00

ROBOTIC CLAY ANALYSER

ION ANALYSER

PRESSURE PLATE APPARTUS

ATOMIC ABSORPTION SPECTROSCOPY

FLAME PHOTOMETER	MP-AES

Table 6.4.36 Ph.D.: Farm Facilities available with the Department of Department of Soil Science and Agricultural Chemistry

Sr. No.	Name of Farm/ Cafeteria	Area (hectare)	No. of Experiments continue		Details of activities
			Departmental	Students	
Soil Science and Agricultural Chemistry					
1	Net House	0.8	12	19	Experiment on Soil Salinity, Fertility and Critical limit

Table 6.4.37 Ph.D.: Theory and practical batches for Ph.D. program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semesters	Batch of students in theory and practical class	
			Batch	No. of students
1.	Ph.D. in Soil Science and Agricultural Chemistry	Odd	01	06
2.		Even	01	06

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

- Training is provided on techniques for the collection and analysis of soil and plant samples, along with the use and maintenance of basic analytical instruments. Students are also trained in the use of digital burettes, preparation of standard solutions, handling of pipettes, and other laboratory procedures.
- The faculty members prepare comprehensive theory notes and practical manuals for each subject in the degree program, drawing content from various textbooks, research papers, and reference materials. These study materials are distributed to students free of cost and are also made available on the University website.
- Several faculty members with over five years of teaching experience at the undergraduate and postgraduate levels contributed as course creators to the ICAR e-learning portal.
- Students gain hands-on practical exposure in well-equipped, discipline-specific laboratories.
- Over the past five years, the department's faculty members have published several textbooks for postgraduate students, contributing to quality academic resources as given below.

Sr. No.	Title of Book	Author	Publisher
1	Soil Fertility management for sustainable agriculture (2021)	A.V. Rajani	JAYA Publishing House
2	Textbook of Problematic soil (2021)	D.V. Hirapara, A.S. Jadeja, L.C. Vekariya, H.L. Sakarvadia	JAYA Publishing House
3	Soil Fertility and Nutrient management- A way for sustainable agriculture (2021)	A.S. Jadeja, D.V. Hirapara, L.C. Vekariya, H.L. Sakarvadia	JAYA Publishing House
4	Soil Fertility and Nutrient management- A way for sustainable agriculture (2021)	A.S. Jadeja, D.V. Hirapara, L.C. Vekariya,	CRC Publication
5	Soil Science Simplified (2022)	D.V. Hirpara, A.S. Jadeja, D.V. Parkhiya, L.C. Vekaria, H.L. Sakarvadia, M.A. Davra	Jaya publishing house
6	Chemistry of the soil. A mode to conscious with soil chemistry (2022)	A.V. Rajani	Narendra Publishing House
7	A Basic Concept of Soil Science (2024)	A.V. Rajani	National publishing House

6.4.6. SUPERVISION OF STUDENTS IN PG DEGREE PROGRAM

Table 6.4.38 Ph.D.: Number of students supervised (guided) by faculty in the last five years

Department	No. of students supervised (guided) by faculty in the last five years	
	M.Sc. (Agri.)	Ph.D.
Soil Science and Agricultural chemistry	33	14

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*)

- Generally, good feedback is received from current and passed-out students as well as from parents, industries, employers, farmers *etc.* (Annexure 6.4.7a)
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per schedule wherein, Deans of all faculties, nominated Professors and Research Scientists of different faculties and renowned academicians are members. Based on the Board of Study recommendation, the Academic Council takes the decision on academic matter for implementation in the university/college.
- ***STUDENT ADVISORY COMMITTEE:*** There is four-member advisory committee. Major guide is chairman and other members from minor subject, allied subject and statistics. Committee members guide the student to select research work, seminar topics, *etc.* Committee members frequently visit the experimental field and guide the students.
- ***STUDENT REPRESENTATIVE COUNCIL (SRC) AND STUDENT COUNSELLING AND PLACEMENT CELL (SCPC):*** Feedback collected with student interactions is reviewed by the members and appropriate measures are implemented based on the feedback received.
- ***FACULTY GROUP OF SUBJECTS:*** Faculty Group of Subjects meeting held once in a year and the workload of faculty and progress of the students are thoroughly discussed with suggestions for improvement. The suggestions received by the Department of Agronomy in the Faculty Group of Subjects during the last five years are given hereunder.

Table 6.4.39 Ph.D.: Faculty Group Meetings for Natural Resource Management

Sr. No.	Year	Convener	Faculties remain present	Suggestions received
1	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Director of Student Welfare, Principal & Dean and Registrar	Suggestions received from concerned FGS meetings; corresponding action taken reports are submitted in **Annexure 6.4.7b**
2	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Director of Student Welfare, Principal & Dean and Registrar	
3	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal & Dean	
4	2023-24	Professor and Head	Director of Research & Dean PG Studies, Registrar, Director of Extension Education, Principal & Dean and Asso. Director of Research	
5	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research & Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal & Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR THE LAST FIVE YEARS

Table 6.4.40 Ph.D.: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
Ph.D. in Soil Science and Agricultural Chemistry	2020-21	02	02+3*	0
	2021-22	01	01+2*	0
	2022-23	01	01+2*	0
	2023-24	01	01	0
	2024-25	01	01+01*	0
	2025-26	01	01	0

*In-Service / sponsored candidates

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

1. ***CERA AND OTHER ONLINE E-RESOURCES:*** Junagadh Agricultural University has subscribed to the ICAR Consortium for e-Resources in Agriculture (CeRA). Through this, faculty and students access more than 3,000 reputed journals in Agriculture and allied sciences with full-text availability.
2. ***ONE NATION, ONE SUBSCRIPTION (ONOS):*** Both faculty members and PG students of the department also regularly access One Nation, One Subscription (ONOS) portal of GoI, besides open access research domains such as Google Scholar, ResearchGate and Academia are utilized for networking among peers and other scholars.
3. ***E-BOOKS:*** The University Library provides access to Springer e-books. At a time, 25 users can simultaneously access an e-book. Additionally, the library has a collection of more than 200 Indian e-books for academic use.
4. ***KRISHIKOSH:*** Junagadh Agricultural University is an active member of Krishikosh, the national repository of theses submitted to Agricultural Universities and ICAR institutes. All postgraduate and doctoral theses submitted to JAU are regularly uploaded to this database for wider accessibility.
5. ***INTERNET:*** Digital library with computers and internet facility is available and used by the UG and PG students. Internet facility is also provided at all the hostels which is available for all the time.
   - The students are taught by PowerPoint presentations and audio-visual aids are systematically utilized during lectures and practical sessions.
   - Students are also given exposure to use JAU iKrushi Sanhita, a mobile application developed by the University, besides encouraging them to regularly listen to Junagadh Janvani 91.2 FM for information on crop-specific advisory and strategies.

- Various video platforms, including Google Classroom, Google Meet, Zoom, and Microsoft Teams, are regularly used for arranging online lectures by esteemed faculty members, recruiters and career counsellers.
- The concerned course teachers also upload lecture-wise PPT, note, assignments, *etc*. to Google Classroom and semester-wise WhatsApp groups.
- The department also strictly adheres to the Anti-Plagiarism norms stipulated by the university.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, CoA, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: 31.01.2026
Place: Junagadh

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Annexure 6.4.7a

Postgraduate Students' Feed Back Report for AY 2024-25	
Department of Soil Science and Agricultural Chemistry, CoA, JAU, Junagadh (n = 37)	
Particulars	**Average Score**
Departmental Teaching - Learning Process	
1. How do you rate Student- Teacher relations?	3.7
2. How do you rate for completion of courses by the teachers?	3.2
3. How do you rate fairness in internal assessment in the department?	3.4
4. How do you rate practical exposure from the department?	3.5
5. How do you rate for statical analysis facility provided by the department	3.7
6. Did teachers motivate /support you for solving your personal problems	3.9
P.G. Research facility	
1. How do you rate for your selection of research topic?	3.8
2. Did you get enough facilities for conducting experiment?	3.6
3. How do you rate material provided for conducting experiment?	3.5
4. How do you rate for major Guide for supporting in completion of Seminar and thesis project	3.4
Library facilities	
1. Books related to your subject are available in the library	3.2
2. Internet facilities for learning and research purpose	3.3
3. Availability of research journals (online /offline) for review purpose	3.1
4. How do you rate for delivery of books system?	3.4
Hostel Facility	
1. How do you rate Hostel facilities?	3.4
2. How do you rate wi-fi facility?	3.3
3. How do you rate for food quality in mess?	3.1
4. How do you rate cleanliness in the hostel?	3.5
Sports Facility	
1. How do you rate indoor sports facility?	3.8
2. How do you rate outdoor sports facility?	3.5

Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	**3**	**2**	**1**

Annexure 6.4.7b: Suggestions Received in the Faculty Group Meetings

Action taken report on the proceedings of 6th meeting of FGS-NRM held on November 24, 2020 at conference hall, Department of Agril. Economics, CoA, JAU, Junagadh

#	Suggestions received	Action Taken
6.1	Publication of research papers and popular articles by the faculty is not up to satisfactory level, hence faculty have to take this matter as serious and should have to publish in >5 NAAS rated journals (***Action:*** *All faculty members, FGS-NRM*).	Faculty members mostly published their research papers in above 5 NAAS ratted journals.
6.2	Research papers based on departmental research should be published (***Action:*** *All faculty members, FGS-NRM*).	We have already published our departmentally research work in above 5 NAAS rated journals.
6.3	Our previous research should be cited in the new research articles (**Action**: All faculty members, FGS-NRM).	The suggestion is implemented.
6.4	The RAWEP should be implemented properly (***Action:*** *HoD, Agronomy and Agril.Chemistry & Soil Science*).	The suggestion is implemented.
6.5	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET and their placement (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	Department already maintain NET/SRF/JRF pass out student's register.
6.6	Junior teachers should be involved in research projects (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	The suggestion is implemented.
6.7	Training organized by the College/Department, its feedback and resource persons should be included in the report (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	Department organized five trainings and its resource person are mentioned in the report.
6.8	There is need to prepare guidelines for presence of PG students in seminar when there are multiple groups (***Action:*** *Principal, COA, Junagadh*).	---
6.9	First semester UG course should be offered by respective HoD (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	---
6.10	Need to prepare guidelines and format for teaching workload including courses, seminar, guiding (Major/Minor/Member), RAWE/ELP, etc. (***Action:*** *Principal, COA, Junagadh*).	Implemented
6.11	Upgrade teaching material with latest technology, varieties, etc. (***Action:*** *All*	E- Resources (Videos, booklets, live specimens, presentations with

	teaching faculty members, FGS-NRM).	audio *etc.*) developed by our faculties during these COVID-19 eras for easy-to-understand UG and PG courses.
6.12	Outsourced manpower and research fellow should be included in staff position status of the report (***Action:*** *HoD, Agronomy and Agril. Chem. & Soil Sci. and Principals, Polytechnics*).	The suggestions are accepted.
6.13	Enhance digital learning by preparing video of practicals, PCP, ELP, educational tour, etc. and include in digital library like YouTube (***Action:*** *All teaching faculty members, FGS-NRM & HoDs*).	Department faculties are recorded their lectures videos for students and also uploaded on ICAR e-*shiksha* portal. Our faculty also arrange tour for ELP students.
6.14	Polytechnics have also to prepare the report as per format of Agronomy and Soil Science (***Action:*** *Principals, Polytechnics*).	---
6.15	Photographs of lab, infrastructure and awards should be included in the report (***Action:*** *HoD, Agronomy and Agril. Chem. & Soil Sci. and Principals, Polytechnics*).	The suggestion is implemented.
6.16	All faculty and PG students should apply for outstanding achievement/thesis awards and report to the concerned department. (***Action:*** *All faculty members, FGS-NRM*).	The suggestion is implemented.
6.17	Teaching workload should be equally distributed to faculty members (***Action:*** *HoD, Agronomy and Agril. Chem. & Soil Sci. and Principals, Polytechnics*).	The suggestion is implemented.
6.18	Major guides has to visit their PG students' experiments regularly (***Action:*** *Concerned faculty members, FGS-NRM*).	The suggestion is implemented.
6.19	All the members of faculty group of NRM shall have to provide related information strictly as per the format and in time (***Action:*** *All faculty members, FGS-NRM*).	The suggestion is implemented
6.20	If possible, ISBN number of manual should be taken and manual should be cross-checked by external experts (***Action:*** *All faculty members, FGS-NRM*).	----
6.21	All the faculties should have to attend PG seminars (***Action:*** *All faculty members, FGS-NRM*).	The suggestion is implemented

Action Taken Report on the Proceedings of 7th Meeting of FGS-NRM Held on December 02, 2021 at Conference Hall, Department of Agril. Economics, CoA, JAU, Junagadh

#	Suggestions received	Action taken
7.1	Publication of research papers and popular articles by the faculty is not up to satisfactory level, hence faculty have to take this matter as serious and should have to publish in >5 NAAS rated journals (***Action**: All faculty members, FGS-NRM*).	Implemented
7.2	Research papers based on departmental research should be presented in seminar/symposia and then published in good journals (***Action**: All faculty members, FGS-NRM*).	Implemented
7.3	Our previous research should be cited in the new research articles (**Action**: All faculty members, FGS-NRM).	Implemented
7.4	The records of the placement of UG & PG students should be maintained at college as well as at department level (***Action**: Principal, COA, HoD, Agronomy and Agril. Chemistry & Soil Science*).	Implemented
7.5	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Implemented
7.6	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major/Minor/Member), RAWE/ELP, etc. (***Action**: Associate Director of Research & Principal, COA, Junagadh*).	Accepted
7.7	Good quality photographs of the laboratory, infrastructure developed, award and recognition should be included in the report (***Action**: HoD, Agronomy, Agril. Chemistry & Soil Science and Principals, Polytechnics*).	Included
7.8	All the documentations done by the department should be properly documented for future reference (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Implemented
7.9	Every month, a meeting of the PG students should be organised at department level to discuss about experiments and other works (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Accepted
7.10	All the Ph.D. students should be treated as staff members and they should be assigned departmental work as well as practical teaching (***Action**: HoD, Agronomy and Agril. Chemistry & Soil Science*).	Not finalised

7.11	Information of the FGS should be submitted timely and strictly as per the format (***Action:*** *All faculty members, FGS-NRM*).	Some improvement is observed, still some faculty have not followed the instructions
7.12	If possible, ISBN number of manuals should be taken and manuals should be cross-checked by external experts (***Action:*** *All faculty members, FGS-NRM*).	Implemented
7.13	The PG table of the department should be designated as PG Coordinator or Co-Coordinator (***Action:*** *HoD, Agronomy and Agril. Chemistry & Soil Science*).	Accepted
7.14	Arrange a felicitation programme for the students who have passed SRF/JRF/ARS/NET (***Action:*** *Principal, CoA, Junagadh*).	Implemented
7.15	There should be a combined presentation of all the Polytechnics of Agriculture (***Action:*** *Principals, Polytechnics*).	Implemented
7.16	Principal, Polytechnic should be designated as Principal (Poly.) (***Action:*** *Principals, Polytechnics*).	Partially implemented
7.17	The strength of the students in polytechnics should be increased up to 50 including EWS and PCP should be included in the syllabus (***Action*** *Principals, Polytechnics*).	Implemented
7.18	Polytechnics should arrange 2-3 programmes in a year, so Vice Chancellor and University Officers can visit (***Action:*** *Principals, Polytechnics*).	Implemented
7.19	All the faculties should have to attend PG seminars (***Action:*** *All faculty members, FGS-NRM*).	Implemented

Action Taken Report on the Proceedings of 8th Meeting of FGS-NRM Held on January 25, 2023 at Conference Hall, Department of Agril. Economics, JAU, Junagadh

#	Suggestions received	Action taken
8.1	All the PG students should cite at least 10 references of JAU faculty's research in their thesis (***Action:*** *All the PG students & faculty members, FGS-NRM*).	Implemented
8.2	The faculties should participate in seminar / symposia and present the research papers based on departmental research and then published in good journals (***Action:*** *All faculty members, FGS-NRM*).	Implemented
8.3	The records of the placement of UG & PG students should be maintained at college as well as at department level (***Action:*** *Principal, COA, HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented
8.4	The record should be maintained every year for students passed out the competitive examinations like JRF / SRF / NET (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented

8.5	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major / Minor / Member), RAWE/ELP, etc. (***Action:*** *Associate Director of Research & Principal, COA, Junagadh*).	Implemented
8.6	Good quality photographs of the laboratory, infrastructure developed, award and recognition should be included in the report (***Action:*** *HoD, Agronomy, Soil Science & Agril. Chemistry and Principals, Polytechnics*).	Implemented
8.7	Every month, a meeting of the PG students should be organised at department level to discuss about experiments and other works (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented
8.8	Information of the FGS should be submitted timely and strictly as per the format (***Action:*** *All faculty members, FGS-NRM*).	Accepted, still some faculty are not providing information in prescribed format.

Action Taken Report on the Proceedings of 9th Meeting of FGS-NRM Held on February 01, 2024 at Conference Hall, Department of Agril. Economics, JAU, Junagadh

#	Suggestions received	Action taken
9.1	All the PG students should cite at least 10 references of JAU faculty's research in their thesis (***Action:*** *All the PG students & faculty members, FGS-NRM*).	Implemented, PG students have cited relevant research of JAU faculties in their thesis
9.2	The faculties should participate in seminar / symposia and present the research papers based on departmental research and then published in NASS rated journals (***Action:*** *All faculty members, FGS-NRM*).	Implemented
9.3	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented
9.4	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major/Minor/Member), RAWE/ELP, etc. (***Action:*** *Associate Director of Research and Principal & Dean , CoA, Junagadh*).	Implemented
9.5	Every month, a meeting of the PG students should be organised at department level to discuss about experiments and other works (***Action:*** *HoD, Agronomy and Soil Science & Agril. Chemistry*).	Implemented, Seven meeting were organised
9.6	Information of the FGS should be submitted timely and strictly as per the format (***Action:*** *All faculty members, FGS-NRM*).	Accepted & implemented

9.7	Verify of how many recommended books were purchased by the university library and if any important books were not purchased, further recommend to the library (***Action:*** College library, CoA, JAU, Junagadh).	Implemented
9.8	Review the printed journals of UG courses from the experts or teacher from the other university (***Action:*** *All faculty members, FGS-NRM*).	Accepted & implemented

Action Taken Report on the Proceedings of 10th Meeting of FGS-NRM Held on January 04, 2025 at Conference Hall, Department of Agril. Economics, JAU, Junagadh

#	Suggestions received	Action taken
10.1	Information of the FGS should be submitted timely and strictly as per the format. (***Action:*** *All faculty members, FGS-NRM*).	Implemented and information submitted timely by all the faculties.
10.2	The record should be maintained every year for students passed out the competitive examinations like JRF/SRF/NET and send to Principal and Dean *(**Action:** HoD, Agronomy and Soil Science & Agril. Chemistry)*.	Record has been maintained and also submitted to Principal & Dean.
10.3	All the PG students should cite at least 10 references of JAU faculties' research in their thesis *(**Action:** All the PG students & faculty members, FGS-NRM)*.	PG students and their guides are instructed to cite references of JAU faculty's research.
10.4	All the NRM faculty remain present strictly in FGS meeting *(**Action:** All faculty members, FGS-NRM)*.	The message has been conveyed the faculties to remain present in the meeting strictly.
10.5	PG research and departmental research published in high NAAS rated journals *(**Action:** All faculty members, FGS-NRM)*.	Papers have been published in higher NAAS rated journals.
10.6	There is a need to prepare the guidelines and format for teaching workload including courses, seminar, guiding (Major /Minor/ Member), RAWE/ELP, etc. *(**Action:** Asso. Director of Research & Principal, CoA, Junagadh)*.	The report of 11th FGS-NRM meeting is prepared as per the revised FGS information Performa.
10.7	The faculties should participate in seminar /symposia/training as per their discipline only. *(**Action:** All faculty members, FGS-NRM)*.	Faculties are attending relevant seminar /symposia/ training etc. of the discipline.

6.4:
Self-Study Report
for Ph.D.
in
Entomology

6.4. SELF-STUDY REPORT FOR PH.D. IN ENTOMOLOGY AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PH.D. DEGREE PROGRAM

The Department of Agricultural Entomology was established along with the College of Agriculture, Junagadh in 1960.

- Postgraduate education in the discipline was strengthened with the start of the M.Sc. (Agri.) in Entomology in 1964.
- Building on this foundation, the Ph.D. programme in Entomology was initiated in 1967.
- Since then, the programme has produced a large number of doctoral graduates, who have contributed significantly to teaching, research and extension in agricultural entomology at state, national and international levels.
- The Ph.D. programme continues to focus on advanced research in insect science, including insect ecology, pest management, resistance studies, biocontrol and toxicology, aligning with emerging challenges in agriculture.

Department of Agricultural Entomology, College of Agriculture, JAU, Junagadh

STEPPING-STONES OF THE DEPARTMENT

- **1960** – The Department of Agricultural Entomology was established along with the College of Agriculture, Junagadh, laying the foundation for teaching and research in insect science.
- **1964** – The department took a major leap forward by starting the Postgraduate M.Sc. (Agri.) in Entomology programme, strengthening higher education in the discipline.
- **1967** – Building upon this base, the Ph.D. programme in Entomology was initiated, marking a new era of advanced research and academic excellence.
- **1976** – The Non-Plan Project for Research in Pest Control and other Entomological Aspects (B.H. 5026) was launched, enhancing applied research capabilities.
- **1996-97** – Introduction of the Plan Scheme on Integrated Pest Management in Fruit Crops (B.H. 12094) expanded research into sustainable crop protection.
- **2004** – The department diversified by strengthening facilities for sericulture, apiculture, and mushroom cultivation (B.H. 12564), catering to allied agricultural enterprises.
- **2011** – Establishment of the Biocontrol Research Laboratory provided a strong platform for eco-friendly pest management and biological control studies.
- **2012-13** – A new Plan Scheme on Integrated Pest Management in Seed Spices (B.H. 12032) was initiated, addressing region-specific crop protection needs.
- **2023-24:** The department was granted patent for the 'Device for Insects Trapping for Managing Insects' (Granted patent no.: 478250) by the Indian Patent Office, GoI.

- **2024-25:** The department was granted patent for the 'A Composition for Male Confusing Technique of Shoot and Fruit borer in Brinjal crop' (Granted patent no.: 536789) by the Indian Patent Office, GoI.

MISSION, GOALS AND OBJECTIVES

MISSION: The department is committed to provide excellence, innovation and effectiveness in education, research and transfer of technology programs. The mission of the Department of Entomology, College of Agriculture is to advance scientific knowledge in the field of entomology and to disseminate this knowledge through publication, teaching, and service. To advance our mission, the under graduate and post graduate program in the Department of Entomology emphasizes excellence in all scientific endeavors related to the research, teaching, and practice of entomology.

GOALS: The primary goal of the Department of Entomology is to develop skilled human resources, generate advanced scientific knowledge and evolve eco-friendly pest management technologies that contribute to sustainable agricultural production, food security and the welfare of farming communities at regional, national and global levels.

OBJECTIVES:

- To impart and maintain quality in education, research and extension activities in the field of Agricultural Entomology.
- To equip the bachelor, master and doctorate degrees students to conduct independent research in the field of Agricultural Entomology.
- To provide diagnostic services to pest problems of the farming community throughout Saurashtra region of Gujarat.
- To develop advanced technologies in pest management and to disseminate the technologies to the farmers.
- Undertaking research projects sponsored by State Government, ICAR, Private Pesticide/Seed Companies, other Agencies etc. To organize different training programmes for the scientist, faculty members and farmers in the field of agricultural entomology.

ACCOMPLISHMENTS/ ACHIEVEMENTS OF THE LAST FIVE YEARS

EXTERNAL FUNDED PROJECTS IN THE DEPARTMENT OF AGRICULTURAL ENTOMOLOGY

2020-21:

1. Integrated Pest Management in seed spices sponsored by Govt. of Gujarat (B.H. 12032)

2. Research for Integrated Pest Management in fruit crops sponsored by Govt. of Gujarat (B.H. 12094)
3. Strengthening the facilities for Sericulture, Apiculture and Mushroom cultivation sponsored by Govt. of Gujarat (B.H. 12564)
4. Project for research in pest control and other entomological aspects sponsored by Govt. of Gujarat (B.H. 5026)
5. Evaluation of chlorpyrifos 50% + cypermethrin 5% EC against fall armyworm and stem borer in maize sponsored by Gharda Chemicals Ltd. (B.H. 18009-60)
6. Evaluation of cypermethrin 10% + indoxacarb 10% SC against fall armyworm and stem borer in maize sponsored by Gharda Chemicals Ltd. (B.H. 18009-61)
7. Bio-efficacy evaluation of beta cyfluthrin 90 g/l + imidacloprid 210 g/l OD (Solomon 300 OD) against aphid and thrips in cumin sponsored by Bayer Crop Science Limited (B.H. 18009-64)
8. Monitoring of *Helicoverpa armigera* (Hubner) through solar light trap in chickpea sponsored by Urmie UV tech India Ltd. (B.H. 18009-67)

2021-22:

1. Integrated Pest Management in seed spices sponsored by Govt. of Gujarat (B.H. 12032)
2. Research for Integrated Pest Management in fruit crops sponsored by Govt. of Gujarat (B.H. 12094)
3. Strengthening the facilities for Sericulture, Apiculture and Mushroom cultivation sponsored by Govt. of Gujarat (B.H. 12564)
4. Project for research in pest control and other entomological aspects sponsored by Govt. of Gujarat (B.H. 5026)
5. Evaluation of bio-efficacy and phytotoxicity of Afidopyropene 50 g/l DC against aphids on cumin crop sponsored by BASF India Ltd. (B.H. 18009-74)

2022-23:

1. Integrated Pest Management in seed spices sponsored by Govt. of Gujarat (B.H. 12032)
2. Research for Integrated Pest Management in fruit crops sponsored by Govt. of Gujarat (B.H. 12094)
3. Strengthening the facilities for Sericulture, Apiculture and Mushroom cultivation sponsored by Govt. of Gujarat (B.H. 12564)
4. Project for research in pest control and other entomological aspects sponsored by Govt. of Gujarat (B.H. 5026)
5. Evaluation of bio-efficacy and phytotoxicity of Afidopyropene 50 g/l DC against aphids on cumin crop sponsored by BASF India Ltd. (B.H. 18009-74)
6. Bio-efficacy evaluation of PII 50 55% EC on insect pests of cotton sponsored by PI Industries Ltd. (B.H. 18009-77)

6. Efficacy evaluation of Flubendiamide 90 g/L + Deltamethrin 60 g/L (Fenos Quick) on mango sponsored by Bayer Crop Science Limited (B.H. 18009-78)
7. Efficacy evaluation of Flubendiamide 90 G/L + Deltamethrin 60 G/L (Fenos Quick) against fruit fly in mango Bayer Crop Science Limited (B.H. 18009-79)

2023-24

1. Integrated Pest Management in seed spices sponsored by Govt. of Gujarat (B.H. 12032)
2. Research for Integrated Pest Management in fruit crops sponsored by Govt. of Gujarat (B.H. 12094)
3. Strengthening the facilities for Sericulture, Apiculture and Mushroom cultivation sponsored by Govt. of Gujarat (B.H. 12564)
4. Project for research in pest control and other entomological aspects sponsored by Govt. of Gujarat (B.H. 5026)
5. Establishment of apiculture unit for bee breeding and bee clinic sponsored by Govt. of Gujarat (B. H. 18009-80)
6. Bio-efficacy evaluation of PII 50 55% EC on insect pests of cotton sponsored by PI Industries Ltd. (B.H. 18009-77)
7. Efficacy evaluation of Flubendiamide 90 g/L + Deltamethrin 60 g/L (Fenos Quick) on mango sponsored by Bayer Crop Science Limited (B.H. 18009-78)
8. Efficacy evaluation of Flubendiamide 90 G/L + Deltamethrin 60 G/L (Fenos Quick) against fruit fly in mango Bayer Crop Science Limited (B.H. 18009-79)
9. Evaluation of bio-efficacy and phytotoxicity of Fipronil 15% + Flonicamid 15% WG against insect pests of cumin sponsored by UPL Sustainable Agri Solutions Limited (B.H. 18009-84)
10. Testing the bio-efficacy and phytotoxicity of PIX-20002 20% SC against fall armyworm (*S. frugiperda*) in maize sponsored by PI Industries Ltd. (B.H. 18009-85)

2024-25

1. Integrated Pest Management in seed spices sponsored by Govt. of Gujarat (B.H. 12032)
2. Research for Integrated Pest Management in fruit crops sponsored by Govt. of Gujarat (B.H. 12094)
3. Strengthening the facilities for Sericulture, Apiculture and Mushroom cultivation sponsored by Govt. of Gujarat (B.H. 12564)
4. Project for research in pest control and other entomological aspects sponsored by Govt. of Gujarat (B.H. 5026)
5. Establishment of apiculture unit for bee breeding and bee clinic sponsored by Govt. of Gujarat (B. H. 18009-80)
6. Strengthening of biocontrol research laboratory for promoting natural farming sponsored by Govt. of Gujarat (B. H. 12036)

7. Evaluation of bio-efficacy and phytotoxicity of Fipronil 15% + Flonicamid 15% WG against insect pests of cumin sponsored by UPL Sustainable Agri Solutions Limited (B.H. 18009-84)
8. Testing the bio-efficacy and phytotoxicity of PIX-20002 20% SC against fall armyworm (*S. frugiperda*) in maize sponsored by PI Industries Ltd. (B.H. 18009-85)
9. Evaluation of Spidoxamat 9.6% + Spinetoram 12% WG against insect pests of pomegranate sponsored by Bayer Crop Sciences Limited (B.H. 18009-88)
10. Evaluation of Fluxametamide 10% EC (Gracia 10% EC) against insect pests of cotton sponsored by Godrej Agrovet Limited (B.H. 18009-90)

RECOMMENDATIONS FROM THE DEPARTMENT OF AGRICULTURAL ENTOMOLOGY FOR FARMERS

2020-21:

1. Comparison of different colour sticky traps for monitoring of sucking pests in brinjal

The farmers of Gujarat are recommended to install yellow (RGB-255,255,0) or dark green (RGB-0,128,0) sticky traps (15 cm x 21 cm) @ 25/ha at crop height for the effective monitoring of jassid and whitefly in brinjal. The sticky trap is to be installed at one week after transplanting and it should be changed at weekly interval. Grease should be used as an adhesive material.

2. Comparison of different colour sticky traps for monitoring of sucking pests in seed spices

The farmers of Gujarat growing seed spices are recommended to install yellow (RGB-255, 255, 0) or dark green (RGB-0, 128, 0) sticky traps (15 cm x 21 cm) @ 25 traps/ha at crop height for the effective monitoring of aphids in coriander, cumin, fenugreek and fennel, while dark blue (RGB-0, 0, 255) and yellow (RGB-255, 255, 0) sticky traps (15 cm x 21 cm) @ 25 traps/ha at crop height for the effective monitoring of thrips in cumin, fennel and ajwain. The sticky trap is to be installed at one week after transplanting and it should be changed at weekly interval. Grease should be used as an adhesive material.

3. Bio-efficacy of different biopesticides against rugose spiralling whitefly in coconut

The farmers of Gujarat having coconut orchards are recommended to apply three sprays of *Beauveria bassiana* 1.15 WP (Min. 1 x 10^8 cfu/g) 0.009% (80 g/10 litre of water) or *Isaria fumosorosea* 1.15 WP (Min. 1 x 10^8 cfu/g) 0.009% (80 g/10 litre of water) along with starch 1% (10 g/lit), first spray at initiation of pest infestation, second and third spray at 10 days interval after first spray for effective management of rugose spiralling whitefly.

4. Bio-efficacy of different insecticides against rugose spiralling whitefly in coconut

The farmers of Gujarat having coconut orchards (1 to 3 year old palms) are recommended to apply three sprays of pyriproxyfen 10% + bifenthrin 10% EC 0.02% (10 ml/10 litre of water) or spiromesifen 22.9 SC 0.027% (12 ml/10 litre of water) or diafenthiuron 50 WP 0.05% (10 g/10 litre of water) along with 1% starch (10 g/litre of water), first spray at

initiation of pest infestation, second and third spray at 10 days interval after first spray for effective management of rugose spiralling whitefly.

5. **Management of rugose spiralling whitefly through root feeding of insecticides in coconut**

The farmers of Gujarat having coconut orchards (>5 year old palms) are recommended to give root feeding (pencil size root) application of monocrotophos 36 SL @ 10 ml with 10 ml of water per palm, first at initiation of pest infestation and second at one month after first application for management of rugose spiralling whitefly. The interval between root feeding and harvesting of coconut should be 30 days.

6. **Effect of different schedule-based insecticides and biopesticides spray against fall army worm *Spodoptera frugiperda* (J. E. Smith) infesting maize**

The farmers of Gujarat growing maize are recommended to apply schedule spraying of chlorantraniliprole 18.5 SC 0.005% (3 ml/10 litre of water), emamectin benzoate 5 SG 0.0025% (5 g/10 litre of water) and thiodicarb 75 SP 0.09% (10 g/10 litre of water) at ten days interval after pest crosses ETL (5 egg masses or 1 mass of first instar larvae/20 plants) for the effective management of fall armyworm in maize. The interval between last spraying and harvesting of cobs should be 30 days.

The farmers interested in organic maize are recommended to apply schedule spraying of *Beauveria bassiana* 1.15 WP (1 x 108 cfu/g) 0.007 % (60 g/10 l of water), first at ETL and subsequent two sprays at 10 days interval for the effective management of fall armyworm in maize.

2021-22:

1. **Bio-efficacy of different biocides against aphid in coriander**

The farmers of Gujarat growing coriander are recommended to spray *Beauveria bassiana* 1.15 WP (Min. 1 x 10^8 cfu/g) 0.007 % (60 g/10 l of water) or *Lecanicillium lecanii* 1.15 WP (Min. 1 x 10^8 cfu/g) 0.009 % (80 g/10 l of water), first at ETL and subsequent three sprays at 10 days interval for effective and economical management of aphid.

2. **Bio-efficacy of *Beauveria bassiana* and different insecticides against insect pests of groundnut**

The farmers of Gujarat growing kharif groundnut are recommended to apply five sprays of bio-pesticide, *Beauveria bassiana* 1.15 WP (Min. 1 x 10^8 cfu/g), 0.007 % (60 g/10 l of water) at 15 days interval after initiation of any pest infestation for effective and economical management of sucking pests (jassid, aphid and thrips) and leaf eating caterpillars (*H. armigera* and *S. litura*).

2022-23

1. **Bio-efficacy of insecticides against leaf eating caterpillar, *Spodoptera litura* Fab. infesting soybean**

The farmers of Gujarat growing soybean are recommended to spray spinetoram 11.70 SC, 0.011% (9 ml/10 l of water) or emamectin benzoate 1.9 EC, 0.002% (8.5 ml/10 l of water), first at the initiation of pest infestation and second spray at 15 days after first spray, for effective and economical management of leaf eating caterpillar.

2023-24

1. **Effect of different poison baits against fall army worm *Spodoptera frugiperda* (J. E. Smith) infesting maize**

The farmers of Gujarat growing maize are recommended to apply poison baits of thiodicarb 75 WP 250 g or emamectin benzoate 5 SG 100 g mixed with 5 kg jaggery and 25 kg maize flour in 8 litres of water/ha in whorl of plants, first at the initiation of pest infestation and second application at 20 days after first application for effective management of fall armyworm.

2. **Standardization of number of pheromone traps for management of mango fruit fly, *Bactrocera dorsalis* (Hendel)**

The farmers of south Saurashtra having mango orchards are recommended to install 30 methyl eugenol parapheromone traps per hectare at pea sized fruit stage and three-meter height from ground level for effective management of fruit fly and the lure to be changed three times at an interval of 40 days.

2024-25

1. **Standardization of number of pheromone traps for shoot and fruit borer, *Leucinodes orbonalis* (Guenée) in brinjal**

Farmers of Gujarat growing brinjal are recommended to install 40 sex pheromone traps per hectare (equal distance between each trap) after 15 days of transplanting for effective management of brinjal shoot and fruit borer and the lure to be changed three times at an interval of 40 days.

2. **Effect of different sequence based insecticidal spray against shoot and fruit borer, *Leucinodes orbonalis* (Guenée) in brinjal**

Farmers of Gujarat growing brinjal are recommended to apply sequencebased spraying of emamectin benzoate 5 SG 0.002% (4 g /10 L water), chlorpyriphos 20 EC 0.04% (20 ml/10 L water), azadirachtin 1.0 EC 0.002% (20 ml/10 L water) and chlorantraniliprole 18.5 SC 0.007% (4 ml/10 L water) at 15 days interval after pest crosses ETL (5% fruit damage) for the effective management of brinjal shoot and fruit borer. A minimum pre-harvest interval (PHI) of 3 days for emamectin benzoate 5 SG 0.002%, azadirachtin 1.0 EC 0.002% and chlorantraniliprole 18.5 SC 0.007% should be kept.

3. **Standardization of operational procedures for application of biopesticides through drone against defoliators in groundnut**

Farmers of Gujarat growing groundnut are recommended to apply three sprays of *Beauveria bassiana* 1.15 WP (Min. $1x10^8$ cfu/g) @ 3 kg/ha. in 20 L water through drone at a speed of 2 m/sec. and 2 m above crop canopy during morning or evening time in windward direction, first spray at initiation of pest and second spray at 10 days after first spray for effective, economical and time saving management of *Helicoverpa armigera* and *Spodoptera litura*.

RECOMMENDATIONS FROM THE DEPARTMENT OF AGRICULTURAL ENTOMOLOGY FOR SCIENTIFIC COMMUNITY

2020-21

1. **Management of rugose spiralling whitefly through root feeding of insecticides in coconut**

   For effective management of rugose spiralling whitefly in coconut (>5 year old palms), root feeding (pencil size root) application of spiromesifen 22.9 SC @ 5 ml with 10 ml of water per palm, first at initiation of pest infestation and second at one month after first application.

2. **Monitoring of fall army worm, *Spodoptera frugiperda* (J. E. Smith) infesting maize in Saurashtra region**

   The infestation of fall armyworm, *Spodoptera frugiperda* (J. E. Smith) was monitored in different districts of North and South Saurashtra region of Gujarat in maize and the highest infestation was observed in Amreli (46.67-60.13%) followed by Rajkot (19.33-35.00%) and Junagadh (22.15-24.50%) districts. The infestation was comparatively higher in *Kharif* (3.33-60.13%) as compared to *Rabi* (3.79-58.33%).

2023-24

1. **Standardization of number of pheromone traps for pink bollworm, *Pectinophora gossypiella* (Saunders) in cotton**

   Installation of 50 sex pheromone traps per hectare at crop canopy level after 40 days of sowing for effective management of cotton pink bollworm and the lure to be changed three times at an interval of 40 days.

2. **Effect of different poison baits against fall army worm *Spodoptera frugiperda* (J. E. Smith) infesting maize**

   Two applications of poison baits in whorl of plants containing indoxacarb 15.8 EC 125 ml, 5 kg jaggery and 25 kg maize flour in 8 L of water/ha, first at the initiation of pest infestation and second application at 20 days after first application found effective against fall armyworm infesting maize.

3. **Effect of date of sowing and acaricides against yellow mite, *Polyphagotarsonemus latus* (Banks) infesting cluster bean**

   Sowing of cluster bean crop during fourth week of February and two sprays of diafenthiuron 50 WP 0.05% (10 g/10 lit of water) or fenpyroximate 5 EC 0.005% (10 ml /10 lit of water), first spray at initiation of the pest and second at 20 days after first spray found effective against mobile stage of yellow mite, Polyphagotarsonemus latus (Banks) infesting cluster bean.

2024-25

1. **Effect of different sequence based insecticidal spray against shoot and fruit borer, *Leucinodes orbonalis* (Guenée) in brinjal**

   Sequence based spraying of spinetoram 11.7 SC 0.01% (8.5 ml /10 L water), azadirachtin 1.0 EC 0.002% (20 ml/10 L water), lambda-cyhalothrin 4.9 CS 0.003% (6.0 ml/10 L water) and spinosad 45 SC 0.016% (3.5 ml/10 L water) at 15 days interval after pest crosses ETL (5% fruit damage) was found effective for the management of brinjal shoot and fruit borer.

Table 6.4.41 Ph.D.: Awards/recognition received by faculty members (Department of Agricultural Entomology)

Sr. No.	Name of Faculty	Name of Award	Authority	Year
1.	Dr. D. M. Jethva	Best Teacher Award in Agril. Higher Education	Junagadh Agricultural University, Junagadh	2020
2.		Dr. APJ Abdul Kalam Award for scientific excellence	Marina Labs Research and Development, Chennai	2022
3.		Dr. H. S. Pruthi Award	SGT University, Gurugram and Just Agriculture-the magazine	2023
4.		Best Agriculture extension work	The Gujarat Association for Agricultural Science (GAAS)	2023
5.		Contribution in Research work in biopesticide	Plant Protection Association of Gujarat (PPAG)	2023
6.		Best Associate Scientist Award	Plant Protection Association of Gujarat (PPAG)	2024
7.	Dr. K. D. Shah	Young Scientist Award	Plant Protection Association of Gujarat (PPAG)	2022
8.		Best Oral Presentation Award	National Symposium on Plant Health Management held at NAU, Bharuch	2022
9.		Best Oral Presentation Award	International Conference on Systems and Technologies for Smart Agriculture (ICSTA 2023) organized at Kolkata, India during 2023	2023
10.		Agriculture Extension Work Award	Gujarat Association for Agricultural Sciences (GAAS)	2023
11.		Technology Developed	AI-DISC (Artificial Intelligence-based Disease Identification System for Crops)" under technology No. ICAR-AED-IASRI-Technology-2023-04, published on 16/07/2023 by the Indian Council of Agricultural Research, New Delhi	2023

Sr. No.	Name of Faculty	Name of Award	Authority	Year
12.		Best Teacher Award in Agriculture Higher Education by JAU, Junagadh & ICAR, New Delhi	JAU, Junagadh & ICAR	2023
13.	**Dr. S. R. Patel**	Best Entomologist Award	International Conference on "Innovation to Transform Agriculture, Horticulture and Allied Science" at Malla Reddy University, Hydrabad	2023
14.		Young Entomologist Award	International Conference on "Current innovations and Technological Advances in Agriculture and Allied Science" organized at Noida	2024
15.		Best Poster Presentation Award	International Conference on "Trailblazing Trends in Sustainable Climate-Resilient Precision Agriculture Through Artificial Intelligence and Remote Sensing at JAU Junagadh.	2025

Table 6.4.42 Ph.D.: Awards received by Ph.D. degree Students (As of 31-07-2025)

Sr. No.	Name of Student	Name of Award	Year
1.	Divya Patel	Best Article Award	2021
2.	Akash Kachot	Best Article Award	2021
3.	Kaneria, P. B. and Kachot, A. V.	Best Article Award	2021
4.	Divya Patel	Young Achiever Award	2022
5.	Akash Kachot	Young Entomologist Award	2022
6.	Akash Kachot	Young Researcher Award	2024
7.	Divya Patel	Young Entomologist Award	2024
8.	Pankaj Wadaskar	Young Entomologist Award	2024

Table 6.4.43 Ph.D.: Year-wise NET qualified PG/Ph.D. Students in Agricultural Entomology

Sr. No.	Year	No. of students qualified NET
1.	2020-21	00
2.	2021-22	08
3.	2022-23	04
4.	2023-24	00
5.	2024-25	03
	Total	**15**

Table 6.4.44 Ph.D.: Research publications of faculty Members (Department of Agricultural Entomology)

Sr. No.	Particular	Number of publications during Last Five Years
1.	National/International Journal	55
	6.0 and above	02
	4.0-6.0	53
	< 4.0	00
2.	Books Published/Book Chapters	02
3.	Practical journals	04

Table 6.4.45 Ph.D.: Seminar / workshop / symposia organized by the Department Agricultural Entomology during 2020-21 to 2025-26

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2020-21				
1.	Protective measures in pesticidal application (Suraksha Hamesha)	10-09-2020	Online	150
2021-22				
2.	Transgenic crops- A future of plant protection	14-10-2021	Conference Hall, CoA, JAU, Junagadh	115
3.	Suraksha Hamesha and Diamide Insecticides- Recent approach in Insect management	26-10-2021	Seminar Hall, CoH, JAU, Junagadh	80
4.	Madhmakhi palan	21-10-20201 to 22-10-2021	Dept. of Ento., CoA, JAU, Junagadh	70
2022-23				

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
5.	Two days Training on "*Madhmakhi Palan- Rojgarni Ek Navi Tak*" under Directorate of Extension Education, JAU, Junagadh	27-28th September, 2022	Bio-control Research Laboratory, Department of Entomology	55
2023-24				
6.	Two days Training on "*Madhmakhi Palan- Ek Safal Vyvsay*" under HRT-2 programme of Directorate of Horticulture, Govt. of Gujarat and Directorate of Extension Education, JAU, Junagadh	21st to 22th June, 2023	Bio-control Research Laboratory, Department of Entomology	55
7.	Two days Training on "*Madhmakhi Palan- Ek Safal Vyvsay*" under HRT-2 programme of Directorate of Horticulture, Govt. of Gujarat and Directorate of Extension Education, JAU, Junagadh	07th to 08th November, 2023	Bio-control Research Laboratory, Department of Entomology	38
2024-25				
8.	*Madhmakhi palan- Ek safal vyavsay*	04/02/25 to 05/02/25	Dept. of Ento. & SSK, JAU, Junagadh	59

6.4.2. FACULTY STRENGTH (AS OF 31-07-2025)

The Department has sufficient sanctioned and filled up faculty position. Besides this, teaching and guiding the PG students are also given to the faculties from research stations and other offices.

Table 6.4.46 Ph.D.: Details of faculty strength in Agricultural Entomology

Sr. No.	Sanctioned Faculty for Ph. D.	Faculty in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Professor	01*	00	Not recommended by ICAR	01
2.	Associate Professor	01*	01		02
3.	Assistant Professor	01+2*	01		04
Total		01+04*	02		07

Note: *Faculty assigned for both teaching and research duties.

6.4.3 TECHNICAL /SUPPORTING STAFF (AS OF 31-07-2025)

The Department has sufficient sanctioned and filled up supporting staff positiona. Moreover, technical and administrative staff are outsourced as per the need.

Table 6.4.47 Ph.D.: Details of technical/supporting staff strength as of 31.07.2025

(Department of Agricultural Entomology)

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Technical/Supporting staff	07	00	Not recommended by ICAR	07
2.	Administrative staff	01	02		03
	Total	08	02		10

6.4.4. CLASSROOMS AND LABORATORIES

a) Number of classrooms

There is one PG classroom-cum-seminar hall at the Department of Agricultural Entomology for seminar/presentation purpose. Besides student synopsis and thesis presentations, the special lectures on the training attended by the faculty members are also organized in the seminar hall from time to time.

Table 6.4.48 Ph.D.: Classroom infrastructure in the department

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Agricultural Entomology					
1.	PG Class room cum Seminar Hall	88.35	30	PG Teaching and Practical Examination	Air condition, LCD Projector, Sound system, Computer with internet connectivity, UPS, Podium, *etc.*

Table 6.4.49 Ph.D.: Departmental PG laboratories established (As of 31-07-2025)

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Agricultural Entomology					
1.	PG Research Lab-1	132.60	10	Practical, research	Research equipment
2.	Storage Research Lab	38.43	05	Practical, research	Research equipment
3.	Bio-control Research Lab	1300	40	Practical, research	Living Biological material

Table 6.4.50 Ph.D.: List of major equipment available in the Department of Agricultural Entomology

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
Department of Agricultural Entomology, CoA, JAU, Junagadh				
1.	Biocontrol Research Laboratory	Comb foundation mill for *Apis mellifera*	1	1.10
2.		Comb foundation mill for *Apis cerena* indica	1	1.10
3.		Comb foundation mill for *Apis mellifera* drone	1	1.10
4.		Honey Processing Unit	1	4.37
5.		Bee Venom collector	1	0.31
6.		UV visible spectrometer	1	6.11
7.		Incubator	1	4.36
8.		Refrigerator	2	1.37
9.		Muffle Furnace	1	4.61
10.		Digital abbe refractometer	1	11.35
11.		Vortex	1	0.46
12.		Hot Plate	1	0.67
13.		Centrifuge with rotors	1	8.09
14.		Hot air oven	1	2.51
15.		Deep freezer	1	2.38
16.		Recirculating chiller	3	6.81
17.		Room Humidifier	1	0.84
18.		Refrigerator	1	0.89
19.		Hexacopter Dron	1	6.66
20.		Leica Microscope	1	18.96
21.		Greaves Generators	1	7.87
22.		Utility vehicles	1	8.14
23.		Digital v rotary evaporator	1	2.99
24.		Honey motorized extractor	1	3.64
25.		Semi-automatic one head auger filling machine	1	4.10
26.		Screw conveyor	1	2.75

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
Department of Agricultural Entomology, CoA, JAU, Junagadh				
27.		Mixer machine	1	1.14
28.		Pouch Packing Machine	1	2.93
29.		Table top winder machine	1	1.80
30.		Pest filling machine	1	0.93
31.		Pest filling machine with digital counting	1	0.98
32.		Autoclave	1	2.68
33.		Fume hood	1	3.57
34.		Deep freezer	1	4.79
35.		Shaking water bath	1	2.95
36.		Orbital shaking incubator	1	0.93
37.		Pouch packing machine	1	4.83
38.		Fermenter system with 10 L capacity with laptop	1	12.62
39.		Laminar air flow	1	0.52
40.		Vacuum packing machine	1	1.87
41.		Horizontal laminar air flow	1	1.79
42.		Digital procession wall oven	1	0.63
43.		Hot air oven	1	0.50

Major equipment available in department

Name of equipment: Fermenter

Name of equipment: Distillation Unit

Name of equipment: BOD Incubator	Name of equipment: Leica Microscope

Table 6.4.51 Ph.D.: Farm facilities in the Department Agricultural Entomology

Sr. No.	Name of Farm/ Cafeteria	Area (hectare)	No. of Experiments continue		Details of activities
			Departmental	Students	
Agricultural Entomology					
1.	Plot No. A-11	0.500	1	0	Departmental as well as Other Agency Experiments
2.	Plot No. B-11	0.500	2	0	
3.	Plot No. 7	0.135	1	0	
	Total	**1.135**	**04**	**0**	

Table 6.4.52 Ph.D.: Theory and practical batches for Ph.D. program (AY 2024-25)

Sr. No.	Name of the Degree Programme	Semesters	Batch of students in theory class	Batch of students in practical class
1.	Ph.D. in Agricultural Entomology	Odd	01 per course (6-8 students)	01 per course (6-8 students)
2.		Even	01 per course (6-8 students)	01 per course (6-8 students)

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty members prepare comprehensive theory notes for each subject of the degree programme by referring to standard textbooks, research papers, and reference books, and distribute them to students free of cost. Practical manuals are also developed, published, and provided to students. The same study material is also uploaded to the Google Classroom accounts of courses for easier access.
- The students are also given assignments from reference books so as to develop their reading habit and improve their grasp in basic concepts of the courses.
- Many faculties with more than five years' experience in UG/PG teaching also contributed to ICAR E-learning portal as course creators, unit reviewers and course reviewers, and the links of which have been shared with the students.
- Students get practical exposure in the departmental laboratory and farms of various research stations.
- Classes, guest lectures and special lectures are also organized through online platforms such as Google Classroom, Microsoft Teams, and Zoom *etc*, complementing the offline sessions.
- PPT, lecture notes, practical manual *etc*. are uploaded in respective subject Google Class Room and WhatsApp groups for detail study.
- During the COVID-19 pandemic, examinations were also conducted by the department in online mode; subsequently, they transitioned back to the conventional offline mode post-pandemic.

PRACTICAL AND HANDS-ON-TRAINING

- Students are frequently exposed to farm visits in nearby farmer's field to study various pest and diseases prevalence as well as to collect samples and interact with the farmers.
- The department also offers hands-on-training exposure to students. PG students at the department gain expertise in mass production of biocontrol agents, traps and bio-products employed in integrated pest management. Further, the students are also trained for dissemination of the university technologies to farmers.

6.4.6. SUPERVISION OF STUDENTS IN PH.D. DEGREE PROGRAM

Besides departmental faculty, scientists/faculty working in the various research stations and university offices are also allotted PG students for thesis guidance.

Table 6.4.53 Ph.D.: Number of students supervised (guided) by faculty in the last five years in Agricultural Entomology

Degree Program	No. of students supervised (guided) by faculty for Ph.D. Degree in the last five years
Ph.D. in Agricultural Entomology	12

- Teachers of the Department are actively involved in guiding postgraduate students as Major Guides and as members of advisory committees. Each advisory committee, besides the Major Guide, consists of three members—one from Agricultural Statistics and the others from minor and allied subjects.
- Seminar topic is finalized after discussion in meeting of advisory committee, faculties and PG students.
- Research works for students is finalized in the presence of all the faculty members of department, minor guide, statistician and students.
- Advisory committee takes frequent field visits to supervise and guide the students, besides arranging their preliminary viva.
- Head of Department arranges preliminary written examination of eligible candidates.

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*) (2020-21 TO 2025-26)

- Generally, healthy feedback is received from current and passed-out students as well as from parents, industries, employers, farmers, *etc.* (Annexure 6.4.7a)
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per the prescribed schedule, and comprises the Deans of all faculties, nominated Professors, Research Scientists from different faculties, and renowned academicians, who discuss the feedback received from different stakeholder during the meetings. Based on the recommendations of the Board of Studies, the Academic Council takes decisions on academic matters for implementation in the University and its constituent colleges.
- ***STUDENT ADVISORY COMMITTEE:*** It comprises a four-member advisory committee, chaired by the Major Guide, with the other members drawn from the minor subject, allied subject, and statistics. The committee guides the student in selecting the research problem, seminar topics, and related academic/research activities. The members also frequently visit the experimental fields and provide necessary guidance and feedback to the students.
- ***STUDENT REPRESENTATIVE COUNCIL (SRC) AND STUDENT COUNSELLING AND PLACEMENT CELL (SCPC):*** Feedback collected with student interactions is reviewed by the committee members and appropriate measures are implemented based on the feedback received.
- ***FACULTY GROUP OF SUBJECTS:*** Faculty Group of Subjects is a unique and robust mechanism of JAU, which is held once in a year wherein the workload of faculty and progress of the students are thoroughly discussed with suggestions for improvement. The suggestions received by the Department of Agricultural Entomology in the Faculty Group of Subjects during the last five years are given hereunder.

Table 6.4.54 Ph.D.: Faculty Group of Subject Meetings of Crop Protection

Sr. No.	Year	Convener	Faculties remain present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	Suggestions received from concerned FGS meeting; corresponding action taken report are submitted as ***Annexure 6.4.7b***
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal and Dean	
4.	2023-24	Professor and Head	Director of Research and Dean PG Studies, Registrar, Director of Extension Education, Associate Director of Research and Principal and Dean	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research and Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal and Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PG PROGRAM FOR THE LAST FIVE YEARS

Table 6.4.55 Ph.D.: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
Ph.D. in Agricultural Entomology	2020-21	10	09+01*	00
	2021-22	06	04+02*	00
	2022-23	05	04+01*	00
	2023-24	06	05+01*	00
	2024-25	04	02+02*	00
	2025-26	04	03+01*	00
* In-service candidates				

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

1. ***CERA AND OTHER ONLINE E-RESOURCES:*** The department actively encourages its faculty members and students to use the ICAR Consortium of e-resources in Agriculture (CeRA) besides One Nation, One Subscription (ONOS) of Ministry of Education, GoI. In this way, the research proposals and thesis referencing of the students is kept up-to-date.
2. ***E-BOOKS:*** The e-books available at the university central library and with the departmental faculty members are fully utilized for teaching and research needs of the students.

3. ***KRISHIKOSH:*** Junagadh Agricultural University is an active facilitator of Krishikosh, the national repository of theses submitted to Agricultural Universities and ICAR institutes. All postgraduate and doctoral theses submitted to the department are regularly uploaded to this repository for wider accessibility.
4. ***INTERNET:*** Digital library with computers and internet facility is available and used by the PG Degree students. Wi-Fi Internet facility is also provided at all the hostels which is available around the clock.
5. **JAU iKrushi Sanhita and Janvani FM:** Students are also given exposure to use JAU iKrushi Sanhita, a mobile application developed by the University, besides encouraging them to regularly listen to Junagadh Janvani 91.2 FM for information on crop-specific advisory and strategies.
6. **Anti-Plagiarism Policy of JAU:** The department also strictly adheres to the Anti-Plagiarism norms stipulated by the university.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, CoA, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: 31.01.2026
Place: Junagadh

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Glimpses of activities at Department of Agricultural Entomology, CoA, JAU, Junagadh

Annexure 6.4.7a

Postgraduate Students' Feedback Report for AY 2024-25			
Department of Agricultural Entomology, CoA, JAU, Junagadh (n = 32)			
Particulars			Average Score
Departmental Teaching - Learning Process			
1. How do you rate Student- Teacher relations?			3.9
2. How do you rate for completion of courses by the teachers?			3.5
3. How do you rate fairness in internal assessment in the department?			3.8
4. How do you rate practical exposure from the department?			3.6
5. How do you rate for statical analysis facility provided by the department			3.2
6. Did teachers motivate /support you for solving your personal problems			3.8
P.G. Research facility			
1. How do you rate for your selection of research topic?			3.7
2. Did you get enough facilities for conducting experiment?			3.8
3. How do you rate material provided for conducting experiment?			3.7
4. How do you rate major guide for supporting in completion of seminar and thesis projects?			3.3
Library facilities			
1. Books related to your subject are available in the library			3.6
2. Internet facilities for learning and research purpose			3.1
3. Availability of research journals (online /offline) for review purpose			3.2
4. How do you rate the delivery of books system at the University Library?			3.5
Hostel Facility			
1. How do you rate Hostel facilities?			3.3
2. How do you rate wi-fi facility?			3.1
3. How do you rate for food quality in mess?			3.3
4. How do you rate cleanliness in the hostel?			3.1
Sports Facility			
1. How do you rate indoor sports facility?			3.6
2. How do you rate outdoor sports facility?			3.2
Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	**3**	**2**	**1**

Annexure 6.4.7b

Suggestions Received in the Faculty Group Meetings

Sr. No.	Year	Convener	Participants	Suggestions received
1.	2020-21	Dr. M. F. Acharya, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Dr. V. P. Chovatia, Hon'ble Vice Chancellor and Director of Research, JAU, Junagadh 2. Dr. K. A. Khunt, Principal, College of Agriculture, JAU, Junagadh. 3. Dr. M. F. Acharya, Convener of FGPP and Professor & Head, Department of Entomology, College of Agriculture, JAU, Junagadh 4. Dr. L. F. Akbari, Co-convener of FGPP and Professor & Head, Department of Pl. Pathology, College of Agriculture, JAU, Junagadh 5. Members of Faculty group of Entomology 6. Members of Faculty group of Plant Pathology	**i.** Even distribution of work load for the Assistant Professors, Associate Professor and Professor & Head of the respective Department should be formed. **ii.** Incorporate the list of seminars (summer /winter /short training, workshop, symposium, conference etc.) presented by the faculties of respective departments. **iii.** Incorporate the details about use of library, PG research visit, NET/JRF/SRF information of respective departments. **iv.** Faculty should visit campus library regularly and use CeRa/J-gate consortium. **v.** Practical Manuals of different subjects should be sent (SAU's of Gujarat and other states, research scientists and colleagues etc.) to review the content and try to get the good remarks. **vi.** Trainings on recent aspects (climate change, new insect /disease and its management etc.) should be organized by respective departments.
2	2021-22	Dr. M. F. Acharya, Professor & Head, Department of Entomology, COA, JAU, Junagadh	**1.** Prof. (Dr.) N. K. Gontia, Hon'ble Vice Chancellor, JAU, Junagadh **2.** Dr. P. M. Chauhan, Director of Research & Dean PG, JAU, Junagadh **3.** Dr. R. K. Mathukia, Registrar, JAU, Junagadh	**i.** Even distribution of work load for the Assistant Professors, Associate Professor and Professor & Head of the respective Department should be formed. **ii.** Faculty should visit campus library regularly and use CeRa/J-gate consortium.

Sr. No.	Year	Convener	Participants	Suggestions received
			4. Dr. S. G. Savalia, Principal & Dean, College of Agriculture, JAU, Junagadh. **5.** Dr. P. V. Patel, Professor & Head, Dept. of Ento., CoA, JAU, Junagadh **6.** Dr. D. S. Kelaiya, Professor & Head, Dept. of Pl. Patho., CoA, JAU, Junagadh **7.** Members of Faculty group of Entomology **8.** Members of Faculty group of Plant Pathology	**iii.** In undergraduate teaching, the microbiology course must be taken by microbiologist only. **iv.** Practical Manuals of different subjects should be sent (SAU's of Gujarat and other states, research scientists and colleagues etc.) to review the content and try to get the good remarks. **v.** Trainings on recent aspects (climate change, new insect /disease and its management etc.) should be organized by respective departments.
3	2022-23	Dr. M. F. Acharya, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Dr. V. P. Chovatia, Hon'ble Vice Chancellor, JAU, Junagadh 2. Dr. H. M. Gajipara, Director of Research & Dean PG, JAU, Junagadh 3. Dr. S. G. Savalia, Principal & Dean, College of Agriculture, JAU, Junagadh. 4. Dr. M. F. Acharya, Professor & Head, Dept. of Ento., CoA, JAU, Junagadh 5. Dr. D. S. Kelaiya, Professor & Head, Dept. of Pl. Patho., CoA, JAU, Junagadh 6. Members of Faculty group of Entomology 7. Members of Faculty group of Plant Pathology	**i.** Photos related to ELP, RAWEP, Student's Ready Program need to incorporate in presentation as well as report. **ii.** Need to display the needs of the trainings for the faculties. **iii.** Advanced courses for Ph.D. program are to be assigned to regular teachers. **iv.** Suggestions of books should be incorporated in report with detail. **v.** Teachers have to incorporate the new recommendations as well as information on new pests and diseases and its management to the UG /PG / Ph.D. students in different courses. **vi.** Strengthening of departmental activities should be incorporated. **vii.** Data on left out students at UG level should be submitted to placement officer. **viii.** Practical Manuals of different subjects should be

Sr. No.	Year	Convener	Participants	Suggestions received
				sent (SAU's of Gujarat and other states, research scientists and colleagues etc.) to review the content and try to get the good remarks.
4	2023-24	Dr. D. M. Jethva, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Dr. V. P. Chovatia, Hon'ble Vice Chancellor, JAU, Junagadh 2. Dr. B. D. Savaliya, Associate Director of Research, JAU, Junagadh 3. Dr. P. M. Chauhan, Registrar, JAU, Junagadh 4. Dr. P. D. Kumawat, Principal & Dean, College of Agriculture, JAU, Junagadh. 5. Dr. M. F. Acharya, Professor & Head, Dept. of Ento., CoA, JAU, Junagadh 6. Dr. D. S. Kelaiya, Professor & Head, Dept. of Pl. Patho., CoA, JAU, Junagadh 7. Members of Faculty group of Entomology 8. Members of Faculty group of Plant Pathology	**i.** Add the details of each supplementary /mean improvement courses in the report. **ii.** Practical Manuals of different subjects should be sent (SAU's of Gujarat and other states, research scientists and colleagues etc.) to review the content and try to get the good remarks. **iii.** Data on left out students at UG level should be submitted to convener of Student Council and Placement Cell (SCPC). **iv.** Recommendation of the subject books for the purchase in library should be incorporated in report with detail information. **v.** Advanced /Basic courses for M.Sc. /Ph.D. program are to be assigned to regular teachers. **vi.** Placement records of PG students should be maintained and submitted to SCPC. **vii.** Add the name of entrepreneurs /startups from the departments in the report, if any. **viii.** Incorporate the slide numbers in presentation **ix.** Staff position should be having equivalent position

Sr. No.	Year	Convener	Participants	Suggestions received
				i.e., Assistant Professor & its equivalent rather than Assistant Research Scientist. **x.** Add the information about Published /Sanctioned patents or any other significant achievement in the report.
5	2024-25	Dr. D. M. Jethva, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Dr. R. B. Madariya, Director of Research, JAU, Junagadh 2. Dr. N. B. Jadav, Director of Extension, JAU, Junagadh 3. Dr. Y. H. Ghelani, Registrar, JAU, Junagadh 4. Dr. P. D. Kumawat, Principal & Dean, College of Agriculture, JAU, Junagadh. 5. Dr. D. M. Jethva, Professor & Head, Dept. of Ento., CoA, JAU, Junagadh 6. Dr. D. S. Kelaiya, Professor & Head, Dept. of Pl. Patho., CoA, JAU, Junagadh 7. Members of Faculty group of Entomology 8. Members of Faculty group of Plant Pathology	**i.** Action Taken should be bind in the report. **ii.** All the faculties of Plant Protection group must have to attend the meeting. **iii.** Add the details of out sourcing staff in remarks of the table related to staff position. **iv.** Details of working technical assistants & Research Fellows should be incorporated. **v.** Add the total as well as percentage of staff position in the Department /Unit. **vi.** Mention Polytechnic teaching instead of UG teaching in report. **vii.** Details of Fellowships (SHODH, PM Fellowship etc.) earned by PG /Ph.D. students should be incorporated in report. **viii.** Awards received by students (PG /Ph.D.) should be incorporated in report. **ix.** Individual faculty reports should be forwarded through proper channel. **x.** Faculty wise requirement of training should be incorporated. **xi.** Don't include research workshops (Mandatory works)

Sr. No.	Year	Convener	Participants	Suggestions received
				attended by faculties in report. **xii.** Mention the mode of training /workshop /seminar (Online /Offline) etc. in report. **xiii.** Add the name of the reviewers in the UG /PG journal review process. **xiv.** Add the list of entrepreneurs in report and send to SCPC Cell.
6	2025-26	Dr. D. M. Jethva, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Dr. V. P. Chovatia, Hon'ble Vice Chancellor, JAU, Junagadh 2. Dr. A. G. Pansuriya, Director of Research, JAU, Junagadh 3. Dr. Y. H. Ghelani, Registrar, JAU, Junagadh 4. Dr. P. D. Kumawat, Principal & Dean, College of Agriculture, JAU, Junagadh 5. Dr. D. S. Kelaiya, Principal, College of Agriculture, JAU, Mota Bhandariya 6. Dr. D. M. Jethva, Professor & Head, Dept. of Entomology, CoA, JAU, Junagadh 7. Dr. S. V. Undhad, Associate Professor, Dept. of Pl. Patho., CoA, JAU, Junagadh 8. Members of the Faculty group of Entomology 9. Members of the Faculty group of Plant Pathology	**i.** All the faculty members of the Plant Protection group must attend the meeting. **ii.** Add the details of all outsourced staff as filled post in the staff position. **iii.** Individual faculty reports should be compiled at the unit level and forwarded through the proper channel (e-mail). **iv.** Add the list of books and journals purchased by the library, which were recommended by the department. **v.** The orientation program should be arranged for the newly admitted PG students for awareness of the various activities of JAU. **vi.** The faculty must upload their publications timely on Google Scholar and so also on the IRS online JAU portal.

Action Taken by the Department of Agricultural Entomology, CoA, JAU, Junagadh:

All the suggestions given in the group of subject meeting are implemented in the Department of Agricultural Entomology, CoA, JAU, Junagadh from time to time.

6.4
Self-Study Report
for Ph.D. in
in Plant Pathology

6.4. SELF-STUDY REPORT FOR PH.D. IN PLANT PATHOLOGY AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PH.D. DEGREE PROGRAM

The Department of Plant Pathology at the College of Agriculture, Junagadh, has been functioning since the establishment of the college in 1960. From its inception, the department has been entrusted with the core responsibility of imparting education to both undergraduate and postgraduate students. The Saurashtra region of Gujarat is renowned for the cultivation of several important agricultural and horticultural crops such as groundnut, cotton, castor, cumin, coriander, onion, garlic, mango, pomegranate, and guava. Department of Plant Pathology situated in Junagadh district which is surrounded by diverse cropping areas encompassing vegetables, fruits, plantation, cash, and oilseed crops. The productivity of these crops is influenced by various abiotic and biotic factors, among which diseases caused by microorganisms-including fungi, bacteria, viruses, and nematodes-pose major challenges to crop production. To address these challenges and to promote region-specific research on plant diseases, the Department of Plant Pathology initiated the M. Sc. (Agri.) program in Plant Pathology in 1964, utilizing the potential of student-led research.

At present in AY 2025-26, the department comprises 6 faculty members guiding 10 scholars for their doctorate degrees in Ph.D. in Plant Pathology. Over the years, the department has successfully guided 179 Master's degree scholars. Its alumni are serving in diverse sectors, including academia, banking, government departments, private enterprises and non-governmental organizations. Beyond academic teaching, the department is actively engaged in agricultural research and the dissemination of farm technologies. Since its inception, it has conducted numerous field experiments and research studies while maintaining close collaboration with the farming community through activities such as *Krushi Mahotsavs*, Training of Trainers (ToT) programs, and *Khedut Shibirs*. Additionally, the department contributes to sustainable agriculture by producing and distributing bioagents and biofertilizers to farmers, thereby supporting eco-friendly crop protection and productivity enhancement across the region.

Department of Plant Pathology, College of Agriculture, JAU, Junagadh

STEPPING-STONES OF THE DEPARTMENT

- The Department of Plant Pathology, College of Agriculture, Junagadh started functioning since the inception of College of Agriculture in 1960.
- For the development of entrepreneurship and empowerment of youth in agriculture students, total 514 students successfully trained for mass production of bioagents and biofertilizers under Experiential Learning Program (ELP) since program started.
- In last five years *i.e.*, 12.956 during 2020-21 to 2024-25 and 2.459 during 2025-26, total tonnes of bioagent Trichoderma produce and distributed to the farmer for the first line demonstration and university research centres.
- As an alternative source of chemical fertilizers, total 14435 litre during 2020-21 to 2024-25 and 709 litre during 2025-26 of bio-fertilizers like as; Rhizobium, Azotobacter, PSB, KMB developed and sold to the farmer during last five years.
- Recently NPK consortia launched by department
- Similarly, 3309 bag during 2020-21 to 2024-25 and 714 bag during 2025-26 mushroom spawns are produced and distributed among the interested farmers.
- During 2020 to 2025, a total of 12 recommendations/technologies developed for the management of plant diseases in different crops for the farmers of Saurashtra region.
- The department has successfully organized three training program and two seminars/workshops/symposium on plant disease management/plant pathology for the scientist, students, faculty members and farmers in last five year.
- In 2024-25, the Department of Plant Pathology, came up with its unique consortia of liquid bio-fertilizer in the trade name 'Gir Sawaj Bio NPK Culture' for farmers.

MISSION, GOALS AND OBJECTIVES

MISSION:

To provide high quality education, training and skills to students for professionally competent in the field of Plant Pathology.

GOALS:

To develop technologies for crop disease management for food security for sustainable agriculture and assured environmental protection.

OBJECTIVES:

- To enhance the competence of the faculty to undertake advanced education, research and extension activities in the field of Plant Pathology.
- To train the students in the field of Plant Pathology with maximum practical exposure and produce qualified specialists in the discipline who can cater to the needs of farmer.
- To development of eco-friendly and low-cost technologies for the plant disease management.
- Production of bio agents as well as biofertilizer for the farmers.
- Evaluation of newer pesticides against the plant diseases.
- To uplift the agricultural status of farmers through solving disease related problems by phone, discussions, demonstrations and field visits.

ACCOMPLISHMENTS/ ACHIEVEMENTS OF THE LAST FIVE YEARS

EXTERNAL FUNDED PROJECTS IN THE DEPARTMENT OF PLANT PATHOLOGY *(AS OF 31-07-2025)*

2020-21:

- Evaluation of bio-efficacy and phytotoxicity of fungicide Fluxapyroxad 167 g/1 + pyraclostrobin 333 g/1 500 SC against alternria and powdery mildew disease of cumin at Junagadh by **BASF India Limited Navi Mumbai-400 705.**
- Evaluation of Rallis fungicide Pre-mixture sarthak 71% WQ (kresoximmethyl 15% phytotoxictictiy on cumin against cumin blight (*Alternaria* sp.) and powdery mildew (*Erysiphe polygoni*) diseases at Junagadh by **Rallis India Limited Bangalore-560 091.**
- Evaluation of bio-efficacy and phytotoxicity of Fluopyram 250 g/L+ Trifloxystrobin 250 g/L SC (Luna Sensation) against Anthracnose, Powdery Mildew and post-Harvest Disease of Mango at Junagadh by **Bayer CropScience Limited Kondwa, Pune - 411040.**
- Bio-efficacy And Phytotoxicity of Tebuconazole 430 SC (Buonos) against Anthracnose and Powdery Mildew Disease in Mango at Junagadh by **Bayer CropScience Limited Kondwa, Pune -411 040.**

2024-25

- Evaluation of bio-efficacy and phytotoxicity of Inpyrfluxam (Indifin) 6% + Tebuconazole 20% SC against tikka leaf spots (early leaf spot and late leaf spot) and rust in groundnut at Junagadh by **Sumitomo Chemical India Ltd., Goregaon, East Mumbai - 400063.**

2025-26

- Evaluation of bio efficacy and phytotoxicity of Tribasic Copper Sulfate 34.5 % SC against Bacterial blight (*Xanthomonas axonopodis* pv. *punicae*) disease in Pomegranate at Junagadh by **Sumitomo Chemical India Ltd., Goregaon, East Mumbai - 400063.**

RECOMMENDATIONS FROM THE DEPARTMENT OF PLANT PATHOLOGY FOR FARMERS

2020-21:

1. **Efficacy of fluorescens producing Pseudomonas against collar rot (*Aspergillus niger*) of groundnut**

   Farmers of South Saurashtra Agro-climatic Zone growing *kharif* groundnut are advised to treat the seeds with talc-based *Pseudomonas fluorescens* 1% WP (2 x 10^6 cfu/g) @ 20 g/kg seed and soil application of *Pseudomonas fluorescens* 1% WP (2 x 10^6 cfu/g) @ 2.5 kg in 250 kg of castor cake/ha at the time of sowing and one month after germination for effective and economical management of collar rot of groundnut.

2. **Efficacy of fluorescens producing pseudomonas against foliar diseases (leaf spots and rust) of groundnut**

   The farmers of South Saurashtra Agroclimatic Zone growing *kharif* groundnut are advised for foliar spray of hexaconazole 5% SC (10 ml/10 lit water) at 40 DAS + foliar spray of talcum powder based *P. fluorescens* 1% WP (2 x 10^6 cfu/g) (100 g/10 lit water) at 60 and 80 DAS OR foliar spray of hexaconazole 5% SC (10 ml/10 litre water) at 40, 60 and 80 DAS for effective and economical management of leaf spots of groundnut.

3. **Chemical control of early and late leaf spot and rust diseases of groundnut**

   The farmers of South Saurashtra Agro-climatic Zone growing *kharif* groundnut are advised to spray pyraclostrobin 12.5% + epoxiconazole 4.7% SE 0.025% (15 ml/10 litre of water) or carbendazim 12% + mancozeb 63% WP 0.15% (20 g/10 litre of water) first at 50 days after sowing and subsequent two at 20 days interval for managing the early and late leaf spot and rust diseases.

4. **Effect of biofertilizers on the yield of oyster mushroom (*Pleurotus sajor caju*)**

   The Oyster mushroom (*Pleurotus sajor-caju*) growers of South Saurashtra Agro-climatic Zone are advised to treat wheat straw substrate with Azotobacter (10^8 cfu) and PSB (108 cfu) each at 0.2 per cent using spawn rate of three per cent in three kg of substrate for higher sporophore production and biological efficiency.

5. **Effect of different substrates on nutritional and biochemical properties of oyster mushroom (*Pleurotus sajor caju*).**

   The Oyster mushroom (*Pleurotus sajor-caju*) growers are advised to advocate wheat or chick pea substrate for higher production, better nutritional and biochemical properties.

2022-23:

1. **Efficacy of ready-mix formulation of fungicides against foliar diseases of cumin**

   The farmers of Saurashtra region growing cumin are recommended to spray metiram 55% + pyraclostrobin 5% WG @ 0.180% (30 g /10 l of water) or pyraclostrobin 13.3% + epoxiconazole 5% SE @ 0.027% (15 ml /10 l of water), first at 30 days after sowing and subsequent two sprays at an interval of 20 days for effective and economical management of blight disease.

2. **Efficacy of ready-mix formulation of fungicides against foliar diseases of cumin**

The farmers of Saurashtra region growing cumin are recommended to spray metiram 55% + pyraclostrobin 5% WG @ 0.180% (30 g /10 l of water), first at 30 days after sowing and subsequent two sprays at an interval of 20 days for effective and economical management of powdery mildew disease

3. **Chemical control of die-back of mango**

For the effective and economical management of die-back of mango, apply three spray of azoxystrobin 18.2% + difenoconazole 11.4% SC @ 0.037% (12.50 ml/10 litre of water) or azoxystrobin 18.2% + difenoconazole 11.4% SC @ 0.030% (10 ml/10 litre of water) or tebuconazole 50% + trifloxystrobin 25% WG @ 0.094% (12.50 ml/10 litre of water), first spray at just before monsoon and subsequent sprays at 30 days interval after first spray

2024-25:

1. **Management of post-harvest diseases of mango**

The farmers of south Saurashtra agro-climatic zone growing mango are recommended to treat harvested mango fruits with hot water (52 ± 1°C for 5 minutes) or hot water (52 ± 1°C) treated with sodium hypochlorite (NaOCl) 5% solution @ 200 ppm (2 ml in 10 litre water) for 5 minutes for effective and economical management of stem end rot and fruit rot.

2. **Effect of different substrate mixture on growth, yield and nutritional value of oyster mushroom (*Pleurotus ostreatus*)**

Farmers of Gujarat growing oyster mushroom [*Pleurotus ostreatus* (Jacq.ex.fr) P. kumm] are recommended to use wheat straw + cocopeat + lime + gypsum + sucrose (70:27:1:1:1) or wheat straw + tea waste + lime + gypsum + sucrose (70:27:1:1:1) as substrate for higher production of mushroom.

RECOMMENDATIONS FROM THE DEPARTMENT OF PLANT PATHOLOGY FOR SCIENTIFIC COMMUNITY

2022-23:

1. **Efficacy of ready-mix formulation of fungicides against foliar diseases of cumin**

For the effective and economical management of blight and powdery mildew diseases of cumin, spray azoxystrobin 11% + tebuconazole 18.3% SC @ 0.044 (15 ml/10 litre water), first at 30 days after sowing and subsequent two sprays at an interval of 20 days

2. **Efficacy of different fungicides against powdery mildew diseases of fenugreek**

For the effective and economical management of powdery mildew of fenugreek, apply three sprays of Difenoconazole 25% EC @ 0.013 (5 ml/10 l of water) or tebuconazole 50% + trifoxytrobin 25% WG @ 0.038 (5 g/10 l of water) or tebuconazole 10% + sulphur 65% WDG @ 0.150 (20 g/10 l of water), first spray at 30 days after sowing and subsequent two sprays at 20 days interval after first spray

3. **Utilization of different wastes on the yield of oyster mushroom (*Pleurotus sajor caju*)**

Sugarcane bagasse can be used as substrate with 5 per cent spawn rate for the higher sporophore production (biological efficiency) with better nutritional and biochemical properties of oyster mushroom (*Pleurotus sajor-caju*).

2023-24:

1. **Effect of different fungicides for the management of blight and powdery mildew in fennel**

Three sprays of azoxystrobin 11 + tebuconazole 18.30 SC 0.044% (15 ml/10 L water) or metiram 55 + pyraclostrobin 5 WP 0.18% (30 g/10 L water) or tebuconazole 50 + trifloxystrobin 25 WG 0.045% (6 g/10 L water) first spray at initiation of disease and subsequent two sprays at an interval of 20 days for the management of Alternaria blight of fennel.

2024-25:

1. **Management of twister disease complex in onion**

For effective management of twister disease complex in onion, apply chlorantraniliprole 0.4 G (10 kg/ha) + copper oxychloride 50 WP (1.25 kg/ha) in soil at the time of transplanting along with two foliar applications of tebuconazole 50 + trifloxystrobin 25 WG 0.075% (10 g/10 L water) or azoxystrobin 18.2 + difenoconazole 11.4 SC 0.03% (10 ml/10 L water), first spray at initiation of disease and second spray at 15 days after first spray.

Table 6.4.56 Ph.D.: Awards/recognition received by faculty members (Department of Plant Pathology)

Sr. No.	Name of the Faculty	Name of the Award	Awarding Authority	Year
1.	Dr. K. K. Kanzaria	Scientist Associate Award	Agro Environmental Development Society (AEDS), Rampur, Uttar Pradesh	2021-22
2.	Dr. S. V. Lathiya	Young Scientist Award	Agro Environmental Development Society (AEDS), Rampur, Uttar Pradesh	2021-22
3.	Prof. J. C. Dhingani	Young Scientist Award	Society for scientific Devp. in Agri. & Tech., Meerut (U.P.)	2021-22
4.	Dr. J. R. Talaviya	Best Poster Presentation Award	Maharaja Krishnakumarsinhji Bhavnagar University, Bhanagar	2021-22
5.	Dr. C. M. Bhaliya	Best Oral Paper Presented Award	Indian Phytopathological Society-ICAR New Delhi	2021-22
6.	Dr. C. M. Bhaliya	Best Vernacular Article Award	Anand Agricultural University, Anand	2022-23
7.	Dr. J. R. Talaviya	Best Oral Presentation	PKM, Junagadh	2022-23

Sr. No.	Name of the Faculty	Name of the Award	Awarding Authority	Year
8.	Dr. J. R. Talaviya	B. B. Mundkar Award	Mally Reddy University, Hyderabad & ISAHRD, Chandigarh	2022-23
9.	Dr. S. V. Lathiya	Best Oral Presentation	BKNMU, Junagadh	2022-23
10.	Dr. J. R. Talaviya	National Best Teacher Award	Avishakar foundation	2022-23
11.	Dr. J. R. Talaviya	Best Poster Presentation Award	Society of Zoologist, Gujarat and MK University, Bhavnagar	2022-23
12.	H. A. Shekhda, Dr. D. S. Kelaiya, Dr. C. M. Bhaliya	Best Vernacular Article Award	Anand Agricultural University, Anand	2022-23
13.	Dr. K. K. Kanzaria	Scientist of the year award	RVSKYV Gwalior M.P. & Agri Meet Foundation U.P.	2023-24
14.	Dr. D. S. Kelaiya	Best Oral Presentation Award (First Rank)	Indian Society of Mycology & Plant Pathology-Udaipur & SDAU, S. K. Nagar	2023-24
15.	Dr. C. M. Bhaliya, Dr. H. J. Kapadiya, Dr. D. S. Kelaiya, Dr. L. F. Akbari	Best Oral Presentation Award	Indian Society of Mycology & Plant Pathology-Udaipur & SDAU, S. K. Nagar	2023-24
16.	Dr. C. M. Bhaliya	PP Singhal Memorial PI Industries Award & Cash Prize (Rs. 25000/-)	Indian Society of Mycology & Plant Pathology-Udaipur	2023-24
17.	Dr. C. M. Bhaliya	Best Oral Presentation Award	Indian Society of Mycology & Plant Pathology-Udaipur & SDAU, S. K. Nagar	2023-24
18.	Dr. C. M. Bhaliya	Best Article Award published in Krushi-Go -Vidhya Monthly magazine	Anand Agricultural University, Anand	2023-24
19.	Dr. C. M. Bhaliya	Best Oral Presentation Award	Indian Society of Mycology & Plant Pathology-Udaipur & AAU, Anand	2023-24
20.	Dr. S. V. Lathiya	Best Oral Presentation Award	Indian Society of Mycology & Plant Pathology-Udaipur & AAU, Anand	2023-24

Sr. No.	Name of the Faculty	Name of the Award	Awarding Authority	Year
21.	Dr. C. M. Bhaliya	Best Oral Presentation Award	Indian Society of Mycology & Plant Pathology-Udaipur & AAU, Anand	2023-24
22.	Dr. J. R. Talaviya, Dr. S. V. Lathiya and Dr. D. S. Kelaiya	Best Vernacular Article Award	Anand Agricultural University, Anand	2023-24

Table 6.4.57 Ph.D.: Awards received by Ph.D. degree students (Department of Plant Pathology)

Sr. No.	Name of Student	Name of Award	Year
1.	Dr. C. M. Bhaliya	Late Dr. R. C. Patel Best Thesis Award - 2023	PPAG, SDAU, S. K. Nagar

Table 6.4.58 Ph.D.: Year-wise NET qualified PG/Ph.D. Students in Plant Pathology

Sr. No.	Year	No. of students qualified ASRB NET
1.	2020-21	ASRB NET not conducted
2.	2021-22	01
3.	2022-23	01
4.	2023-24	ASRB NET conducted
5.	2024-25	ASRB NET not conducted
6.	2025-26	00
	Total	**02**

Table 6.4.59 Ph.D.: Research publications of faculty Members (Department of Plant Pathology)

Sr. No.	Particular	Number of publications during Last Five Years
1.	National/International Journal	45
	6.0 and above	03
	4.0-6.0	41
	< 4.0	01
2.	Books Published/Book Chapter	03
3.	Practical Manuals	09

Table 6.4.60 Ph.D.: Seminar / workshop / symposia organized by the Department Plant Pathology during 2020-21 to 2025-26

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2020-21				
1.	Biofertilizer Production Technology (Online Webinar)	28/10/2020	JAU, Junagadh	170
2.	Trichoderma Production Technology (Online Webinar)	06/03/2021	JAU, Junagadh	150
2021-22				
1.	Mushroom production technology: A step towards entrepreneurship development	07/03/2022 to 11/03/2022	JAU, Junagadh	50
2022-23				
1.	Combating the Diseases of Field and Horticultural Crops: Past and Future Strategies	29/08/2022 To 03/09/2022	JAU, Junagadh	50
2.	Endophytes: A Potential Bioagent for Plant Health and Nutrition	02/03/2023 To 04/03/2023	JAU, Junagadh	50
3.	Bio fertilizer: A Key tool for Sustainable Agriculture	26/06/2023 To 30/06/2023	JAU, Junagadh	100

6.4.2. FACULTY STRENGTH (AS OF 31-07-2025)

The Department has sufficient sanctioned and filled in faculty positions. Besides, scientists from research stations and other offices also support in teaching and research.

Table 6.4.61 Ph.D.: Details of faculty strength (Department of Plant Pathology)

Sr. No	Sanctioned Faculty for PG	Faculty in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Professor	01	00	Not recommended by ICAR	01
2.	Associate Professor	01	01		02
3.	Assistant Professor	04	01		05
Total		06	02		08

6.4.3 TECHNICAL /SUPPORTING STAFF (AS OF 31-07-2025)

The Department has sufficient sanctioned and filled up supporting staff position. Moreover, technical and administrative staff are also outsourced as and when required.

Table 6.4.62 Ph.D.: Details of technical/supporting staff strength as of 31.07.2025 (Department of Plant Pathology)

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Recommended by ICAR	Staff sanctioned by the GoG
1.	Technical/Supporting staff	04+01*	03	Not recommended by ICAR	08
2.	Administrative staff	01	00		01
	Total	05+01*	03		09

*Pooled from other departments

6.4.4. CLASSROOMS AND LABORATORIES

Table 6.4.63 Ph.D.: Classroom infrastructure in the department

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Plant Pathology					
1.	Conference Hall	85.18	40	Teaching, Seminar, Meeting	AC, Projector, Computer, UPS, Podium along with sound system etc.

PG Classroom

Table 6.4.64 Ph.D.: Departmental PG laboratories established (As of 31-07-2025)

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Plant Pathology					
1.	East wing Lab-1	37.088	15	For PG Degree Practical and Research	Different scientific equipment, as listed in Table 6.4.64, ACs, PCs, lab chemicals, glasswares, UPS, *etc.*
2.	East wing Lab-2	85.192	15		
3.	West wing Lab-1	171.2	10		
4.	West wing Lab-2	125.10	25		

East wing Lab	West wing Lab

Table 6.4.65 Ph.D.: List of major equipment available in the Department of Plant Pathology

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
1.	East wing Lab-1	Leminar Air Flow (Horizontal)	1	0.61
2.		Hot Air Oven: 40 l	1	0.65
3.		Hot Air Oven: 18" x 18" x 24"	1	0.27
4.		Autoclave Vertical: 135 Litre	1	4.5
5.		Autoclave Vertical: 30 x 50 cm height	1	0.52
6.	East wing Lab-2	Refrigerator-687 Litre	1	0.91
7.		Refrigerator-230 Litre	1	0.14
8.		BOD Incubator: 400 litre	1	2.55
9.		Leica Trinocular Microscope (Leica DM)	1	8.09
10.		Binocular Stereo Zoom Microscope CAT Scope	1	2.25
11.		Portable Generator	1	1.91
12.	West Wing Lab-1	B.O.D Incubator 400L (Equitron)	1	2.55
13.		LED Television (Sony Bravia)	1	1.24
14.		Fermenter 200 L (Bio-Age)	1	19.95
15.		Fermenter 50 L (Bio-Age)	1	15.74
16.		Bulk Centrifuge (Hitachi)	1	6.00
17.		Tubular Centrifuge (Sharplex)	1	7.67
18.		Pouch Packing Machine (Packmake)	1	4.83
19.		Auger Filler Screw Conveyor (Packmaker)	1	2.99
20.		Portable Generator	1	1.73

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
21.	West wing Lab-2	Soxhlet Extraction System (Gerhardt)	1	9.98
22.		Transilluminator (JSGW)	1	0.40
23.		Slide Scanner (Catalyst Biotech)	1	2.59
24.		Water Bath (Equitron)	1	0.24
25.		Double Distillery Unit (TKA)	1	2.00
26.		Magnetic Stirrer With Hot Plate (MAC)	1	0.08
27.		Chilled Water Circulator 25 L (Equitron)	1	1.32
28.		Cintex Quick Freezer (Electroquip)	1	0.45
29.		Hot Air Oven 200 L (Thermolab)	1	1.15
30.		Refrigerator Centrifuge (REMI)	1	1.51
31.		Water Purification System	1	2.00
32.		Gel Electrophoresis Unit (Genei)	1	1.70
33.		Stereo Binocular Microscope (Magnus)	1	0.55
34.		Trinocular Microscope (Leica)	1	8.99
35.		pH Meter (Horiba)	1	1.05
36.		Conductivity Meter (Horiba)	1	0.84
37.	West wing Lab-2	Digital Colony Counter (Lapiz)	1	0.11
38.		RT- PCR (Thermofisher)	1	12.50
39.		Spectrophotometer Nanodrop (Thermoscientific)	1	8.46
40.		Digital Flame Photometer (Relitech)	1	0.45
41.		Gel Documentation System (Biotop)	1	7.46
42.		Table Top Refrigerator Centrifuge (Hitachi)	1	4.25
43.		B.O.D. Incubator 200 L (Thermolab)	1	1.65
44.		Deep Freezer (Remi)	1	0.97
45.		Refrigerator 596 L (Sharp)	1	0.55

Major equipment available in the Department of Plant Pathology, CoA, JAU, Junagadh	
Name of equipment: Soxtherm Extraction Unit	Name of equipment: Gel Documentation System
Name of equipment: Binocular Microscope	Name of equipment: Nanodrop Spectrophotometer

Table 6.4.66 Ph.D.: Farm Facilities available with the Department Plant Pathology

Sr. No.	Name of Farm / Cafeteria	Area (hectare)	No. of Experiments continue		Details of activities
			Departmental	Students	
1	A-1	0.15	01	01	Micro Plot
2	A-2	0.20	02	02	NADEP Compost Unit and Glass House
3	A-3	0.40	03	02	Compost Yard and Mushroom House
4	A-4	0.12	-	01	Net House

Name of the farm: NADEP Compost Unit, Glass House	**Name of the farm: Net House**

Table 6.4.67 Ph.D.: Theory and practical batches for the PG program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semesters	Batch of students in theory class	Batch of students in practical class
1.	Ph.D. in Plant Pathology	Odd	1 (10 students)	1 (10 students)
2.		Even	1 (10 students)	1 (10 students)

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty prepares theory note from various books, research papers, reference books, and practical manuals for each subject of the degree program and the same are distributed to students at free of cost.
- Many faculties with five years experiences in UG/PG teaching also contributed to ICAR E-learning portal as course creator, unit reviewer and course reviewer.
- Students also get regular exposure and information about various diseases of crops through field and museum visits.

PRACTICAL AND HANDS-ON-TRAINING

The PG students are practically exposed on the following aspects.

1. Instrumentations
2. Seasonal survey for disease incidence
3. Preservation of diseased specimen
4. Diagnosis of plant diseases
5. Preparation of bio-control agents
6. Preparation of fungicidal mixture
7. Awareness regarding safety use of pesticides
8. Study on host pathogen interaction

9. Testing the bio-efficacy of fungicides, bactericides and nematicides against plant pathogens
10. screening of different germplasm against to different diseases
11. Mushroom production
12. Exposure visits to nearby institutions

The students are instructed about collection and preservation of diseased specimens. The collected disease specimens are used to study the external symptoms and utilized for microscopic observations. The students are encouraged to isolate and purify various plant pathogens under laboratory to know their identity, physiology and other characters. Hands on training on isolation and formulation of bio-control agents. The PG students are encouraged to develop or design the strategies for disease management.

6.4.6. SUPERVISION OF STUDENTS IN PG DEGREE PROGRAM

Apart from the faculty of the Department, scientists/faculty working in the various research stations and university offices are also allotted PG students for guiding.

Table 6.4.68 Ph.D.: Number of students supervised by faculty in the last five years in Plant Pathology Ph.D. degree program

Name of the degree program	No. of students supervised (guided) by faculty for Ph.D. Degree in the last five years
Ph.D. in Plant Pathology	10

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*) (2020-21 TO 2025-26)

- Feedback from students, parents, state representatives, farmers and industrialists are being taken from time to time. Overall, the feedback reveal that students are getting education as per academic schedule and sufficient facilities are available at hostels, mess, gym and sports ground **(Annexure 6.4.7a).** Parents who visited hostels, college and department also convery satisfaction with the existing facilities. The famers of the surrounding villages also readily discuss their problems with staff and PG Degree students and obtain solutions. Staff and PG students participate rigorously in "*krishimahotsavas*", the flagship programme of GoG.
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per the prescribed schedule, and comprises the Deans of all faculties, nominated Professors, Research Scientists from different faculties, and renowned academicians, who discuss the feedback received from different stakeholder during the meetings. Based on the recommendations of the Board of Studies, the Academic Council takes decisions on academic matters for implementation in the University and its constituent colleges.
- ***STUDENT ADVISORY COMMITTEE:*** It comprises a four-member advisory committee, chaired by the Major Guide, with the other members drawn from the minor subject, allied subject, and statistics. The committee guides the student in selecting the research problem, seminar topics, and related academic/research activities. The members also frequently visit the experimental fields and provide necessary guidance and feedback to the students.

- ***STUDENT REPRESENTATIVE COUNCIL (SRC) AND STUDENT COUNSELLING AND PLACEMENT CELL (SCPC):*** Feedback collected with student interactions is reviewed by the committee members and appropriate measures are implemented based on the feedback received.
- ***FACULTY GROUP OF SUBJECTS:*** Faculty Group of Subjects is a unique and robust mechanism of JAU, which is held once in a year wherein the workload of faculty and progress of the students are thoroughly discussed with suggestions for improvement. The suggestions received by the Department of Plant Pathology in the Faculty Group of Subjects during the last five years are given hereunder.

Table 6.4.69 Ph.D.: Year-wise Faculty Group of Subject Meetings of Crop Protection

Sr. No.	Year	Convener	Faculties remain present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	Suggestions received from concerned FGS meeting; corresponding action taken report are submitted as ***Annexure 6.4.7b***
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal and Dean	
4.	2023-24	Professor and Head	Director of Research and Dean PG Studies, Registrar, Director of Extension Education, Associate Director of Research and Principal and Dean	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research and Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal and Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR THE LAST FIVE YEARS

Table 6.4.70 Ph.D.: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
Ph.D. in Plant Pathology	2020-21	01+04*	05	00
	2021-22	02	02	00
	2022-23	02	02	00
	2023-24	04	02	50.00
	2024-25	03	02	33.33
	2025-26	03	03	00

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

1. ***CERA AND OTHER ONLINE E-RESOURCES:*** The department actively encourages its faculty members and students to use the ICAR Consortium of e-resources in Agriculture (CeRA) along with the One Nation, One Subscription (ONOS) of Ministry of Education, GoI. In this way, the research proposals and thesis referencing of the students is kept up-to-date in the plant pathology domain.
2. ***E-BOOKS:*** The e-books available at the university central library and with the departmental faculty members are fully utilized for teaching and research needs of the students.
3. ***KRISHIKOSH:*** Junagadh Agricultural University is an active facilitator of Krishikosh, the national repository of theses, in which the theses are submitted by Agricultural Universities and ICAR institutes. All postgraduate and doctoral theses submitted to the department are regularly uploaded to this repository for wider accessibility.
4. ***INTERNET:*** Digital library with computers and internet facility is available and used by the PG Degree students. Wi-Fi Internet facility is also provided at all the hostels, which is available around the clock.
5. ***JAU IKRUSHI SANHITA AND JANVANI FM:*** Students are also given exposure to use JAU iKrushi Sanhita, a mobile application developed by the University, besides encouraging them to regularly listen to Junagadh Janvani 91.2 FM for information on crop-specific advisory and strategies. In addition, faculty members also give regular radio and TV talks and the links of which are shared for wider dissemination.
6. ***ANTI-PLAGIARISM POLICY OF JAU:*** The department also strictly adheres to the Anti-Plagiarism norms stipulated by the university and keeps a tab on AI content use.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, CoA, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Date: 31.01.2026
Place: Junagadh

Annexure 6.4.7a

Postgraduate Students' Feedback Report for AY 2024-25	
Department of Plant Pathology, CoA, JAU, Junagadh (n = 18)	
Particulars	**Average Score**
Departmental Teaching - Learning Process	
1. How do you rate Student- Teacher relations?	3.9
2. How do you rate for completion of courses by the teachers?	3.3
3. How do you rate fairness in internal assessment in the department?	3.7
4. How do you rate practical exposure from the department?	3.5
5. How do you rate for statical analysis facility provided by the department	3.5
6. Did teachers motivate /support you for solving your personal problems	3.4
P.G. Research facility	
1. How do you rate for your selection of research topic?	3.8
2. Did you get enough facilities for conducting experiment?	3.6
3. How do you rate material provided for conducting experiment?	3.6
4. How do you rate major guide for supporting in completion of seminar and thesis projects?	3.9
Library facilities	
1. Books related to your subject are available in the library	3.5
2. Internet facilities for learning and research purpose	3.2
3. Availability of research journals (online /offline) for review purpose	3.4
4. How do you rate the delivery of books system at the University Library?	3.2
Hostel Facility	
1. How do you rate Hostel facilities?	3.1
2. How do you rate Wi-Fi facility?	3.0
3. How do you rate for food quality in mess?	3.1
4. How do you rate cleanliness in the hostel?	3.4
Sports Facility	
1. How do you rate indoor sports facility?	3.5
2. How do you rate outdoor sports facility?	3.3

Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	**3**	**2**	**1**

Annexure 6.4.7b

Suggestions Received in the Faculty Group Meetings of Crop Protection

Sr. No.	Year	Convener	Participants	Suggestions received
1.	2020-21	Dr. M. F. Acharya, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Dr. V. P. Chovatia, Hon'ble Vice Chancellor and Director of Research, JAU, Junagadh 2. Dr. K. A. Khunt, Principal, College of Agriculture, JAU, Junagadh. 3. Dr. M. F. Acharya, Convener of FGPP and Professor & Head, Department of Entomology, College of Agriculture, JAU, Junagadh 4. Dr. L. F. Akbari, Co-convener of FGPP and Professor & Head, Department of Pl. Pathology, College of Agriculture, JAU, Junagadh 5. Members of Faculty group of Entomology 6. Members of Faculty group of Plant Pathology	i. Even distribution of work load for the Assistant Professors, Associate Professor and Professor & Head of the respective Department should be formed. ii. Incorporate the list of seminars (summer /winter /short training, workshop, symposium, conference etc.) presented by the faculties of respective departments. iii. Incorporate the details about use of library, PG research visit, NET/JRF/SRF information of respective departments. iv. Faculty should visit campus library regularly and use CeRa/J-gate consortium. v. Practical Manuals of different subjects should be sent (SAU's of Gujarat and other states, research scientists and colleagues etc.) to review the content and try to get the good remarks. vi. Trainings on recent aspects (climate change, new insect /disease and its management etc.) should be organized by respective departments.
2.	2021-22	Dr. M. F. Acharya, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Prof. (Dr.) N. K. Gontia, Hon'ble Vice Chancellor, JAU, Junagadh 2. Dr. P. M. Chauhan, Director of Research & Dean PG, JAU, Junagadh 3. Dr. R. K. Mathukia, Registrar, JAU, Junagadh	i. Even distribution of work load for the Assistant Professors, Associate Professor and Professor & Head of the respective Department should be formed. ii. Faculty should visit campus library regularly and use CeRa/J-gate consortium. iii. In undergraduate teaching, the microbiology course must be

Sr. No.	Year	Convener	Participants	Suggestions received
			4. Dr. S. G. Savalia, Principal & Dean, College of Agriculture, JAU, Junagadh. **5.** Dr. P. V. Patel, Professor & Head, Dept. of Ento., CoA, JAU, Junagadh **6.** Dr. D. S. Kelaiya, Professor & Head, Dept. of Pl. Patho., CoA, JAU, Junagadh **7.** Members of Faculty group of Entomology **8.** Members of Faculty group of Plant Pathology	taken by microbiologist only. **iv.** Practical Manuals of different subjects should be sent (SAU's of Gujarat and other states, research scientists and colleagues etc.) to review the content and try to get the good remarks. **v.** Trainings on recent aspects (climate change, new insect /disease and its management etc.) should be organized by respective departments.
3.	2022-23	Dr. M. F. Acharya, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Dr. V. P. Chovatia, Hon'ble Vice Chancellor, JAU, Junagadh 2. Dr. H. M. Gajipara, Director of Research & Dean PG, JAU, Junagadh 3. Dr. S. G. Savalia, Principal & Dean, College of Agriculture, JAU, Junagadh. 4. Dr. M. F. Acharya, Professor & Head, Dept. of Ento., CoA, JAU, Junagadh 5. Dr. D. S. Kelaiya, Professor & Head, Dept. of Pl. Patho., CoA, JAU, Junagadh 6. Members of Faculty group of Entomology 7. Members of Faculty group of Plant Pathology	**i.** Photos related to ELP, RAWEP, Student's Ready Program need to incorporate in presentation as well as report. **ii.** Need to display the needs of the trainings for the faculties. **iii.** Advanced courses for Ph.D. program are to be assigned to regular teachers. **iv.** Suggestions of books should be incorporated in report with detail. **v.** Teachers have to incorporate the new recommendations as well as information on new pests and diseases and its management to the UG /PG / Ph.D. students in different courses. **vi.** Strengthening of departmental activities should be incorporated. **vii.** Data on left out students at UG level should be submitted to placement officer. **viii.** Practical Manuals of different subjects should be sent (SAU's of Gujarat and

Sr. No.	Year	Convener	Participants	Suggestions received
				other states, research scientists and colleagues etc.) to review the content and try to get the good remarks.
4.	2023-24	Dr. D. M. Jethva, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Dr. V. P. Chovatia, Hon'ble Vice Chancellor, JAU, Junagadh 2. Dr. B. D. Savaliya, Associate Director of Research, JAU, Junagadh 3. Dr. P. M. Chauhan, Registrar, JAU, Junagadh 4. Dr. P. D. Kumawat, Principal & Dean, College of Agriculture, JAU, Junagadh. 5. Dr. M. F. Acharya, Professor & Head, Dept. of Ento., CoA, JAU, Junagadh 6. Dr. D. S. Kelaiya, Professor & Head, Dept. of Pl. Patho., CoA, JAU, Junagadh 7. Members of Faculty group of Entomology 8. Members of Faculty group of Plant Pathology	**i.** Add the details of each supplementary /mean improvement courses in the report. **ii.** Practical Manuals of different subjects should be sent (SAU's of Gujarat and other states, research scientists and colleagues etc.) to review the content and try to get the good remarks. **iii.** Data on left out students at UG level should be submitted to convener of Student Council and Placement Cell (SCPC). **iv.** Recommendation of the subject books for the purchase in library should be incorporated in report with detail information. **v.** Advanced /Basic courses for M.Sc. /Ph.D. program are to be assigned to regular teachers. **vi.** Placement records of PG students should be maintained and submitted to SCPC. **vii.** Add the name of entrepreneurs /startups from the departments in the report, if any. **viii.** Incorporate the slide numbers in presentation **ix.** Staff position should be having equivalent position *i.e.*, Assistant Professor & its equivalent rather than

Sr. No.	Year	Convener	Participants	Suggestions received
				Assistant Research Scientist. **x.** Add the information about Published /Sanctioned patents or any other significant achievement in the report.
5.	2024-25	Dr. D. M. Jethva, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Dr. R. B. Madariya, Director of Research, JAU, Junagadh 2. Dr. N. B. Jadav, Director of Extension, JAU, Junagadh 3. Dr. Y. H. Ghelani, Registrar, JAU, Junagadh 4. Dr. P. D. Kumawat, Principal & Dean, College of Agriculture, JAU, Junagadh. 5. Dr. D. M. Jethva, Professor & Head, Dept. of Ento., CoA, JAU, Junagadh 6. Dr. D. S. Kelaiya, Professor & Head, Dept. of Pl. Patho., CoA, JAU, Junagadh 7. Members of Faculty group of Entomology 8. Members of Faculty group of Plant Pathology	**i.** Action Taken should be bind in the report. **ii.** All the faculties of Plant Protection group must have to attend the meeting. **iii.** Add the details of out sourcing staff in remarks of the table related to staff position. **iv.** Details of working technical assistants & Research Fellows should be incorporated. **v.** Add the total as well as percentage of staff position in the Department /Unit. **vi.** Mention Polytechnic teaching instead of UG teaching in report. **vii.** Details of Fellowships (SHODH, PM Fellowship etc.) earned by PG /Ph.D. students should be incorporated in report. **viii.** Awards received by students (PG /Ph.D.) should be incorporated in report. **ix.** Individual faculty reports should be forwarded through proper channel. **x.** Faculty wise requirement of training should be incorporated. **xi.** Don't include research workshops (Mandatory works) attended by faculties in report. **xii.** Mention the mode of training /workshop /seminar (Online

Sr. No.	Year	Convener	Participants	Suggestions received
				/Offline) etc. in report. **xiii.** Add the name of the reviewers in the UG /PG journal review process. **xiv.** Add the list of entrepreneurs in report and send to SCPC Cell.
6.	2025-26	Dr. D. M. Jethva, Professor & Head, Department of Entomology, COA, JAU, Junagadh	1. Dr. V. P. Chovatia, Hon'ble Vice Chancellor, JAU, Junagadh 2. Dr. A. G. Pansuriya, Director of Research, JAU, Junagadh 3. Dr. Y. H. Ghelani, Registrar, JAU, Junagadh 4. Dr. P. D. Kumawat, Principal & Dean, College of Agriculture, JAU, Junagadh 5. Dr. D. S. Kelaiya, Principal, College of Agriculture, JAU, Mota Bhandariya 6. Dr. D. M. Jethva, Professor & Head, Dept. of Entomology, CoA, JAU, Junagadh 7. Dr. S. V. Undhad, Associate Professor, Dept. of Pl. Patho., CoA, JAU, Junagadh 8. Members of the Faculty group of Entomology 9. Members of the Faculty group of Plant Pathology	**i.** All the faculty members of the Plant Protection group must attend the meeting. **ii.** Add the details of all outsourced staff as filled post in the staff position. **iii.** Individual faculty reports should be compiled at the unit level and forwarded through the proper channel (e-mail). **iv.** Add the list of books and journals purchased by the library, which were recommended by the department. **v.** The orientation program should be arranged for the newly admitted PG students for awareness of the various activities of JAU. **vi.** The faculty must upload their publications timely on Google Scholar and so also on the IRS online JAU portal.

Action Taken by the Department of Plant Pathology, CoA, JAU, Junagadh:

All the suggestions given in the group of subject meeting are implemented in the Department of Plant Pathology, CoA, JAU, Junagadh from time to time.

6.4:
Self-Study Report for Ph.D. in Agricultural Extension Education

6.4. SELF-STUDY REPORT FOR PH.D. IN AGRICULTURAL EXTENSION EDUCATION AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PH.D. DEGREE PROGRAM

The department started offering Ph.D. degree program in the year 1964 under the jurisdiction of College of Agriculture, JAU, Junagadh. The department is committed to providing quality education to the students admitted to the Ph.D. degree program.

STEPPING-STONES OF THE DEPARTMENT:

- The department was established during June, 1960 under the College of Agriculture, Junagadh.
- The postgraduate program was started in the year 1964 and a total of 48 students have completed their doctorate degree till date at the department.
- The department renders the services of teaching across the faculties of agriculture and horticulture in UG curriculum.
- The major areas of research include adoption of agricultural technology, impact of technology, training needs, socio economic condition of farmers, technological gap, ICT, ITK, AI adoption, *etc*.

MISSION, GOALS AND OBJECTIVES:

MISSION:

- The department is committed to provide excellence, innovation and effectiveness in education, research and transfer of technology programs.

GOALS:

- Goal of Department of Agricultural Extension Education is to develop agricultural professionals with managerial excellence through quality education and strategic research with socio-cultural sensitivity, ethical responsibility and concern for environment with aspirations of the farming community in particular.

OBJECTIVES:

- To carry out basic and strategic research in the areas of agricultural extension education.
- To carry out post-graduate education programs leading to the degree of M. Sc. (Agri.) and Ph.D. in agricultural extension education to meet the trained man-power requirements of agricultural universities, research institutes and other development departments.
- To render expertise support and advisory and consultancy services to extension activities of the university.
- To implement direct recommendations of the Deans' Committee Report of ICAR in terms of course content, credit requirement, examination system, guidelines for under post graduate education.
- To strengthen the practical and work experience content in the course curriculum.
- To provide integrated agricultural extension education at all levels to develop efficiency and effectiveness in skill, attitude and knowledge among students and to provide necessary placement support to the students.

Department of Agricultural Extension Education, CoA, JAU, Junagadh

ACCOMPLISHMENTS/ ACHIEVEMENTS OF LAST FIVE YEARS:

RECOMMENDATIONS FROM THE DEPARTMENT OF AGRICULTURAL EXTENSION EDUCATION, COA, JAU, JUNAGADH FOR SCIENTIFIC COMMUNITY

2023-24

1) **Farmers Adoption of Cotton Production Technologies Recommended by JAU, Junagadh**

The extension functionaries are advised to conduct training programmes, field demonstrations and exhibition of pests and diseases sample for cotton growing farmers in line with the recommended cotton production technologies of Junagadh Agricultural University to ensure their maximum adoption by farmers.

2024-25

2) **Sensitization level of farmers about safe usage of pesticides in Junagadh district of Saurashtra region**

Recommendation for Extension Functionaries:

To promote safe usage of pesticide among farmers, it is recommended that extension functionaries need to increase their knowledge and safe usage pattern of pesticides through trainings and providing farm literature to select correct pesticide along with its dosage as well as safe handling and disposal techniques.

3) **Adoption of natural farming in Saurashtra region**

Recommendation for Extension Functionaries:

The adoption level of natural farming farmers was found to be medium to low. The farmers got low yield during initial period. Trainings are required regarding the natural

farming practices and to organize method demonstrations for the preparation of different natural farming inputs. Besides, it is suggested to government institutions to enhance marketing facilities for farmers produce and provide subsidy to farmers in the initial period of natural farming adoption.

Table 6.4.71 Ph.D.: Awards/recognition received by faculty members (Department of Agricultural Extension Education)

Sr. No.	Name of Faculty	Name of Award	Authority	Year
1.	Dr. B. N. Kalsariya	Best Extension Scientist Award, Year-2025	Society of Extension Education, Gujarat	2024
		Best Lead Paper Presentation Award	Society of Extension Education, Gujarat	2024
		Certificate of Appreciation for Oral paper presentation	ASM Foundation, New Delhi and Junagadh Agricultural University, Junagadh	2024
		Best Oral Paper Presentation Award, 2024	Society of Extension Education, Gujarat	2024
		Best Oral Paper Presentation Award, 2025	JAU, Junagadh	2025
		Best Oral Presentation Award	CAET, JAU, Junagadh	2025
2.	Dr. S. J. Parmar	Best Young Scientist Award	Society of Extension Education, Gujarat	2022
		Young Scientist Award	Agri Meet Foundation, Bharat	2024
3.	Dr. J. V. Chovatiya	Best Thesis GAAS Award	Gujarat Association for Agricultural Science, Ahmedabad	2020
		Young Scientist Award	Society of Extension Education, Agra	2023

Table 6.4.72 Ph.D.: Awards received by PG degree students (Department of Agricultural Extension Education)

Sr. No.	Name of the Student	Name of the Award	Year
1.	Zala Prashant H.	Best post Graduate Researcher Award	2020
2.	Jay V. Chovatoya	Best Thesis GAAS Award	2020
3.	Diksha Sharma	Best Thesis Award on "Training Need of Farm Women About Improved Animal Husbandry Practices in Saurashtra Region"	2021
4.	P. B. Raviya	Best Ph. D Thesis Award	2021
5.	P. B. Raviya	International Researcher Award 2020-21	2021

Sr. No.	Name of the Student	Name of the Award	Year
6.	Radhika Bani	Best undergraduate award student in subject of Agricultural Extension Education	2023
7.	P. B. Raviya	Best Research Paper Award	2023
8.	Khushbuba M. Jadeja	Best Thesis Award	2024
9.	Padaliya Darshana Arvindbhai	Dr. T. L. Dholariya Best Postgraduate Student Award	2024
10.	Padaliya Darshana Arvindbhai	Second Rank in Oral Presentation Award	2024
11.	Rathod Rajshinh B.	Oral Presentation Award	2024
12.	Zala Prashant H.	Best Thesis GAAS Award	2024

Table 6.4.73 Ph.D.: Year-wise NET qualified PG/Ph.D. Students in Agricultural Extension Education

Sr. No.	Year	No. of students qualified ASRB NET/UGC NET
1.	2020-21	---
2	2021-22	08
3	2022-23	02 (UGC NET)
4	2023-24	04 (UGC NET)
5	2024-25	01
	Total	**15**

Table 6.4.74 Ph.D.: Research publications of faculty Members (Department of Agricultural Extension Education)

Sr. No.	Particular	Number of publications during Last Five Years
1.	National/International Journal	25
	6.0 and above	00
	4.0-6.0	25
	< 4.0	00
2.	Books Published/Book Chapter	01
3.	Practical Manuals	10

Table 6.4.75 Ph.D.: Seminar / workshop / symposia organized by the Department Agricultural Extension Education during 2020-21 to 2025-26

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2020-21				
1	Next Generation Extension Tools and Techniques for	19/10/2020 to	Dept. of Agril. Extension Education,	95

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
	Upcoming Agricultural Professionals.	23/10/2020	JAU, Junagadh	
2021-22				
2	SEEG National Seminar-2022 on "Synergetic Extension Approaches for Livelihood Improvement and Agricultural Development"	24/06/2022 to 25/06/2022	Dept. of Agril. Extension Education, JAU, Junagadh and SEEG, Anand	350

6.4.2. FACULTY STRENGTH (AS OF 31-07-2025)

The Department has sufficient sanctioned and filled in faculty positions. Besides, scientists from the Office of the Directorate of Extension Education of the university also render their support in teaching and research.

Table 6.4.76 Ph.D.: Details of faculty strength (Department of Agricultural Extension Education)

Sr. No	Sanctioned Faculty for PG	Faculty in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Professor	01	00	Not recommended by ICAR	**01**
2.	Associate Professor	02	00		**02**
3.	Assistant Professor	02	00		**02**
Total		05	**00**		05

6.4.3 TECHNICAL/SUPPORTING STAFF AS OF 31/03/2021

The Department has sufficient sanctioned and filled up supporting staff position. Moreover, technical and administrative staff are also outsourced as and when required.

Table 6.4.77 Ph.D.: Details of technical/supporting staff strength as of 31.07.2025 (Department of Agricultural Extension Education)

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1	Technical/Supporting staff	01	00	Not recommended by ICAR	01
2	Administrative staff	00	00		00
Total		01	00		01

6.4.4. CLASSROOMS AND LABORATORIES

The Department has two functional classrooms for UG and PG teaching with state-of-the-art infrastructure that is comparable with the top-performing SAUs in the country as far as the domain of Agricultural Extension Education is concerned.

Table 6.4.78 Ph.D.: Classroom infrastructure in the department

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Department of Agricultural Extension Education					
1.	Classroom-1 (Conference Hall)	51.68	42	Teaching, seminar, meeting	AC, Projector, Computer
2.	Classroom-2 (PG smart classroom)	32.53	25	Teaching, meeting	AC, Projector, Computer

A view of the Conference Hall

Facilities at the PG smart classroom

Table 6.4.79 Ph.D.: Departmental PG laboratories established (As of 31-07-2025)

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Agricultural Extension					
1.	Audio-Visual Lab	34.84	25	Teaching	Computer, LCD Projector

The department has one audio-visual lab, wherein the practical sessions of the respective UG and PG courses are being taken by using the aids of computer, LCD projector, charts, *etc.* to improve the understanding of the students.

Table 6.4.80 Ph.D.: Theory and practical batches for Ph.D. program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semesters	Batch of students in theory class	Batch of students in practical class
1	Ph. D. in Agricultural Extension Education	Odd	1 (7 students)	1 (7 students)
		Even	1 (7 students)	1 (7 students)

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty members of the department prepare comprehensive theory notes for each subject of the degree programme by referring to standard textbooks, research papers, reference books, and practical manuals, adhereing to the BSMA guidelines. These materials are distributed to students free of cost and are also shared with the departmental WhatsApp Group of the students for easy access.
- Faculty members with more than eight years experiences in PG teaching have also contributed to ICAR E-learning portal as course creator, unit reviewer and course reviewer, and the links of the courses developed are shared with the PG students.
- The students are provided with substantial hands-on exposure to data analysis and decision-support tools relevant to agricultural extension and rural development. Training is imparted using trial versions of commonly used statistical and analytical tools to strengthen students' competencies in data handling, impact assessment, and socio-economic analysis.
- As part of the curriculum, students are also introduced to important agricultural and extension-related digital and other online databases.
- Assignments are given to train students in retrieving relevant literature, datasets, and secondary information for extension planning, policy analysis, and research.
- Special lectures also arranged for the students to gain interest and acquire hands-on experience not only in the use of extension eduction related concepts but also gain expertise in the use and application of other key concepts of social science disciplines, such as economics, statistics, and agri-business management.

PRACTICAL AND HANDS-ON-TRAINING

- Students are exposed to real farm situations to fill in their thesis questionnaire as a partial fulfilment of their degree and interact with farmers to get their feedback regarding their research topics undertaken.

6.4.6. SUPERVISION OF STUDENTS IN PG PROGRAM

Apart from UG teaching, faculties are involved in PG teaching/guiding of students. The details of the students guided (supervised) for the last five years, from 2020-21 to 2024-25, are given below. It is also to be noted that the department has guided all the students to complete and submit their theses on time in all the assessment years.

Table 6.4.81 Ph.D.: Number of Ph.D. students supervised (guided) by faculty in the last five years in Agricultural Extension Education

Name of the degree program	No. of students supervised (guided) by faculty in the last five years
	Ph.D.
Ph.D. in Agricultural Extension Education	07

During the accreditation cycle, from 2020-21 to 2024-25, ten faculty members with Agricultural Extension Education specialization were recognized for postgraduate teaching and student supervision. Among them, five faculty members were approved to guide doctoral research, while the remaining five were recognized for supervising master's students. With respect to faculty credentials, all members of the extension faculty hold doctoral degrees, and five of them have additionally qualified the NET.

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*) (2020-21 TO 2025-26)

- Feedback from students, parents, state representatives, farmers and industrialists are being taken from time to time. Overall, the feedback reveal that students are getting education as per academic schedule and sufficient facilities are available at hostels, mess, gym and sports ground **(Annexure 6.4.7a).** Parents who visited hostels, college and department also conveyed satisfaction with the existing facilities. The famers of the surrounding villages also readily discuss their problems with staff and PG Degree students and obtain solutions. Staff and PG students participate rigorously in "*krishimahotsavas*", the flagship programme of GoG, and obtain their feedback on the technological recommendations from the university.
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per the prescribed schedule, and comprises the Deans of all faculties, nominated Professors, Research Scientists from different faculties, and renowned academicians, who discuss the feedback received from different stakeholder during the meetings. Based on the recommendations of the Board of Studies, the Academic Council takes decisions on academic matters for implementation in the University and its constituent colleges.
- ***STUDENT ADVISORY COMMITTEE:*** It comprises a four-member advisory committee, chaired by the Major Guide, with the other members drawn from the minor subject, allied subject, and statistics. The committee guides the student in selecting the research problem, seminar topics, and related academic/research activities. The members also frequently visit the experimental fields and provide necessary guidance and feedback to the students.
- ***STUDENT REPRESENTATIVE COUNCIL (SRC) AND STUDENT COUNSELLING AND PLACEMENT CELL (SCPC):*** Feedback collected with student interactions is reviewed by the committee members and appropriate measures are implemented based on the feedback received.
- ***FACULTY GROUP OF SUBJECTS:*** The Faculty Group Meeting (FGM) of Social Science group is held once a year wherein the social science discipline, including

Agricultural Extension Education, present their teaching and research progress of the previous year before the house consisting of Hon'ble Vice Chancellor, Director of Research, Principal and Dean, and other University Officers. The Ph. D. students are also made to present their thesis research objectives in this meeting. At the end of each department-wise presentations, the Vice-Chancellor and other members of the house render their suggestions to improve the overall academic and research mandates.

- The details of the FGMs of Social Science Science group conducted during the last five years are as follows:

Table 6.4.82 Ph.D.: Year-wise Faculty Group of Subject Meetings of Social Science

Sr. No.	Year	Convener	Dignitaries remaining present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	Suggestions received from concerned FGS meeting; corresponding action taken report are submitted as ***Annexure 6.4.7b on pgs. 173 to 174.***
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal and Dean	
4.	2023-24	Professor and Head	Director of Research and Dean PG Studies, Registrar, Director of Extension Education, Associate Director of Research and Principal and Dean	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research and Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal and Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR THE LAST FIVE YEARS

During the last five years, none of the students who joined Agricultural Extension Education in M. Sc. (Agri.) left their degree program after joining. The department also ensure the on-time completion of master's thesis of the in-service student as well.

Table 6.4.264 Ph.D.: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
Ph.D. in Agricultural Extension Education	2020-21	02+03*	05	00.00
	2021-22	02	02	00.00
	2022-23	02	02	00.00
	2023-24	01+01*	02	00.00
	2024-25	03	03	00.00

* In-Service candidate

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

1. ***CERA AND OTHER ONLINE E-RESOURCES:*** The department actively encourages its faculty members and students to use the ICAR Consortium of e-resources in Agriculture (CeRA) along with the One Nation, One Subscription (ONOS) of Ministry of Education, GoI. In this way, the research proposals and thesis referencing of the students is kept up-to-date in the plant pathology domain.
2. ***E-BOOKS:*** The e-books available at the university central library and with the departmental faculty members are fully utilized for teaching and research needs of the students.
3. ***KRISHIKOSH:*** Junagadh Agricultural University is an active facilitator of Krishikosh, the national repository of theses, in which the theses are submitted by Agricultural Universities and ICAR institutes. All postgraduate and doctoral theses submitted to the department are regularly uploaded to this repository for wider accessibility.
4. ***INTERNET:*** Digital library with computers and internet facility is available and used by the PG Degree students. Wi-Fi Internet facility is also provided at all the hostels, which is available around the clock.
5. ***JAU IKRUSHI SANHITA AND JANVANI FM:*** Students are also given exposure to use JAU iKrushi Sanhita, a mobile application developed by the University, besides encouraging them to regularly listen to Junagadh Janvani 91.2 FM for information on crop-specific advisory and strategies. In addition, faculty members also give regular radio and TV talks and the links of which are shared for wider dissemination.
6. ***ANTI-PLAGIARISM POLICY OF JAU:*** The department also strictly adheres to the Anti-Plagiarism norms stipulated by the university and keeps a tab on AI content use.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, CoA, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: 31.01.2026
Place: Junagadh

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Annexure 6.4.7a

Postgraduate students' feedback report for AY 2024-25

Department of Agricultural Extension Education, CoA, JAU, Junagadh (n = 25)	
Particulars	**Average Score**
Departmental Teaching - Learning Process	
1. How do you rate Student- Teacher relations?	3.6
2. How do you rate for completion of courses by the teachers?	3.2
3. How do you rate fairness in internal assessment in the department?	3.5
4. How do you rate practical exposure from the department?	3.4
5. How do you rate for statical analysis facility provided by the department	3.1
6. Did teachers motivate /support you for solving your personal problems	3.6
P.G. Research facility	
1. How do you rate for your selection of research topic?	3.5
2. Did you get enough facilities for conducting experiment?	3.2
3. How do you rate material provided for conducting experiment?	3.4
4. How do you rate major guide for supporting in completion of seminar and thesis projects?	3.6
Library facilities	
1. Books related to your subject are available in the library	3.8
2. Internet facilities for learning and research purpose	3.6
3. Availability of research journals (online /offline) for review purpose	3.5
4. How do you rate the delivery of books system at the University Library?	3.1
Hostel Facility	
1. How do you rate Hostel facilities?	3.0
2. How do you rate Wi-Fi facility?	3.1
3. How do you rate for food quality in mess?	3.0
4. How do you rate cleanliness in the hostel?	3.3
Sports Facility	
1. How do you rate indoor sports facility?	3.7
2. How do you rate outdoor sports facility?	3.2

Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	**3**	**2**	**1**

Annexure 6.4.7b

Feedback received in the Faculty Group Meetings of Social Science

Sr. No.	Year	Convener	Delegates	Feedback received
1.	2020-21	Professor and Head, Deptt. of Agril. Statistics	Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• The research topics of P.G. students should give on impact assessment of different technology. • Increase the visits of central library. • The work loads of all Extension Education faculties of JAU should consider in presentation. • The department should come forward to initiate the efforts for commencing JAU Research Journal.
2.	2021-22		Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• Ensure on-time submission of synopsis of in-service students. • Include the number of students who discontinued the study within parentheses in the space allotted for 'Failed Students' under respective courses. • Mention the total contact hours of each faculty along with their semester-wise workload. • Tabulate placement details of the graduated students. • Add a feedback section on faculty teaching as received from the students.
3.	2022-23		Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• Follow specific format of FGSS while preparing the report. • As suggested in 8th FGSS meeting, give due weightage to the journey time in direct contact hours while calculating workload of the teachers undertaking UG courses at CoA, Khapat. • Add placement and students feedback section in the report. • Ensure correcting errors before presenting the report.
4.	2023-24		Hon'ble Vice Chancellor, Director of Research, Registrar and	• Present the strengthening of the department in terms of current year requirements. • Incorporate all the extension activities carried out by the department, including

Sr. No.	Year	Convener	Delegates	Feedback received
			Principal	the department's contributions in facilitating the exposure visits of the school students. • Furnish the budget head for the projects mentioned. • Include the h-index and i-10 index of the faculty members along with their total citations.
5.	2024-25		Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• Include the activities/works of all the extension scientists working at the DEE office, Principal office, Polytechnics, and other unit heads. • Use the proper terminology of 'left' instead of 'cancelled' for students who discontinued their degree programs.

Action taken:

All the suggestions given in the group of subject meeting are implemented by the Department of Agricultural Extension Education from time to time.

6.4:

Self-Study Report for Ph.D. in Agricultural Economics

6.4. SELF-STUDY REPORT FOR PH.D. IN AGRICULTURAL ECONOMICS AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PH.D. DEGREE PROGRAM

The Department of Agricultural Economics had its beginning along with the establishment of the College. The department commenced its Ph.D. degree program in Agricultural Economics in 1966-67. The major areas of research of the department include cost of cultivation, farming systems, impact assessment of technology and policy, agricultural marketing, price behaviour of major commodities, international trade and other region specific and policy related research studies. The department also maintains its dedicated webpage on the university website (www.jau.in) wherein all key particulars about its academic, research, and publication activities are regularly updated and significant accomplishments are highlighted. The department also houses a WTO Cell for conducting research studies related to international economics and an in-house research project on 'Price forecasting and marketing intelligence' is also functional at the department with its bi-monthly price forecasts being made available at the University website and published in all the vernacular and national dailies for larger outreach. As of 2024-25, 29 students have completed their doctoral degree from the department.

Department of Agricultural Economics, College of Agriculture, JAU, Junagadh

STEPPING-STONES OF THE DEPARTMENT

- Genesis of the Department of Agricultural Economics in 1960-61 along with the establishment of College of Agriculture, JAU, Junagadh.
- Functioning of the 'Scheme for Research in Agricultural Economics' in 1962-63.
- Commencement of M. Sc. (Agriculture) in Agricultural Economics in 1964-65.
- Introduction of Ph. D. in Agricultural Economics in 1966-67.
- Starting of the 'Scheme for Farm Cost Studies' in 1970-71.
- Establishment of the WTO Cell in 2005-06.
- Beginning of the in-house scheme on 'Price Forecasting of Selected Crops' under the 'Scheme for Research in Agricultural Economics' from 2020-21 onwards.
- Modernization of the Departmental Library to Departmental Library-cum-Reading Hall in 2020-21 with updated books, journals, STATA econometric software package and other infrastructural facilities.
- The department organized the ICAR-Sponsored National Seminar on 'Jumpstarting Agricultural Initiatives for Sustainable Agriculture, Rural Development, and Augmenting Regional Collaborations (JAI-SARDAR) with the participation of 350+ participants from various states, including Gujarat, Andhra Pradesh, Tamil Nadu, Uttar Pradesh, Delhi, Maharashtra, Madhya Pradesh and Rajasthan.

MISSION, GOALS AND OBJECTIVES

MISSION:

- To become a student-centric learning centre of excellence in agricultural economics.

GOALS:

- To strive for high quality education, research and publications from faculties and students; not just in terms of publication in high impact-factor journals but also in terms of their gross readability and net usability to all the stakeholders, especially farming community.

OBJECTIVES:

- To emerge as a leading department of students' choice at the state and national levels and get recognized for its student friendly ambience and learning facilities.
- To impart students a strong domain knowledge and boost their capability and competitiveness in order to nurture a future ready passionate talent-pool.
- To hone research skills of the students by providing constant exposure to the latest developments in economic analysis and econometric/statistical software packages.
- To conduct a variety of region-specific research studies meeting the local needs of farming community and other stakeholders.

ACCOMPLISHMENTS/ ACHIEVEMENTS OF THE LAST FIVE YEARS

RECOMMENDATIONS FROM THE DEPARTMENT OF AGRICULTURAL ECONOMICS, COA, JAU, JUNAGADH FOR SCIENTIFIC COMMUNITY

2020-21:

1. **Spatial and temporal integration analysis and price discovery mechanism of major potato wholesale markets in Gujarat**

The benefits of market integration of potato wholesale markets in Gujarat can be harnessed to realize the producer surplus potential by strengthening the existing market information and dissemination infrastructure. The real-time market intelligence inputs, including that of price forecasting, should be made available throughout the potato supply chain either through training programmes or by hosting literature in public domain, thereby, enabling the producers to take proper production, storage and marketing related decisions.

2021-22:

2. **Analyzing India's comparative advantage in world cumin (*Cuminum cyminum* L.) exports: An application of Gravity model**

The comparative advantage of India, and particularly Gujarat, can be enhanced in cumin exports and the country can emerge as a price setter in the world cumin trade only when the issues around yield, quality, and prices are addressed institutionally. Higher yield levels should be sustained, through widespread adoption of improved cultivars and micro-irrigation practices, for reducing production and export instabilities and to cool down domestic prices. Mandating large-scale IPM strategies and pre-shipment quality

checks are needed for curtailing export rejections. Above all, production and export incentives should be channelized through FPOs for upscaling residue management practices leading to a genuine exportable surplus.

2022-23:

3. Growth, Instability and Decomposition Analysis of Major Nutri-cereals Production in Gujarat

It is advised to the policy markers that as per the evidence from the satisfactory yield growth rate of bajra and jowar about 2 to 4 per cent during last two decades in Gujarat was due to the JAU/SAUs and others research varieties, beside less reduction in area and production as well as its low medium instabilities in major nutri-cereals growing districts. To enhance area and yield of bajra, jowar and ragi in Gujarat, sustained focus needs to be given on the following districts as given below in particular season.

2023-24:

4. Changing Cost Structure and Total Factor Productivity Growth of Onion in Gujarat

It is recommended to the scientific community that onion yield growth rate remained low about 0.46 per cent per annum during last three decades in Gujarat. As high increase in labour and seed prices, the negative growth in TFP (-1.01%) can be seen in production growth, hence RCP increased by 2.75 per cent per annum over FHP (2.35%). This indicates the needs of further improvement in technological breakthrough to increase productivity by evolving HYVs.n Proper management of agronomical practices to keep low production cost and the proper price incentive to keep pace with other crops.

5. Performance and determinants of Plant Varietal Protection (PVP) behaviour in Indian agriculture with special reference to Gujarat

It is recommended that targeted sensitization drives through training and workshops be scaled up to increase the grassroots awareness of PVPFRA and enhance the registration of farmers' varieties across the field and horticultural crops. Promoting location-specific hand-holding sessions for filing the applications of farmers will also address the imbalances in crop-wise and region-wise registrations. In addition, it is recommended that the applications under PVPFRA also be invited under PPP mode, whereby both public and private agencies would be enabled to share their infrastructure and technical knowledge, leading to the enhanced prospects of registration and commercialization of improved varieties or hybrid cultivars in such a way that a major share of the benefits of commerce also trickle down to the farming community in the form of reduced seed costs or a higher compensation stake in case of crop loss.

6. India's balance of trade in agriculture with SAARC nations: An econometric analysis

It is recommended that concerted efforts be put forth to enable India to assume the pivotal position of accelerating the inter-regional agricultural trade among SAARC nations to exceed 20 per cent by 2030. A trade performance of such scale is vital for India to harness the full potential of its comparative advantage in agricultural commodities. Besides, SAFTA should focus more on reducing the non-tariff barriers and logistical issues between the nations to improve overall farm trade volume and value. Efforts should also be on the anvil to leverage India's performance in the SAARC bloc to its advantage in world trade forums.

2024-25:

7. Credit flow and its utilization behaviour among farmers in Saurashtra region, Gujarat

It is recommended to the policymakers that the financial institutions and other professional associations should focus on improving the return on equity ratio, working capital ratio, and asset turnover ratio of the farmers to enhance their repayment capacity. Besides, farm income levels need to be given more weightage than income from other sources while risk rating the loan applications of farmers and making a priori distinction between potential defaulters and non-defaulters. As information asymmetricity on loan products is found to be a major constraint leading to defaults, crop-specific strategies need to be ensured to improve awareness and utilization of loans.

Table 6.4.84 Ph.D.: Awards/recognition received by faculty members (Department of Agricultural Economics)

Sr. No.	Name of Faculty	Name of Award	Authority	Year
1.	Dr. N. J. Ardeshna	Dvitiy Uttam Lekh Award	Krushi govidya magazine, AAU, Anand	2021
2.	Dr. B. Swaminathan	Second prize in BAU AGRI-HACKATHON Competition	Bihar Agricultural University, Sabour	2021
3.	Dr. B. Swaminathan	Young Achiever Award-2022	The Society for Advancement of Human and Nature (SADHNA), Dr YS Parmar University of Horticulture and Forestry, Solan	2022
4.	Dr. B. Swaminathan	Outstanding Academician Award 2023	Kamarajar Institute of Education and Research, Tamil Nadu, India, conferred in May 2023	2023
5.	Dr. B. Swaminathan	Best Speaker Award	India Stata Conference 2023 organized by SYSTECH, Mumbai on November 30, 2023	2023
6.	Dr. N. J. Ardeshna	Best poster presentation	25th National Conference on “Innovations and entrepreneurship for rural prosperity: an agricultural perspective”, MPKV, Rahuri	2025
7.	Dr. B. Swaminathan	Best oral presentation	25th National Conference on “Innovations and entrepreneurship for rural prosperity: an agricultural perspective”, MPKV, Rahuri	2025
8.	Dr. B. Swaminathan	Best poster presentation	25th National Conference on “Innovations and entrepreneurship for rural prosperity: an agricultural perspective”, MPKV, Rahuri	2025

Table 6.4.85 Ph.D.: Awards received by PG degree students (Department of Agricultural Economics)

Sr. No.	Name of Student	Name of Award	Year
1.	Ms. Sneha S Ketali	Best Master's Thesis Award	2021
2.	Makwana Rutvika	Best Poster Presentation	2025
3.	Vora Krishna	Best Poster Presentation	2025
4.	S. R. Lavanya	Best Poster Presentation	2025
5.	Sneha Murugesan	Best Oral Presentation	2025
6.	Alpa B. Karmur	Best Oral Presentation	2025

Table 6.4.86 Ph.D.: Year-wise NET qualified PG/Ph.D. Students in Agricultural Economics

Sr. No.	Year	No. of students qualified ASRB NET/UGC NET/GSET
1.	2020-21	00
2.	2021-22	05
3.	2022-23	02
4.	2023-24	01
5.	2024-25	06
	Total	14

Table 6.4.87 Ph.D.: Research publications of faculty Members (Department of Agricultural Economics)

Sr. No.	Particular	Number of publications during the last five years
1.	National/International Journal	48
	6.0 and above	00
	4.0-6.0	43
	< 4.0	05
2.	Books Published/Book Chapters	06
3.	Practical Manuals	04

Table 6.4.88 Ph.D.: Seminar / workshop / symposia organized by the Department Agricultural Economics during 2020-21 to 2025-26

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2020-21				
1.	Sensitization Workshop on CMIE's Commodities Database	24/07/2020	Deptt. of Agril. Econ., CoA, JAU, Junagadh	100

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2.	Emerging Dimensions in Agribusiness Development and Trade under IDP, NAHEP sponsored by ICAR, New Delhi and World Bank	28/09/2020 to 02/10/2020	Deptt. of Agril. Econ., CoA, JAU, Junagadh	100
2022-23				
3.	Training on "Commodity Marketing Analysis"	15/02/2023	Deptt. of Agril. Econ., CoA, JAU, Junagadh	50
4.	One-day awareness workshop "Development of Soft Skills for Entrepreneurship among Agri-Graduates" in collaboration with ICAR-NAARM, Hyderabad	24/02/2023	Deptt. of Agril. Econ., CoA, JAU, Junagadh	175
2024-25				
5.	Guest lecture on "Emerging Global Economic Scenario and its Implications for Trade and Agribusiness in India"	19/09/2024	Deptt. of Agril. Econ., CoA, JAU, Junagadh	110
6.	Towards vikshit bharat@2047 Workshop on "How FPO can transition agri graduates to become job creators?	28.09.2024	Deptt. of Agril. Econ., CoA, JAU, Junagadh	105
7.	Guest lecture on "From Books to Fields: Startup and Entrepreneurship Development in the Agriculture Sector"	20/11/2024	Deptt. of Agril. Econ., CoA, JAU, Junagadh	135
2025-26				
8.	ICAR-sponsored National Seminar on 'Jumpstarting Agricultural Initiatives for Sustainable Agriculture, Rural Development, and Augmenting Regional Collaborations (JAI-SARDAR)'	23/12/2025	Deptt. of Agril. Econ., CoA, JAU, Junagadh	352

6.4.2. FACULTY STRENGTH (AS OF 31-07-2025)

Table 6.4.89 Ph.D.: Details of faculty strength (Department of Agricultural Economics)

Sr. No.	Sanctioned Faculty for PG	Faculty in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Professor	01	00	Not recommended by ICAR	01
2.	Associate Professor	02	02		04
3.	Assistant Professor	02	03		05
	Total	05	05		10

6.4.3 TECHNICAL /SUPPORTING STAFF (AS OF 31-07-2025)

Table 6.4.90 Ph.D.: Details of technical/supporting staff strength as of 31.07.2025 (Department of Agricultural Economics)

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Recommended by ICAR	Staff sanctioned by the GoG
1.	Technical/Supporting staff	18	42	Not recommended by ICAR	60
2.	Administrative staff	02	04		06
	Total	20	46		66

6.4.4. CLASSROOMS AND LABORATORIES

Table 6.4.91 Ph.D.: Classroom infrastructure in the department

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Department of Agricultural Economics					
1.	Conference Hall	46.75	33	For conducting Ph.D. credit seminars of Social Science group students For organizing workshops and training programmes For conducting Social Science Research Committee and Faculty Group meetings	AC hall, LCD Projector, Computer, Ethernet, UPS, Wireless Audio system, Podium
2.	Reading hall/ Library	29.80	10	Reading, lending books and back-volumes of journals	AC Library with 325 PG reference books
3.	PG Classroom	47.25	30	Theory lectures, practical sessions, hands-on training sessions	AC classroom with projector, Computer, Ethernet, UPS
4.	Seminar Hall	95.46	75	Synopsis and credit seminar presentations and for organizing research, trainings and placement orientations	AC hall, LCD Projector, LaptComputer, Ethernet, UPS, Wireless Audio system, Podium

Infrastructural facilities in the Seminar Hall

A view of the Conference Hall

Departmental library-cum-reading hall

Facilities in the PG smart classroom

Table 6.4.92 Ph.D.: Departmental PG laboratories established (As of 31-07-2025)

Sr. No.	Name of the Laboratory	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
1.	WTO Cell with LED projector, SMART TV, STATA license, and educational charts	31.30	10	Departmental research and PG student guidance	Econometric software packages for data analysis, *viz.*, SPSS, EVIEWS, R, Lingo, AMOS, *etc.*

Table 6.4.93 Ph.D.: Theory and practical batches for the Ph.D. program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semester	Batch of students in theory class	Batch of students in practical class
1.	Ph.D. in Agricultural Economics	Odd	1 (3 students)	1 (3 students)
		Even	1(3 students)	1(3 students)

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty members of the department prepare comprehensive theory notes for each subject of the degree programme by referring to standard textbooks, research papers, reference books, and practical manuals, adhereing to the BSMA guidelines. These materials are distributed to students free of cost and are also shared with the departmental WhatsApp Group of the students for easy access.
- Faculty members with more than eight years experiences in PG teaching have also contributed to ICAR E-learning portal as course creator, unit reviewer and course reviewer, and the links of the courses developed are shared with the PG students.

PRACTICAL AND HANDS-ON-TRAINING

- The Department follows strict adherence to the regular conduct of classes in both online and offline formats. A theory lecture session is conducted for one hour duration, whereas a practical session lasts for two hours. Apart from striving for a strong domain knowledge among their wards, the faculties make sure that the students stand updated when it comes to the aspect of economic analysis. The practical sessions are conducted focusing on conceptual clarity dovetailed with hypothetical / practice datasets. The students are also taught to retrieve data from public domains such as AGMARKNET, FAOSTAT, UNCTAD and other open-access sites which are often used in teaching pedagogy.
- Further, the students are given considerable exposure to all the open-access econometric software packages available such as GRETL and R. The students are also given hands-on training with other trial versions of the statistical software packages such as SPSS, AMOS, E-Views, STATA, *etc*. Often, during the practical classes, hands-on training sessions are conducted in both offline and online platforms for the students to grasp the nuances related to the application of these packages. As a part of lectures, the students are also exposed to CeRA, CMIE's Commodities, ICRISAT's DLD and other online databases and are given assignments for retrieving literature and datasets from these sites. Walking the extra mile, the faculties also come up with videos related to MS Excel applications and the use of other software packages. The links / urls of the videos are shared to the semester-wise student WhatsApp groups maintained at the Department.
- Special guest lectures and workshops are also arranged for the students to gain interest and acquire hands-on experience not only in the use of econometric/ statistical software packages but also in the applications of theory concepts for their theses research needs. The training manuals on the use of SPSS-AMOS and STATA have also been circulated among the students.

6.4.6. SUPERVISION OF STUDENTS IN PG DEGREE PROGRAM

During the accreditation cycle from 2020-21 to 2024-25, the department has guided 30 master's students to complete their degree programs. Every year, at least 1-2 students take up their degree programs at the departments from other states in ICAR quota.

Table 6.4.94 Ph.D.*: Number of Ph.D. students supervised by faculty in the last five years in Agricultural Economics*

Name of the degree	No. of students supervised (guided) by faculty for Ph.D. Degree	No. of qualified faculty members
Ph.D. in Agricultural Economics	07	04

The PG students are supervised by the Advisory Committee for their credit seminar presentations, thesis synopsis presentation, thesis research analysis, discussion, presentation, and final submission. The Advisory Committee comprises a team of 4-5 members, with the faculty member from the department serving as the major guide, while the minor guide is drawn from the discipline of Agricultural Extension Education and the other two/three members are constituted from Agricultural Economics, Agricultural Statistics and Agri-Business Management disciplines. In case of interdisciplinary research, the advisory committee also includes a member from biological sciences as and when the need arises.

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*) (2020-21 TO 2025-26)

- Feedback from students, parents, state representatives, farmers and industrialists are being taken from time to time. Overall, the feedback reveal that students are getting education as per academic schedule and sufficient facilities are available at hostels, mess, gym and sports ground **(Annexure 6.4.7a).** Parents who visited hostels, college and department also conveyed satisfaction with the existing facilities. The famers of the surrounding villages also readily discuss their problems with staff and PG Degree students and obtain solutions. Staff and PG students participate rigorously in "*krishimahotsavas*", the flagship programme of GoG, and obtain their feedback on the technological recommendations from the university.
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per the prescribed schedule, and comprises the Deans of all faculties, nominated Professors, Research Scientists from different faculties, and renowned academicians, who discuss the feedback received from different stakeholder during the meetings. Based on the recommendations of the Board of Studies, the Academic Council takes decisions on academic matters for implementation in the University and its constituent colleges.
- ***STUDENT ADVISORY COMMITTEE:*** It comprises a four-member advisory committee, chaired by the Major Guide, with the other members drawn from the minor subject, allied subject, and statistics. The committee guides the student in selecting the research problem, seminar topics, and related academic/research activities. The members also frequently visit the experimental fields and provide necessary guidance and feedback to the students.

- ***STUDENT REPRESENTATIVE COUNCIL (SRC) AND STUDENT COUNSELLING AND PLACEMENT CELL (SCPC):*** Feedback collected with student interactions is reviewed by the committee members and appropriate measures are implemented based on the feedback received.
- ***FACULTY GROUP OF SUBJECTS:*** The Faculty Group Meeting (FGM) of Social Science group is held once a year wherein the social science discipline, including Agricultural Extension Education, present their teaching and research progress of the previous year before the house consisting of Hon'ble Vice Chancellor, Director of Research, Principal and Dean, and other University Officers. The Ph. D. students are also made to present their thesis research objectives in this meeting.
- The details of the FGMs of Social Science Science group conducted during the last five years are as follows:

Table 6.4.95 Ph.D.: Year-wise Faculty Group of Subject Meetings of Social Science

Sr. No.	Year	Convener	Dignitaries remaining present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	Suggestions received from concerned FGS meeting; corresponding action taken report are submitted as ***Annexure 6.4.7b on pgs. 190 & 191.***
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal and Dean	
4.	2023-24	Professor and Head	Director of Research and Dean PG Studies, Registrar, Director of Extension Education, Associate Director of Research and Principal and Dean	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research and Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal and Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PG PROGRAM FOR THE LAST FIVE YEARS

Table 6.4.96 Ph.D.: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
Ph.D. in Agricultural Economics	2020-21	01	01	00
	2021-22	01	01	00
	2022-23	02	02	00
	2023-24	02+1*	03	00
	2024-25	03	03	00
	2025-26	01	01	00

Note: *In-service candidates

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

1. ***CERA AND OTHER ONLINE E-RESOURCES:*** The department actively encourages its faculty members and students to use the ICAR Consortium of e-resources in Agriculture (CeRA) along with the One Nation, One Subscription (ONOS) of Ministry of Education, GoI. In this way, the research proposals and thesis referencing of the students is kept up-to-date in the plant pathology domain.
2. ***E-BOOKS:*** The e-books available at the university central library and with the departmental faculty members are fully utilized for teaching and research needs of the students.
3. ***TIME SERIES AND PANEL DATABASES:*** The department intensively utilizes the time series and panel open-access databases available in public domain related to trade, market prices, crop production and consumption pattern, including APEDA, NSSO, RBI, UPAg, AGMARKNET, World Bank, and FAOSTAT.
4. ***KRISHIKOSH:*** Junagadh Agricultural University is an active facilitator of Krishikosh, the national repository of theses, in which the theses are submitted by Agricultural Universities and ICAR institutes. All postgraduate and doctoral theses submitted to the department are regularly uploaded to this repository for wider accessibility.
5. ***INTERNET:*** Digital library with computers and internet facility is available and used by the PG Degree students. Wi-Fi Internet facility is also provided at all the hostels, which is available around the clock.
6. ***JAU IKRUSHI SANHITA AND JANVANI FM:*** Students are also given exposure to use JAU iKrushi Sanhita, a mobile application developed by the University, besides encouraging them to regularly listen to Junagadh Janvani 91.2 FM for information on crop-specific advisory and strategies. In addition, faculty members also give regular radio and TV talks and the links of which are shared for wider dissemination.
7. ***ANTI-PLAGIARISM POLICY OF JAU:*** The department also strictly adheres to the Anti-Plagiarism norms stipulated by the university and keeps a tab on AI content use.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: 31.01.2026
Place: Junagadh

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Annexure 6.4.7a

Postgraduate students' feedback report for AY 2024-25

Department of Agricultural Economics, CoA, JAU, Junagadh (n = 25)	
Particulars	**Average Score**
Departmental Teaching - Learning Process	
1. How do you rate Student- Teacher relations?	3.8
2. How do you rate for completion of courses by the teachers?	3.6
3. How do you rate fairness in internal assessment in the department?	3.6
4. How do you rate practical exposure from the department?	3.9
5. How do you rate for statical analysis facility provided by the department	3.9
6. Did teachers motivate /support you for solving your personal problems	3.7
P.G. Research facility	
1. How do you rate for your selection of research topic?	3.7
2. Did you get enough facilities for conducting experiment?	3.3
3. How do you rate material provided for conducting experiment?	3.6
4. How do you rate major guide for supporting in completion of seminar and thesis projects?	3.8
Library facilities	
1. Books related to your subject are available in the library	3.7
2. Internet facilities for learning and research purpose	3.5
3. Availability of research journals (online /offline) for review purpose	3.4
4. How do you rate the delivery of books system at the University Library?	3.2
Hostel Facility	
1. How do you rate Hostel facilities?	3.0
2. How do you rate Wi-Fi facility?	3.0
3. How do you rate for food quality in mess?	3.2
4. How do you rate cleanliness in the hostel?	3.1
Sports Facility	
1. How do you rate indoor sports facility?	3.6
2. How do you rate outdoor sports facility?	3.5

Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	**3**	**2**	**1**

Annexure 6.4.7b

Feedback received in the Faculty Group Meetings of Social Science

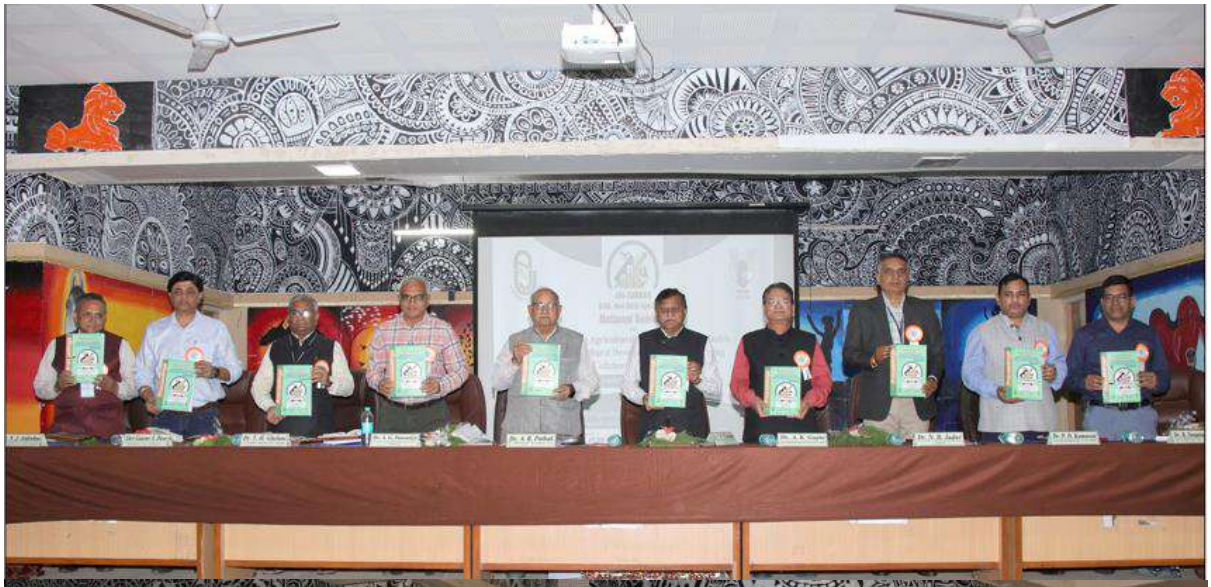
Sr. No.	Year	Convener	Delegates	Feedback received
1.	2020-21	Professor and Head, Deptt. of Agril. Statistics	Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• The research topics of P.G. students should give on impact assessment of different technology. • Increase the visits of central library. • The work loads of all Extension Education faculties of JAU should consider in presentation. • The department should come forward to initiate the efforts for commencing JAU Research Journal.
2.	2021-22		Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• Ensure on-time submission of synopsis of in-service students. • Include the number of students who discontinued the study within parentheses in the space allotted for 'Failed Students' under respective courses. • Mention the total contact hours of each faculty along with their semester-wise workload. • Tabulate placement details of the graduated students. • Add a feedback section on faculty teaching as received from the students.
3.	2022-23		Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• Follow specific format of FGSS while preparing the report. • As suggested in 8th FGSS meeting, give due weightage to the journey time in direct contact hours while calculating workload of the teachers undertaking UG courses at CoA, Khapat. • Add placement and students feedback section in the report. • Ensure correcting errors before presenting the report.
4.	2023-24		Hon'ble Vice Chancellor, Director of Research, Registrar and	• Present the strengthening of the department in terms of current year requirements. • Incorporate all the extension activities carried out by the department, including

Sr. No.	Year	Convener	Delegates	Feedback received
			Principal	the department's contributions in facilitating the exposure visits of the school students. • Furnish the budget head for the projects mentioned. • Include the h-index and i-10 index of the faculty members along with their total citations.
5.	2024-25		Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• Include the activities/works of all the extension scientists working at the DEE office, Principal office, Polytechnics, and other unit heads. • Use the proper terminology of 'left' instead of 'cancelled' for students who discontinued their degree programs.

Action taken:

All the suggestions given in the form of feedback in the respective Faculty Group of Subject Meetings of Social Sciences during the accreditation cycle, from 2020-21 to 2024-25, are implemented by the Department of Agricultural Economics from time to time.

Glimpses of the ICAR-Sponsored National Seminar on 'JAI-SARDAR' Organized by the Department of Agricultural Economics, CoA, JAU, Junagaadh on Dec. 23, 2025



6.4:

Self-Study Report for Ph.D. in Agricultural Statistics

6.4. SELF-STUDY REPORT FOR PH.D. IN AGRICULTURAL STATISTICS, AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PH.D. DEGREE PROGRAM

The department of Agricultural Statistics was established in 1977. In 1979, the PG centre was commenced in Junagadh Campus of the erstwhile Gujarat Agricultural University. With the sanctioning of the plan scheme on "Creating Computer and Communication Facilities", the computer cell was established in 1987 under this project. The department undertakes premier research projects under agricultural statistics and allied sciences and is known for its well-known works related to price forecasting. The department boasts faculty members who have programmed a number of R packages. The expertise of the departmental faculty members is utilized across the faculties of agriculture, horticulture, agricultural engineering and agri-business management.

Department of Agricultural Statistics, College of Agriculture, JAU, Junagadh

STEPPING-STONES OF THE DEPARTMENT

- Within the Junagadh Zone of Gujarat Agricultural University, the Department of Agricultural Statistics was established in 1977 under College of Agriculture, Junagadh.
- In 1979, Post Graduate Centre for the discipline of Agricultural Statistics was started and Dr. M. R. Vaishnav was appointed as the first Head of Department 1/6/1979.
- The plan scheme on 'Creating Computer and Communication Facilities', which led to the establishment of a full-fledged, state-of-the-art computer lab in 1987.
- In 1990, the Ph.D. programme in the discipline of Agricultural statistics was started and the first in service student of the department, Prof. P. R. Vaishnav, obtained his Ph.D. degree under the guidance of Dr. S. K. Dixit in 1994.
- The department came under the jurisdiction of Junagadh Agricultural University from May 01, 2004 after the quadfurcation of the erstwhile Gujarat Agricultural Univeristy.
- The department has come up with its own software, JOSARDA, for data analysis.
- The department successfully published a patent on "A System and Method for Agricultural Research Data Analysis", Patent Application No. 202521066495 in the Patent Office Journal No.31, dated 01/08/2025.

MISSION, GOALS AND OBJECTIVES:

Mission:

- The Department is committed to provide excellence, innovative and effective services in education, research and transfer of technology programs.
- The mission of the Department is to be a one of the premier departments in the discipline of Agricultural Statistics

Goal:

- To provide human resources, skills and technology required for sustainable development in the discipline of agricultural statistics by integrating education, research and extension activities.

Objectives:

- To provide under graduate education in agriculture, horticulture and allied sciences for the courses related to Agricultural Statistics and Computer Application.
- To guide the PG students in the Discipline of Agricultural Statistics
- To provide human resources, skills and technology required for teaching of various PG courses of Agricultural Statistics as well as other disciplines
- To provide facility for statistical analysis and advisory services to the PG students and scientists on various aspects of statistical analysis

ACCOMPLISHMENTS/ ACHIEVEMENTS OF THE LAST FIVE YEARS

RECOMMENDATIONS FROM THE DEPARTMENT OF AGRICULTURAL STATISTICS, COA, JAU, JUNAGADH FOR THE SCIENTIFIC COMMUNITY

2020-21:

1. **A comparative study on groundnut yield forecasting models for Junagadh district**

   The groundnut productivity can be forecasted at the 10th week after sowing and use multiple linear regression models having generated weather variables with correlation coefficient between groundnut productivity and weather variables as weight and original weather variables using week wise approach with higher predictability and lower deviations between forecasted and observed productivity.

2. **Business performance analysis of Farmer Producer Organizations of Saurashtra region**

   The Farmer Producer Organizations (FPOs) in Saurashtra region are advised to increase the number of business activities *vis a vis* improve the members' involvement for better business performance

2022-23:

1. **Forecasting area, production and productivity of cotton and groundnut in Gujarat**

   It is advised to scientific community that the area, production and productivity of cotton and groundnut can be precisely predicted using the hybrid model in comparison to ARIMA and TDNN for Gujarat state

2023-24:

1. **Hectarage Prediction Models for Major Oilseed Crops of Gujarat: An Empirical Investigation**

   It is recommended to the scientific community that area under selected crops can be precisely predicted using the single equation models rather than simultaneous equation models as single equation model gives maximum R^2 and $\bar{R}^2$ with low values of MAPE, RMSE and MAE.

2. **Development of Statistical Analysis Programme using Python Machine Learning and Data Visualization**

The scientists/researchers of SAUs are recommended to use new computer programs developed by the Junagadh Agricultural University which are requirement specific, unique, user friendly with the important features of descriptive auto conclusion and auto data visualization for Individual, pooled, control vs rest CRD, RBD, FCRD and FRBD analysis respectively, simple linear, multiple linear and polynomial regression as well as one, two and pair sample T tests. It is also recommended to JAU to develop & design open-source user interface, so SAUs of the Gujarat can be used these computer programs without any charges.

3. **Value chain analysis of Kesar mango in Saurashtra region**

Stakeholders and policymakers involved in the Kesar mango value chain in the Saurashtra region are advised to strengthen crop management system, develop post-harvest infrastructure and improve post-harvest operations to maintain better quality of Kesar mango for the remunerative farming and consumer satisfaction.

4. **Effect of micro irrigation system on livelihood in Saurashtra region**

Extension functionaries are recommended to advise farmers of the Saurashtra region to adopt and use micro irrigation system in their farm to reduce their poverty.

2024-25:

1. **Time series forecasting of area and production of vegetable crops in Gujarat**

It is recommended to the scientific community that area and production of the selected vegetable crops viz., okra, tomato, potato, brinjal and onion can be precisely predicted using the following models with reasonable RMSE, MAE and MAPE.

Crop	Selected forecasting model	
	Area	Production
Okra	TDNN 3:3s:1l	TDNN 4:3s:1l
Tomato	5 YMA Cubic	TDNN 4:3s:1l
Potato	Hybrid 3:3s:1l	Hybrid 3:4s:1l
Brinjal	TDNN 3:3s:1l	TDNN 4:3s:1l
Onion	Hybrid 2:4s:1l	Hybrid 4:3s:1l

2. **Strengthening Statistical Analysis Programmes using Python Machine Learning and Data Visualization**

The scientists/researchers of SAUs are recommended to use new computer programs developed by the Junagadh Agricultural University using the Python Machine Learning and Data Visualization techniques for the data analysis of three types of experiments conducted in Latin Square Design (LSD), Split Plot Design and Strip Plot Design which are requirement specific, unique, user friendly with the important features of descriptive auto conclusion and auto data visualization.

Table 6.4.97 Ph.D.: Awards/recognition received by faculty members (Department of Agricultural Statistics)

Sr. No.	Name of Faculty	Name of Award	Authority	Year
1.	A.P. Prajapati, Dr. D.V. Patel & Dr. M.S. Shitap	Patent on "A System and Method for Agricultural Research Data Analysis"	The Office of the Controller General of Patents, Designs & Trade Marks (CGPDTM), Kolkata (Patent Application No. 202521066495 was filed on 11/07/2025 and published in "The Patent Office Journal N0.31, Dated 01/08/2025 Page: 74118, No. of Pages-27)	2025

Table 6.4.98 Ph.D.: Awards received by PG degree students (Department of Agricultural Statistics)

Sr. No.	Name of Student	Name of Award	Year
1.	Devra Sneh Jayantibhai	Outstanding Master's Thesis Award in 6th International Conference on Advances in Agriculture Technology and Allied Sciences organized by SARSD, New Delhi	2022-23

Table 6.4.99 Ph.D.: Year-wise NET qualified PG/Ph.D. Students in Agricultural Statistics

Sr. No.	Year	No. of students qualified NET
1.	2022-23 (ASRB NET)	01
2.	2023-24 (UGC NET)	01
	Total	02

Table 6.4.100 Ph.D.: Research publications of faculty Members (Department of Agricultural Statistics)

Sr. No.	Particular	Number of publications during last five years
1.	National/International Journal 6.0 and above 4.0-6.0 < 4.0	10 2 7 1
2.	Books Published/Book Chapter	2
3.	Practical Manuals	4

Table 6.4.101 Ph.D.: Seminar / workshop / symposia organized by the Department Agricultural Statistics during 2020-21 to 2025-26

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2022-23				
1.	TIPS and TRICKS to succeed in ICAR AIEEA (PG) for Statistical Sciences	17/03/2023 to 18/03/2023	College of Agriculture, JAU, Junagadh	50

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2024-25				
2.	Demonstration-cum-Training on JOSARDA	13/03/2025	College of Agriculture, JAU, Junagadh	100
2025-26				
3.	Training-cum-launching workshop on JOSARDA	05/08/2025	College of Agriculture, JAU, Junagadh	210
4.	Analysis of Design of Experiments using R Software	11-12 Sep. 2025	UG Lab, Dep. of Ag. Stat., CoA, JAU, Junagadh	100

6.4.2. FACULTY STRENGTH (AS OF 31-07-2025)

The department has faculty members who undertake PG research and teaching activities to such an extent that all the discipline, across the faculties at the university, mandatorily include one faculty member from Agricultural Statistics as a member/minor guide of the thesis advisory committee of their master's and doctoral students.

Table 6.4.102 Ph.D.: Details of faculty strength (Agricultural Statistics)

Sr. No	Sanctioned Faculty for PG	Faculty in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Professor	01*	00	Not recommended by ICAR	01
2.	Associate Professor	00	02		02
3.	Assistant Professor	03* (02+01#)	00		02
	Total	04	02		05

Note:
* Faculty assigned for both teaching and research works
#Faculty member appointed at College of Agriculture, JAU, Morbi, but undertakes teaching and research at the department

1.4.3 TECHNICAL /SUPPORTING STAFF (AS OF 31-07-2025)

Table 6.4.103 Ph.D.: Details of technical/supporting staff strength as of 31.07.2025 (Department of Agricultural Statistics)

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Recommended by ICAR	Staff sanctioned by the GoG
1.	Technical/Supporting staff	01+01*	03	Not recommended by ICAR	04
2.	Administrative staff	00	00		00
	Total	01	03		04

* Pooled from other departments

6.4.4. CLASSROOMS AND LABORATORIES

Table 6.4.104 Ph.D.: Classroom infrastructure in the department

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Agricultural Statistics					
1.	PG Classroom	68.00	56	Theory and practical classes of the courses related to the discipline	2 AC, 1 Projector, computer with Internet/Wi-Fi
2.	Digital Classroom	45.00	55	Seminar, workshop and teaching	Smart Board, Projector, 2 AC and computer with internet

Table 6.4.105 Ph.D.: Departmental PG laboratories established (As of 31-07-2025)

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Agricultural Statistics					
1.	UG/PG Computer Laboratory	81	50	This laboratory also useful to the PG Students for training on Data Analysis & use of other software like JOSARDA, R Studio & Python	50 computer systems, 6 AC, Computer furniture, software required for practical work, Internet and LAN, Intranet & Projector
2.	PG Computer Laboratory	35	20	Statistical Analysis Work	20 computer systems, 2 AC, Computer furniture, statistical software (BASICA, MICROSTAT, SPAR 1, SPSS, R studio, Python) Internet and LAN, Intranet
3.	Hardware & Network Laboratory	24	10	Demonstration of computer hardware and network devices	Hardware and networking devices and parts for demonstration, Optical Fiber Network, Internet and LAN, Intranet

Ph.D. lab

UG/PG Lab

Interface of JOSARDA, an open-access expert system for data analysis developed by the Department of Agricultural Statistics, CoA, JAU, Junagadh (www.josarda.jau.in)

Table 6.4.106* Ph.D.: *List of major equipment/facilities available in the Department of Agricultural Statistics

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
1.	Hardware & Network Lab	Diesel Generator 15 KVA	1	3.85
		Online UPS 10 KVA	1	1.60
2.	UG Computer Lab	Computer System	50	21.22
3.	PG Computer Lab	Computer System	20	8.30
4.	Hardware & Network Laboratory	1. All in One desktop	2	4.25
		2. All in One (Print/Scan/Xerox)	1	
		3. Color laser Jet printer	1	
		4. OMR Scanner	1	
		5. Digitizing tablet	1	
		6. Network devices	1	
		7. Multifunction digital copier	1	

Major equipment available in the department	
Diesel Generator 15 KVA	Online UPS 10 KVA
Multifunction digital copier	Color laser Jet printer

Table 6.4.107 **Ph.D.**: *Theory and practical batches for the PG program (AY 2024-25)*

Sr. No.	Name of the Degree Program	Semesters	Batch of students in theory class	Batch of students in practical class
1.	Ph.D. in Agricultural Statistics	Odd	1 (2 students)	1 (2 students)
2.		Even	1 (2 students)	1 (2 students)

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty involves in the preparation of theory notes from various books, research papers and reference books and practical manuals for each subject of degree program, which is then distributed to students free of cost to serve as a reference material.

PRACTICAL AND HANDS-ON-TRAINING

- PG laboratory is equipped with 20 desktop computers, which are available for PG students for their research and thesis work. The statistical analysis software such as SPSS, SPAR 1, MICROSTA, BASICA, Python and R, *etc.* are installed in computers for hands-on-training of PG students in statistical analysis.

6.4.6. SUPERVISION OF STUDENTS IN PG DEGREE PROGRAM

During the accreditation cycle from 2020-21 to 2024-25, the department has guided 12 master's students to complete their degree programs. Every year, at least 1-2 students take up their degree programs at the departments from other states in ICAR quota. All the students are well-guided by the advisory committee members, with a faculty member from the department serving as the major guide.

Table 6.4.108 Ph.D.*: Number of Ph.D. students supervised by faculty in the last five years in Agricultural Statistics*

Department	No. of students supervised (guided) by faculty for Ph.D. Degree	No. of qualified faculty members
Agricultural Statistics	4	3

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*) (2020-21 TO 2025-26)

- Feedback from students, parents, state representatives, farmers and industrialists are being taken from time to time. Overall, the feedback reveal that students are getting education as per academic schedule and sufficient facilities are available at hostels, mess, gym and sports ground **(Annexure 6.4.7a).**

- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per the prescribed schedule, and comprises the Deans of all faculties, nominated Professors, Research Scientists from different faculties, and renowned academicians, who discuss the feedback received from different stakeholder during the meetings. Based on the recommendations of the Board of Studies, the Academic Council takes decisions on academic matters for implementation in the University and its constituent colleges.

- ***STUDENT ADVISORY COMMITTEE:*** It comprises a four-member advisory committee, chaired by the Major Guide, with the other members drawn from the minor subject, allied subject, and statistics. The committee guides the student in selecting the research problem, seminar topics, and related academic/research activities. The members also frequently visit the experimental fields and provide necessary guidance and feedback to the students.

- ***STUDENT REPRESENTATIVE COUNCIL (SRC) AND STUDENT COUNSELLING AND PLACEMENT CELL (SCPC):*** Feedback collected with student interactions is reviewed by the committee members and appropriate measures are implemented based on the feedback received.

- ***JOSARDA SOFTWARE FEEDBACK:*** During the training-cum-Launching Workshop on JOSARDA (JAU Online System for Agricultural Research Data Analysis), totally 203 feedback forms were received from the end users. The highlights of the reviews of the users are given below:

- **Usefulness of JOSARDA:** Majority of respondents (almost 100%) agreed that JOSARDA will be useful for agricultural researchers.
- **Alignment with Needs:** Majority of respondents (almost 100%) felt that the features of JOSARDA matched their research requirements.
- **Effectiveness in Tasks:** All respondents confirmed that JOSARDA performs its intended tasks effectively.
- **Intention to Use:** More than 99.5% of participants are either already using or plan to use JOSARDA in their research.
- **Recommendation:** Majority of respondents (almost 100%) of respondents indicated they would recommend JOSARDA to others.
- **Average rating:** Overall Experience 4.8/5, User Interface & Design 4.7/5.

➢ ***FACULTY GROUP OF SUBJECTS:*** The Faculty Group Meeting (FGM) of Social Science group is held once a year wherein the social science discipline, including Agricultural Extension Education, present their teaching and research progress of the previous year before the house consisting of Hon'ble Vice Chancellor, Director of Research, Principal and Dean, and other University Officers. The Ph. D. students are also made to present their thesis research objectives in this meeting.

➢ The details of the FGMs of Social Science Science group conducted during the last five years are as follows:

*Table 6.4.*109 Ph.D.: *Year-wise Faculty Group of Subject Meetings of Social Science*

Sr. No.	Year	Convener	Dignitaries remaining present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	Suggestions received from concerned FGS meeting; corresponding action taken report are submitted as ***Annexure 6.4.7b***
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal and Dean	
4.	2023-24	Professor and Head	Director of Research and Dean PG Studies, Registrar, Director of Extension Education, Associate Director of Research and Principal and Dean	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research and Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal and Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR LAST FIVE YEARS

Table 6.4.110 Ph.D.: *Details of student intake and attrition in the last five years*

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
Ph.D. in Agricultural Statistics	2020-21	01	01	00
	2021-22	01	00	00
	2022-23	01	00	00
	2023-24	02	02	00
	2024-25	01	01	00
	2025-26	01	01	00

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

1. The students are taught by power point presentations and audio-visual aids, including video during lectures and practical.
2. The statistical analysis software such as SPSS, SPAR 1, BASICA, MICROSTA, Python and R etc. are installed in Some of computer systems for hands on training of PG students for the work of statistical analysis.
3. In PG computer laboratory, 20 computer systems areequipped with internet, intranet and LAN facilities, which are useful to the PG students for the preparation of thesis, seminar, research papers and assignments.
4. Crop simulation open-source software such as Wofost, CropSys, CropWat are also installed in PG laboratory for their research work as well as hands on training.
5. Digital classroom is equipped with smart board, audio-visual aids and video conferencing facility, which are utilized by students.
6. Digital class room, UG and PG computer laboratories are under vigilance of CCTV IP camera which can be accessed through online software by privileged authorities.
7. JOSARDA, the department's very own statistical expert system for data analysis, is also being widely used by all the PG students in the university across the disciplines of crop production, crop protection, natural resource management, *etc.*

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Date: 31.01.2026
Place: Junagadh

Annexure 6.4.7a

Postgraduate students' feedback report for AY 2024-25

Department of Agricultural Statistics, CoA, JAU, Junagadh (n = 10)	
Particulars	**Average Score**
Departmental Teaching - Learning Process	
1. How do you rate Student- Teacher relations?	3.7
2. How do you rate for completion of courses by the teachers?	3.5
3. How do you rate fairness in internal assessment in the department?	3.6
4. How do you rate practical exposure from the department?	3.8
5. How do you rate for statical analysis facility provided by the department	3.5
6. Did teachers motivate /support you for solving your personal problems	3.4
P.G. Research facility	
1. How do you rate for your selection of research topic?	3.8
2. Did you get enough facilities for conducting experiment?	3.4
3. How do you rate material provided for conducting experiment?	3.5
4. How do you rate major guide for supporting in completion of seminar and thesis projects?	3.2
Library facilities	
1. Books related to your subject are available in the library	3.6
2. Internet facilities for learning and research purpose	3.5
3. Availability of research journals (online /offline) for review purpose	3.3
4. How do you rate the delivery of books system at the University Library?	3.1
Hostel Facility	
1. How do you rate Hostel facilities?	3.0
2. How do you rate Wi-Fi facility?	3.1
3. How do you rate for food quality in mess?	3.2
4. How do you rate cleanliness in the hostel?	3.3
Sports Facility	
1. How do you rate indoor sports facility?	3.3
2. How do you rate outdoor sports facility?	3.4

Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	**3**	**2**	**1**

Annexure 6.4.7b

Feedback received in the Faculty Group Meetings of Social Science

Sr. No.	Year	Convener	Delegates	Feedback received
1.	2020-21	Professor and Head, Deptt. of Agril. Statistics	Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• The research topics of P.G. students should give on impact assessment of different technology. • Increase the visits of central library. • The work loads of all Extension Education faculties of JAU should consider in presentation. • The department should come forward to initiate the efforts for commencing JAU Research Journal.
2.	2021-22		Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• Ensure on-time submission of synopsis of in-service students. • Include the number of students who discontinued the study within parentheses in the space allotted for 'Failed Students' under respective courses. • Mention the total contact hours of each faculty along with their semester-wise workload. • Tabulate placement details of the graduated students. • Add a feedback section on faculty teaching as received from the students.
3.	2022-23		Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• Follow specific format of FGSS while preparing the report. • As suggested in 8th FGSS meeting, give due weightage to the journey time in direct contact hours while calculating workload of the teachers undertaking UG courses at CoA, Khapat. • Add placement and students feedback section in the report. • Ensure correcting errors before presenting the report.
4.	2023-24		Hon'ble Vice Chancellor, Director of Research, Registrar and	• Present the strengthening of the department in terms of current year requirements. • Incorporate all the extension activities carried out by the department, including

Sr. No.	Year	Convener	Delegates	Feedback received
			Principal	the department's contributions in facilitating the exposure visits of the school students. • Furnish the budget head for the projects mentioned. • Include the h-index and i-10 index of the faculty members along with their total citations.
5.	2024-25		Hon'ble Vice Chancellor, Director of Research, Registrar and Principal	• Include the activities/works of all the extension scientists working at the DEE office, Principal office, Polytechnics, and other unit heads. • Use the proper terminology of 'left' instead of 'cancelled' for students who discontinued their degree programs.

Action taken:

All the suggestions given in the form of feedback in the respective Faculty Group of Subject Meetings of Social Sciences during the accreditation cycle, from 2020-21 to 2024-25, are implemented by the Department of Agricultural Statistics from time to time.

6.4:

Self-Study Report for Ph.D. in Genetics and Plant Breeding

6.4. SELF-STUDY REPORT FOR PH.D. IN GENETICS AND PLANT BREEDING AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PH.D. DEGREE PROGRAM

- The Department of Genetics and Plant Breeding (formerly known as Agricultural Botany) was established along with the College of Agriculture, Junagadh in 1960.
- Initially, the activities of the department were restricted to teaching mainly with a limited staff only up to the level of Assistant Professor.
- The work in the department got momentum and diversified into Teaching, Research and Extension activities from 1964, which led to the introduction of PG and doctoral degree programs as well.

Department of Genetics and Plant Breding, College of Agriculture, JAU, Junagadh

STEPPING-STONES OF THE DEPARTMENT

- Establishment of a post-graduation degree programme for Genetics and Plant Breeding and Plant Physiology disciplines, sheltered under the umbrella of 'Agricultural Botany' which was commenced at the College of Agriculture, Junagadh of Gujarat Agricultural University, during the academic year 1964.
- The work got momentum and diversified into Teaching, Research and Extension activities from 1967 and strengthen after establishment of GAU in 1972.
- The research programs were intensified with the sanction of the Botanical Research Schemes aimed at the development of three Botanical Gardens namely, *Motibaug, Paritalav and Laldhori*.
- The pPlan Research scheme entitled "Department of Plant Physiology, Tissue Culture and Biotechnology" came into existence in the year 1997-98.
- The department of Seed Science & Technology came into existence in the year 2007-08, however the same was separated and become functional as a separate department from 2012.
- GSBTM scheme entitled "Use of molecular markers in testing genetic purity of dwarf and tall coconut population at Mangrol and Mahuva" came into existence during the year 2017-18 to 2018-19, which contributed to the strengthening of molecular research facilities for genetic purity testing in coconut on a massive scale.

- RKVY scheme entitled "Commercial exploitation of date palm through tissue culture at botany, J.A.U., Junagadh" came into existence during the year 2019-20 to 2021-22, which helped to strengthen PTC with good facilities and initiated the standardization of date palm protocol for benefit of the farmers.

MISSION, GOALS AND OBJECTIVES

MISSION:

The Department of Genetics and Plant Breeding is committed to provide excellence, innovation and effectiveness in PG degree programme, research and transfer of technology in the field of Genetics and Plant Breeding and Plant Physiology for the benefit of farmers.

GOALS:

The goal of the Department of Genetics and Plant Breeding is to develop quality human resources in the field of Genetics and Plant Breeding and Plant Physiology with award of PG Degree that will lead to managerial excellence through quality higher education and research with socio-cultural sensitivity, ethical responsibility and concern for environment with aspirations of the farming community in particular.

OBJECTIVES:

1. To provide the intellectually and trained human resource for the public and private sector to develop the strategies of agricultural crops breeding and development of varieties/hybrids suitable to climate change, biotic and abiotic stresses, better quality and productivity to meet the demands and requirements of the farmers and consumers.
2. To conduct applied research in the field of Genetics and Plant Breeding and Plant Physiology taking care of basic and translational biotechnology and fosters interactions and collaboration among faculties, researchers, seed industries and farmers.
3. To conserve plant biodiversity of Medicinal and Aromatic plants.
4. To develop, implement and evaluate the curriculum of Genetic and Plant Breeding and Plant Physiology with a strong commitment to be aligned and comply with the national standards both offline and online under Covid-19 pandemic situation.

ACCOMPLISHMENTS/ ACHIEVEMENTS OF THE LAST FIVE YEARS

EXTERNAL FUNDED PROJECTS IN THE DEPARTMENT OF GENETICS & PLANT BREEDING *(AS OF 31-07-2025)*

Sr. No.	Title of the Project (Budget Head)	Period of project	Total Amount Sanctioned (In Rupees)
2020-21			
1.	Evaluation of Bio efficiency and phytotoxicity of Humesol on growth, yield and quality of cotton **(B. H. 18802-04)**	2 years	5,18,140/-

Sr. No.	Title of the Project (Budget Head)	Period of project	Total Amount Sanctioned (In Rupees)
2.	Commercial exploitation of date palm through tissue culture at botany, J.A.U., Junagadh under RKVY **(B. H. 1824741)**	2 years	36,89,000/-
2021-22			
3.	Evaluation of Bio XGR on growth and yield para of cumin (Budget Head: 18802-06)	1 year	4,38,600/-
4.	Evaluation of Rapi Granule on growth, yield and quality and crop safety parameter of cumin **(Budget Head: 18802-07)**	1 year	4,03,300/-
2022-23			
5.	Evaluation of humesol for growth and yield parameter of soyabean **(Budget Head: 18802-08)**	1 year	4,56,700/-
6.	Evaluation of biovita XL for growth and yield parameter of soyabean **(Budget Head: 18802-09)**	1 year	4,56,700/-
7.	Evaluation of biovita XL for growth and yield parameter of cotton **(Budget Head: 18802-10)**	1 year	4,28,400/-
8.	Evaluation of biovita XGr for growth and yield parameter of cotton **(Budget Head: 18802-11)**	1 year	4,46,500/-
9.	Evaluation of biovita XL for growth and yield parameter of tomato **(Budget Head: 18802-12)**	1 year	4,23,600/-
10.	Evaluation of humesol for growth and yield parameter of cumin at botany **(Budget Head: 18802-13)**	1 year	4,99,000/-
2024-25			
11.	Tissue culture technology, Micropropagation of important crop of Saurashtra Regions **(B. H. 2260-07)**	1 year	31,00,000/-

RECOMMENDATIONS FROM THE DEPARTMENT OF GENETICS AND PLANT BREEDING FOR FARMERS

Sr. No.	Recommendation
2022-23	
1.	**Title: Assessment of best practices for storage of turmeric planting material** **Farmers Recommendation:** The farmers of South Saurashtra agroclimatic zone growing turmeric are recommended to store the rhizomes of turmeric from their produce to be used as planting material in next season should be stored in soil pit storage as it showed maximum germination per cent with minimum loss in weight and more number of healthy rhizomes

Sr. No.	Recommendation
2023-24	
2.	**Propagation of a rare and medicinally important declining shrub species Agnimantha (*Premna serratifolia* L.) by hardwood cuttings** **Recommendation for Nurseryman:** The nurserymen of Gujarat are recommended to use plant growth regulator either IBA @ 450 ppm (73.33 % sprouting) or IAA @ 450 ppm (70.67 % sprouting) [*i.e.* 450 mg in one litre water] for 15 minutes dipping for better propagation in hardwood cuttings of Agnimantha (*Premna serratifolia* L.)

RECOMMENDATIONS FROM THE DEPARTMENT OF GENETICS AND PLANT BREEDING FOR SCIENTIFIC COMMUNITY

Sr. No.	Recommendation
2020-21	
1.	**Application of brassinolide to mitigate saline stress during germination and growth period in chickpea** It is recommended to scientific community that pre-soaking of chickpea seed with 0.25 ppm brassinolide (B_2) for 2 hrs before sowing helps to mitigate salinity stress up to 6.0 dS/m with 50 % yield reduction as compared to control.
2.	**Micropropagation in Kankoda (*Momordica dioica* Roxb.)** **For micro-propagation of Kankoda, the following protocol is used** 1. **Surface sterilization:** Internodal explant of kankoda to be used after surface sterilization with carbendazim for 30 minutes followed by 0.1 % Mercuric chloride treatment for 15 minutes and washed with sterilized distilled water for four to five times for removing traces of the chemicals. 2. **Shoot multiplication:** Low concentration of kinetin (MS + K1) is effective for getting early shoot initiation and maximum number of shoots. 3. **In-vitro rooting:** Half strength MS media supplemented with high concentration of IBA (IBA3) is effective for getting early root initiation. **Hardening:** A pot mixture of soil: sand (1: 1 volume basis) is effective for getting 60-65% and 90-95% survival rate of plantlets for primary and secondary hardening, respectively under greenhouse condition.
2024-25	
3.	**Synchronization of flowering in parental lines of released hybrids of pearl millet *viz.*, GHB 1129 and GHB 1225** The scientists involved in hybrid seed production of pearl millet are informed that to avoid staggered planting of parental lines of hybrid GHB 1129, apply foliar spray of 2 % Urea to female line (ICMA 99222) at boot leaf stage along with recommended dose of fertilizers for getting higher hybrid seed yield. In case of hybrid GHB 1225, to

Sr. No.	Recommendation
	avoid staggered planting apply foliar spray of 2 % DAP to female line (ICMA 98222) at boot leaf Stage along with recommended dose of fertilizers for getting higher hybrid seed yield.
4.	**Effect of different storage temperature on pollen viability of coconut cv. Green Dwarf** The pollen grains of coconut var. Green Dwarf can be stored up to 303 days with good viability at -40⁰ C temperature, 272 days with good viability at -20 ⁰C temperature, 226 days with good viability at 50 % RH in Desiccators at room temperature 194 days with good viability at -4°C temperature and 135 days with good viability at room temperature.

Table 6.4.111 Ph.D.: Awards/recognition received by faculty members (Department of Genetics and Plant Breeding)

Sr. No.	Name of Faculty	Name of Award	Authority	Year
1.	Dr. D. R. Mehta	Reviewer Excellence Award	Journal of Experimental Agricultural International	2020-21
2.	Dr. R. J. Patel	Best Thesis Award	Gujarat Society of Genetics and Plant Breeding, SDAU, Sardarkrushinagar	2021-22
3.	Dr. L. J. Raval	Bharat Shiksha Gaurav Purashkar	KTK Outstanding Achievers and Education Foundation	2022-23
4.	Dr. H. B. Limbani	Thesis Award	Society for Scientific Development in Agriculture and Technology	2022-23
5.	Dr. H. B. Limbani	Best Poster Presentation	Aastha Foundation, Meerut	2022-23
6.	Dr. D. R. Mehta	Reviewer Excellence Award	Indian Journal of Agricultural Research	2023-24
7.	Dr. D. R. Mehta	Reviewer Excellence Award	International Journal of Agricultural Science	2023-24
8.	Dr. D. R. Mehta	Certificate of contribution	Content Creator Unit-III (Principles of Quantitative Genetics)	2023-24
9.	Dr. D. R. Mehta	Certificate of contribution	Content Creator Unit-IV (Principles of Quantitative Genetics)	2023-24
10.	Dr. D. R. Mehta	Certificate of contribution	Unit Reviewer (Unit-III) Principles of Cytogenetics	2023-24
11.	Dr. D. R. Mehta	Certificate of contribution	Course Reviewer (Intellectual Property Rights)	2023-24
12.	Dr. D. R. Mehta	Certificate of contribution	Unit Reviewer (Unit-II) Principles of Quantitative Genetics	2023-24
13.	Dr. K. V. Rathava	Thesis Award	Society for Scientific Development in Agriculture and Technology	2023-24
14.	Dr. T. H. Borkhatariya	Best Oral Presentation	ICTPAIRS (International Conference, JAU, Junagadh)	2024-25

Table 6.4.112 Ph.D.: Awards received by PG degree students (Department of Genetics and Plant Breeding)

Sr. No.	Name of Student	Name of Award	Year
1.	Ms. Vora Zarna Narendrabhai	Chancellor's Gold Medal for Doctoral Degree	2020-21
2.		Dr. A.V. Barad's Late Parents Smt. Amarba and Shri Virsangbhai Barad Memorial Gold Plated Silver Medal	

Table 6.4.113 Ph.D.: Year-wise NET qualified PG/Ph.D. students in Genetics and Plant Breeding

Sr. No.	Year	No. of students qualified NET
1.	2020-21	ICAR ASRB-NET not conducted
2.	2021-22	11
3.	2022-23	10
4.	2023-24	ICAR ASRB-NET not conducted
5.	2024-25	1 (CSIR NET)
	Total	**22**

Table 6.4.114 Ph.D.: Research publications of faculty Members (Department of Genetics and Plant Breeding)

Sr. No.	Particular	Number of publications during Last Five Years
1.	National/International Journal 6.0 and above 4.0-6.0 < 4.0	294 62 210 22
2.	Books Published/Book Chapter	15
3.	Practical Manuals	07

Table 6.4.115 Ph.D.: Seminar / workshop / symposia organized by the Department Genetics and Plant Breeding during 2020-21 to 2025-26

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2020-21				
1.	Online Vocational Training Programme on "Recent trends in Crop Improvement"	15/02/2021 to 19/02/2021	IT Cell, JAU, Junagadh	314
2021-22				
2.	Training Programme on "Commercial Plant Tissue Culture as Business Entrepreneurship"	26/10/2021 to 31/10/2021	Department of Genetics and Plant Breeding, COA, JAU., Junagadh	50
3.	One Day workshop on "Commercial Exploitation of Date Palm through Tissue Culture"	24/08/2021	Department of Genetics and Plant Breeding, COA, JAU., Junagadh	>50 farmers
2022-23				
4.	Training Programme on "Medicinal and Aromatic Plants: Opportunities for New Startup"	12/09/2022 to 16/09/2022	Department of Genetics and Plant Breeding,	53
5.	Exhibition on different Geographical Indications (GI) of India	22/09/2022	Conference Hall. CoA, JAU, Junagadh	>500 (Students and Faculties)
6.	Training Programme on "Recent Advances in Vegetable Breeding"	20/02/2023 to 24/02/2023	Department of Genetics and Plant Breeding,	50

6.4.2. FACULTY STRENGTH (AS OF 31-07-2025)

Table 6.4.116 Ph.D.: Details of faculty strength (Genetics & Plant Breeding)

Sr. No	Sanctioned Faculty for PG	Faculty in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Professor	01	00	Not recommended by ICAR	01
2.	Associate Professor	02+01*	01		04
3.	Assistant Professor	05+03*	03		08
	Total	**08+04***	**04**		**13**

* Faculty assigned with both teaching and research duties.

6.4.3 TECHNICAL /SUPPORTING STAFF (AS OF 31-07-2025)

Table 6.4.117 Ph.D.: Details of technical/supporting staff strength as of 31.07.2025 (Department of Genetics and Plant Breeding)

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Recommended by ICAR	Staff sanctioned by the GoG
1.	Technical/Supporting staff	05+01*	01	-	07
2.	Administrative staff	01	02	-	03
	Total	**06+01***	**03**	**-**	**10**

* Pooled from other departments

6.4.4. CLASSROOMS AND LABORATORIES

Table 6.4.118 Ph.D.: Classroom infrastructure in the department

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Genetics and Plant Breeding					
1.	Seminar Hall	111.02	54	Teaching	PG

PG Classroom

PG Classroom

Table 6.4.119 Ph.D.: Departmental PG laboratories established (As of 31-07-2025)

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
1.	Bio-Tech -1 (Instrumentation Room)	37.08	10	For PG and UG Practical	PG Research and Practical
2.	Bio-Tech-2 (Preparation room)	55.66	10	For PG and UG Practical	PG Research and Practical
3.	Plant Tissue Culture	110.83	20	For Tissue- culture Research and	PG Research

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
	-1 (Media preparation room)			Banana micro-Propagation	and Practical
4.	Plant Tissue Culture -2 (Inoculation I)	12.74	2	For Inoculation of explant	PG Research and Practical
5.	Plant Tissue Culture -2 (Inoculation II)	13.80	3	For Inoculation of explant	PG Research and Practical
6.	Plant Tissue Culture -2 (Inoculation III)	35.70	4	For Inoculation of explant	PG Research and Practical
7.	Plant Tissue Culture -2 (Inoculation IV)	22.38	2	For Inoculation of explant	PG Research and Practical
8.	Plant Tissue Culture -2 (Culture Room I)	33.34	---	For Incubation of culture	PG Research and Practical
9.	Plant Tissue Culture -2 (Culture Room II)	81.00	---	For Incubation of culture	PG Research and Practical
10.	Plant Tissue Culture -3 (Autoclave Room cum washing room)	37.08	---	For Autoclaving media and glassware washing	PG Research and Practical

Bio-Tech -1 (Instrumentation Room)

Bio-Tech-2 (Preparation Room)

Plant Tissue Culture -1
(Media Preparation Room)

Plant Tissue Culture -2
(Inoculation)

Plant Tissue Culture -2
(Culture Room)

Plant Tissue Culture -3
(Autoclave Room)

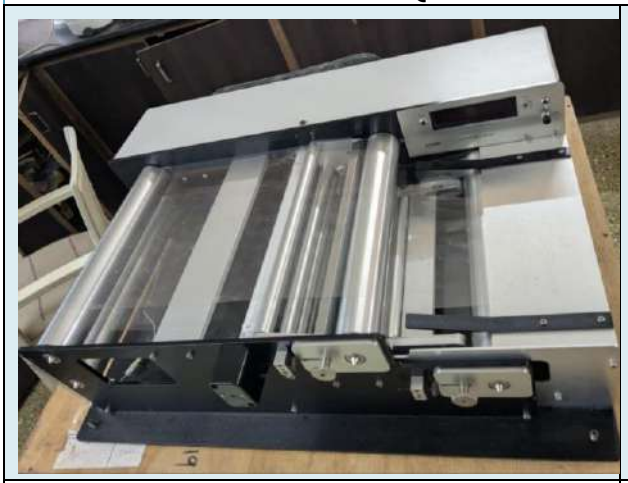
Table 6.4.120 Ph.D.: List of major equipment available in the Department of Genetics and Plant Breeding

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
Genetics and Plant Breeding and Plant Physiology				
1.	*Bio-Tech-1*	EZ-lyzer (Tissue- Lyzer)	1	4.49
2.		UPS with Battery rack	1 unit	1.03
3.		Leaf area meter	1	12.85
4.		Centrifuge Incl Rotor 5418000.017	1 unit	1.08
5.		Cryo cane	1	1.09
6.		Spectro photometer Model: UV1800	1	3.89

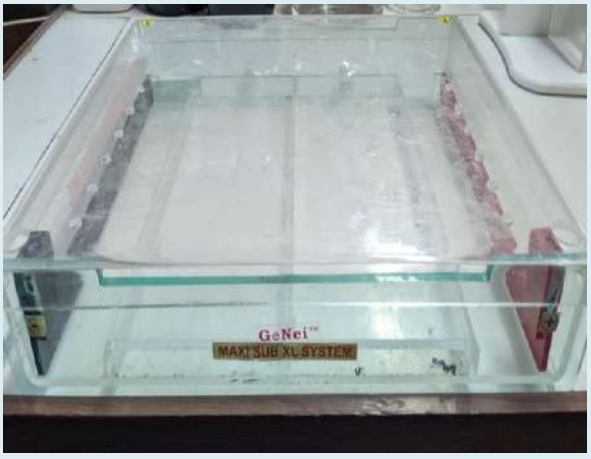
Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
7.		Refrigerated Centrifuge	1	6.00
8.		Hybridization chamber	1	5.45
9.	*Bio-Tech-2*	Maxi -2-D system (electrophoresis unit	1 unit	1.09
10.		Electrical analytical balance	1	1.05
11.		Genetic Analyzer	1	8.75
12.		Chlorophyll /SPADMETER	1	1.89
13.		Ulter Deep Freezer GEL Germany make chest Freezer model-6384	1	7.48
14.		Nano-Drop (spectrophotometer)	1	4.30
15.		Orbital Shaker incubator	1	1.10
16.		Refrigerated Laboratory Centrifuge Model-MPW-65	1	2.20
17.		Table Top High Speed Colling centrifuge Model-C-24-BL	1 unit	1.07
18.		Plant Growth Chamber	1	2.03
19.		Maxi submarin system with power supply	1 unit	1.37
20.		UPS with Battery rack	1 unit	1.03
21.		Seed Germinator	1	1.20
22.		LCD display orbital shaking incubator	1	1.90
23.		Seed germinator	1	1.49
24.	*Plant Tissue-Culture -1*	Telescopic Binocular	1	1.63
25.		Electronic balance	1	1.18
26.		Environmental shaker	1	1.13
27.		Peristaltic pump	1	2.71
28.		SHIMADZU Electronic Weighing Scale	1	1.69
29.		IMOS stereo microscope trinocular	1	1.21
30.	*Plant Tissue-Culture -2*	Laminar Air Flow cabinet (Horizontal)	3	3.72
31.		Laminar Flow unit (Horizontal)	4	5.00
32.		Air Handling Unit with Auxiliary (AHU)	1	12.25
33.		Canon 30MP DSLR	1	1.22
34.		Creative lab world vertical air flow cabinet	1	1.71

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
35.	*Plant Tissue-Culture -3 (Autoclave Room)*	Horizontal Cylindrical Steam Sterilizer (Autoclave)	1	12.59
36.		Autoclave self-top loading	1	2.69
37.		Autoclave vertical	2	2.70
38.	*Green house*	Generator set	1	2.46
39.		Generator (Harison 62.5 KVA, Three phase	1	4.97
40.	*Seminar Hall*	LG Professional large format display	1	3.40

MAJOR EQUIPMENT AVAILABLE IN The DEPARTMENT



Name of equipment: Leaf area meter



Name of equipment: Maxi Submarin electrophoresis System

Name of equipment: Hybridization chamber

Name of equipment: Nano-Drop Spectrophotometer

Name of equipment: Binocular Microscope	Name of equipment: Gel Document System
Name of equipment: Chlorophyll/SPADMETER	Name of equipment: Genetic Analyzer
Name of equipment: Spectrophotometer Model: UV 1800	Name of equipment: Refrigerated Laboratory Centrifuge Model: MPW-65

Name of equipment: Orbital shaker incubator	Name of equipment: Plant Growth Chamber
Name of equipment: Autoclave self-top loading	Name of equipment: Horizontal Laminar Air Flow Cabinates
Name of equipment: EZ-lyzer (Tissue Lyser)	Name of equipment: Refrigerated Centrifuge

Table 6.4.121 Ph.D.: Farm facilities at Department of Genetics and Plant Breeding

Sr. No.	Name of Farm/ Cafeteria	Area (hectare)	No. of Experiments continue		Details of activities
			Departmental	Students	
Genetics and Plant Breeding					
1.	Botanical Garden Motibaug	12-62-63	03	Research work of PG students of department of Genetics and Plant Breeding was carried out at Instructional Farm as well as concerned Research Stations of JAU, Junagadh	PG Degree students frequently visited all the three gardens for conservation of plant biodiversity and identification of plant and morphological and taxonomical studies.
2.	Botanical Garden Paritalav	12-16-00	01		
3.	Botanical Garden Laldhori	12-60-60	00		
4.	Botanical Garden Dudheshwar	03-40-94	00		Conservation of Plant Biodiversity in both gardens

Botanical Garden, Motibaug

Botanical Garden, Paritalav

Botanical Garden, Laldhori

PG research work of GPB students at Research Station and Departmental Laboratory

Table 6.4.122 Ph.D.: Theory and practical batches for Ph.D. program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semesters	Batch of students in theory class	Batch of students in practical class
1.	Ph.D. in Genetics and Plant Breeding	Odd	1 (10 students)	1 (10 students)
2.		Even	1 (10 students)	1 (10 students)

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty prepares theory lectures from standard review articles and related books and practical manuals for each subject of PG Degree program and distributed to students free of cost. The same material is uploaded to university website also.

PRACTICAL AND HANDS-ON-TRAINING

- Following practical manuals have been prepared by the concerned course teachers and distributed to the PG students for practical exposure.

Sr. No.	Course Code	Course Title
1.	GPB 602	Advances in Biometrical Genetics

6.4.6. SUPERVISION OF STUDENTS IN PG DEGREE PROGRAM

During the accreditation cycle from 2020-21 to 2024-25, the department has guided 114 master's students to complete their PG degree programs. Every year, at least 3-4 students take up their degree programs at the departments from other states in ICAR quota. All the students are well-guided by the advisory committee members, with a faculty member from the department serving as the major guide.

Field experiments of PG Degree students are conducted either on Instructional farm or on respective crop research station, while lab trials are set either in the Departments of Genetics and Plant Breeding and Seed Science and Technology or at the Department of Biotechnology.

Table 6.4.123 Ph.D.: Number of Ph.D. students supervised by faculty in the last five years in Genetics and Plant Breeding

Name of the Degree Program	No. of students supervised (guided) by faculty for PG Degree
Ph.D. in Genetics and Plant Breeding	28

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*) (2020-21 TO 2025-26)

- Feedback from students, parents, farmers and industrialists are being taken from time to time. It reveals that students are getting education as per academic schedule and sufficient facilities are available at hostels, mess, gym., sport ground. Wi-fi are being provided to PG Degree students. Parents who visited hostels college and department are quietly satisfied with the existing facilities. The famers of the surrounding villages, whenever meet the students at department are excited to discuss their problems with staff and PG Degree students and get satisfaction. Staff and PG Degree student participated in rigorously "*krishimahotsav*", a state government flagship programme. PG students' feedback report of the department is given in Appendix ***6.4.7a***.
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per schedule wherein, Deans of all faculties, nominated Professors and Research Scientists of different faculties and renowned academicians are members. Based on the Board of Study recommendation, the Academic Council takes the decision on academic matter for implementation in the university/college.
- ***STUDENT ADVISORY COMMITTEE:*** It is framed in the college in which four to five students are allotted to each faculty. More than 20 faculties of Genetics and Plant Breeding involved as major guide, minor guide as well as committee member. They frequently discuss the educational problems as well as the hostel related problems and authorities are implementing accordingly.
- ***STUDENT REPRESENTATIVE COUNCIL:*** It is working in the college and frequently discussing the teaching and learning process with students, getting their feedback and implementing accordingly. The following faculty members have been contributing to sports and its related activities of the SRC through leadership in various domains:

Sr. No.	Name of Faculty	Designation	Engagement in different activities as SRC member since last five years
1.	Dr. D. R. Mehta	Professor and Head	Literary
2.	Dr. L. J. Raval	Professor	Cultural programs, literary competitions, women's athletics and volleyball
3.	Dr. G. U. Kulkarni	Professor	Chess competition
4.	Dr. S. B. Chaudhari	Assistant Res. Scientist	Kho-kho and athletics
5.	Dr. Rajiv Kumar	Associate Professor	Badminton
6.	Dr. M. H. Sapovadiya	Associate Res. Scientist	Cricket tournament

Through their dedicated involvement, the SRC plays a vital role in fostering student engagement, leadership, and holistic development on campus.

- ***FACULTY GROUP OF SUBJECTS:*** The board of studies for Crop Improvement groups of subjects meets under the convenorship of Professor and Head, Dept. of Genetics and Plant Breeding every year. The meeting is also attended by Hon'ble Vice Chancellor, Director of Research, Registrar and Principal.
- ***PG BOARD OF STUDIES:*** The Faculty Research Committee operates at the faculty level and is responsible for evaluating and guiding the research proposals and progress of both faculty members and research scholars. It comprises senior professors, subject matter experts, and representatives from related departments. The committee ensures that research work aligns with the academic and ethical standards of the university. Recommendations made by the FRC are forwarded to the Board of Studies or Academic Council for further consideration and approval.

Table 6.4.124 Ph.D.: Faculty Group of Subject Meetings of Crop Improvement

Sr. No.	Year	Convener	Dignitaries remaining present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	Suggestions received from concerned FGS meeting; corresponding action taken report are submitted in ***Annexure 6.4.7b***.
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal and Dean	
4.	2023-24	Professor and Head	Director of Research and Dean PG Studies, Registrar, Director of Extension Education, Associate Director of Research and Principal and Dean	

Sr. No.	Year	Convener	Dignitaries remaining present	Suggestions received
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research and Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal and Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR THE LAST FIVE YEARS

Table 6.4.125 Ph.D.: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
Ph.D. In Genetics and Plant Breeding	2020-21	6	6	00.00
	2021-22	7	5+2*	00.00
	2022-23	5	4+1*	00.00
	2023-24	6	3+3*	00.00
	2024-25	11	4+5*	18.18

Note: *In-service Ph.D. candidates

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

All postgraduate (PG) correspondences—such as the Plan of Work, Synopsis, Programme of Research, and submission of all PG-related forms—are carried out through the JAU Examination Management System (JEMS). Approvals from the Major Guide, members of the Advisory Committee, Head of the Department, Principal, Dean (PGS), and Registrar are also obtained online through JEMS, thereby ensuring a completely paperless process. Teaching is conducted using PowerPoint presentations and whiteboards. The courses are also taught in online mode through various platforms such as Google Classroom and Zoom. These platforms are used to deliver online lectures and to conduct final viva-voce examinations of the students. Besides, the other popular ICT tools utilized at the department are as follows:

1. **CeRA and other online e-resources: CeRA** is the ICAR Consortium of e-resources in Agriculture. This covers more than 3000 scholarly journals pertaining to the agriculture and allied sciences which are available in full text.
2. **E-books:** The University Library has access to Springer e-books covering nearly 2500 books in virtual format with full text availability and at a time 25 users can open an e-book. In addition, library has access to 200 Indian e-books, which are fully utilized by both departmental faculty members and students for reference and use.
3. **Krishikosh:** *Krishikosh* is database of theses contributed by all agriculture universities and ICAR institutions. The JAU is an active member for *Krishikosh* and all the theses submitted to the JAU are being uploaded regularly. The students also keep a track on the theses available at this portal for identifying research gaps.

4. **Internet:** Digital library with computers and internet facility is available and used by the PG Degree students. Wi-fi Internet facility is also provided at all the hostels which is available for all the time.
5. All the classrooms and laboratories are under vigilance of CCTV camera which is under direct monitoring of Professor and Head of the Department of Genetics and Plant Breeding.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: 31.01.2026
Place: Junagadh

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Annexure 6.4.7a

Postgraduate students' feedback report for AY 2024-25

Department of Genetics and Plant Breeding			
No of Respondent: 23			
Particulars:			**Score**
Departmental Teaching - Learning Process			
1. How do you rate Student- Teacher relations?			3.8
2. How do you rate for completion of courses by the teachers?			3.6
3. How do you rate fairness in internal assessment in the department?			3.9
4. How do you rate practical exposure from the department?			3.3
5. How do you rate for statistical analysis facility provided by the department			3.8
6. Did teachers motivate /support you for solving your personal problems			3.7
P.G. Research facility			
1. How do you rate for your selection of research topic?			3.9
2. Did you get enough facilities for conducting experiment?			3.7
3. How do you rate material provided for conducting experiment?			3.7
4. How do you rate for major Guide for supporting in completion of Seminar and thesis project			3.9
Library facilities			
1. Books related to your subject are available in the library?			3.7
2. Internet facilities for learning and research purpose?			3.5
3. Availability of research journals (online /offline) for review purpose?			3.6
4. How do you rate for delivery of books system?			3.6
Hostel Facility			
1. How do you rate Hostel facilities?			3.2
2. How do you rate wi-fi facility?			3.2
3. How do you rate for food quality in mess?			2.8
4. How do you rate cleanliness in the hostel?			2.8
Sports facility			
1. How do you rate indoor sports facility?			3.5
2. How do you rate outdoor sports facility?			3.7
Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	3	2	1

Annexure 6.4.7b

Feedback received in the Faculty Group Meetings of Crop Improvement

Action Taken report of 6th Faculty Group of Crop Improvement meeting held during 27th November, 2020 at Seminar Hall, Department of Genetics and Plant Breeding, College of Agriculture, JAU, Junagadh.

Sr. No.	Suggestions	Action Taken
6.1	The students of UG and PG studies should be encouraged for competitive examinations as well as they are encouraged to achieve different teaching /research fellowships. **(Action: Dept of GPB and SST, CoA, JAU, Junagadh)**	The students of UG and PG students were encouraged for various competitive examinations as well as they were encouraged to achieve different teaching/research fellowship including SHODH.
6.2	Practical Manuals of different subjects should be sent (SAU's of Gujarat and other states, research scientists and colleagues etc.) to review the content and try to get the good remarks. **(Action: Dept of GPB and SST, CoA, JAU, Junagadh)**	Complimentary copy of two practical manuals had been sent to Professor and Head Dept. of GPB of different SAU's of Gujarat.
6.3	Take the review of last year ELP students regarding Online Learning by creating the Google Form. **(Action: Dept of GPB and SST, CoA, JAU, Junagadh)**	Good review had been received from last year ELP students regarding online learning but many students were interested to prefer offline mode
6.4	PG research problem should be fixed by considering the vision-2050 demand. **(Action: All Major Guide of Dept. of GPB and SST, JAU, Junagadh)**	Due to the COVID-19 Pandemic situation most of the students have taken experiment on variability parameters in different crops. While formulating PG research programme of newly admitted students, the themes and sub-points of vision-2050 will be taken into consideration
6.5	PG research work of PG students should be highlighted at ICAR level for the different National/International awards. **(Action: All Major Guide of Dept. of GPB and SST, JAU, Junagadh)**	PG students of both departments were encouraged for national/International awards related to PG research
6.6	Departmental research, departmental research papers, PG thesis and PG research papers should be used and cited while writing new research papers for raising the citation and H-index of the individuals. **(Action: All Major Guide of Dept. of GPB and SST, JAU, Junagadh)**	All the major guide and PG students informed regarding inclusion of review/ references of local recommendation or JAU research related to concerned crop in the thesis and cited while writing research papers.
6.7	Research Paper should be published in good NAAS rated journals. If journal doesn't have NAAS rating look for impact factor of the journal. **(Action: All Major Guide of Dept. of GPB and SST, JAU, Junagadh)**	All the major guide and PG students informed to publish the papers in good NAAS rated journals.
6.8	The subject materials for UG students updated regularly on AIMS portal. **(Action: Dept of GPB, CoA, JAU, Junagadh)**	The subject materials for UG students were uploaded in AIMS portal as well as circulate among students via Google Classroom in each semester by the concerned course teacher
6.9	Identify the Endangered species based on Red Data Book Review and deposit the seeds of the species available in our area in the NBPGR. **(Action: Dept of GPB, CoA, JAU, Junagadh)**	The planting material of many endangered species collected from different region of Gujarat and conserve the same in the different garden of the department. The

Sr. No.	Suggestions	Action Taken
		seed of the collected species will be deposit in the NBPGR after proper establishment of the species.

APPENDIX-I (B)

Action Taken report of 7th Faculty Group of Crop Improvement meeting held during 1st December, 2021 at Seminar Hall, Department of Genetics and Plant Breeding, College of Agriculture, JAU, Junagadh.

<table>
<tr><th>Sr. No.</th><th>Suggestions</th><th>Action Taken</th></tr>
<tr><td>7.1</td><td>Need to promote the students to take research works in horticultural crops and to strengthen the breeding of fruit, flower and vegetable crops.
(Action: All major guide)</td><td>During last seminar series most of the PG students delivered the seminar related to fruit crop breeding and few students also allotted research works in the vegetable crops. However, Ph. D. student of floriculture has initiated worked in breeding aspects on flower crops.</td></tr>
<tr><td>7.2</td><td>Make more efforts for standardization of plant tissue culture protocol in coconut. To complete the task, take help or make MoU with CPCRI,
Kasaragod scientists.
(Action: HOD, Dept of GPB, COA, JAU, Junagadh)</td><td>With view for standardization of plant tissue culture protocol in coconut, Dr. Rajiv Kumar attended the ICC-COGENT Tissue Culture workshop related to coconut tissue culture at Kasaragod which was organized by CPCRI during 16 -20 May, 2022.</td></tr>
<tr><td>7.3</td><td>Experiments of PG students may be taken on targeted plant breeding work using genetic engineering tools, marker assisted breeding etc.
(Action: All major guides)</td><td>Ph. D. students of department of GPB had initiated their research works on genetic engineering tools, QTL Mapping and GWAS etc.</td></tr>
<tr><td>7.4</td><td>Send the faculty members for training according to expertise require in the department.
(Action: HOD, Dept of GPB and SST COA, JAU, Junagadh)</td><td>The following trainings were attended by the faculties during 2022:
<table>
<tr><th>Name of Faculty</th><th>Time period</th><th>Institute/ Organization</th><th>Title of training/workshop</th></tr>
<tr><td>Dr. Rajiv Kumar</td><td>16/05/22 to 20/05/22</td><td>CPCRI, Kasargod</td><td>ICC-COGENT Tissue Culture workshop</td></tr>
<tr><td>Dr. S. B. Chaudhari</td><td rowspan="3">18/01/22 to 07/02/22</td><td rowspan="3">SDAU, S. K. Nagar</td><td rowspan="3">Conservation and utilization of potential crops in the era of climate changes</td></tr>
<tr><td>Dr. M. H. Sapovadiya</td></tr>
<tr><td>Shri. H. R. Meta</td></tr>
<tr><td rowspan="2">Dr. C. A. Babariya</td><td>08/06/22 to 10/06/22</td><td>EEI, AAU, Anand and JAU, Junagadh</td><td>Success story writing skills for print & electronic media</td></tr>
<tr><td>21/03/22 to 26/03/22</td><td>ICAR-NBPGR, Regional Station, Thrissur</td><td>Plant Taxonomy for Plant Genetic Resources Management</td></tr>
<tr><td>Dr. L. J.</td><td>26/12/2</td><td>EEI,</td><td>Presentation</td></tr>
</table></td></tr>
</table>

Sr. No.	Suggestions	Action Taken
		Raval | 2 to 31/12/22 | AAU, Anand | skills for professional excellence
7.5	Every faculty should give their H index; I 10 index and total number of citations include in the proforma. **(Action: All major guides)**	Noted and included in 8th FG of CI report.
7.6	There is need to organize production technique related training for banana growers to promote its cultivation in collaboration with other disciplines at Fruit Research Station, JAU, Mangrol. **(Action: HOD, Dept of GPB, COA, JAU, Junagadh and Assistant Res. Scientist, FRS, JAU, Mangrol)**	The training programme for banana growers is not organized at FRS Mangrol. Besides, while banana farmers visited Dept of GPB for purchase of sapling and awareness and production technologies guidance is given to the farmers on personal contact and on mobile basis.
7.7	Every faculty should try to publish their research in reputed journals. **(Action: All major guides)**	All the major guide and PG students informed to publish the papers in good NAAS rated journals and many faculties and PG students of GPB had published research articles in reputed journals.

APPENDIX-I (C)

Action Taken report of 8th Faculty Group of Crop Improvement meeting held during 30th January, 2023 at Seminar Hall, Department of Genetics and Plant Breeding, College of Agriculture, JAU, Junagadh

Sr. No.	Suggestions	Action Taken
8.1	To promote awareness among farmers about Banana Tissue Culture plantlet selling at Department of Genetics and Plant breeding, Junagadh Agricultural University, the department of GPB should give the advertisement in *FM Janvani* radio and display the advertisement on our university website. **(Action: HoD, Dept. of GPB, CoA, JAU, Junagadh)**	Advertisement regarding selling of Banana Tissue Culture plantlet was display on JAU website.
8.2	Very good photographs that are present in power point presentation of faculty group of subjects should also be included in hard copy of report. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	Photographs are included in the report and presentation by both the departments.
8.3	Faculty group report of Crop Improvement should include teaching load of all the courses taught and TV/ Radio talk delivered by each faculty members. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	Teaching load of all the courses taught and TV/ Radio talk delivered by each faculty members are included in report.
8.4	List of external thesis Examiners/Evaluators/Experts in the Junagadh Agricultural University of both the disciplines should be revised. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	List of external thesis Examiners/Evaluators/Expert revised and also send to the Principal and Dean CoA, JAU, Junagadh.
8.5	Add information regarding total citation and last five-year citation, h-index and i-10 index etc. in the faculty group report for each member of Crop Improvement. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	Total citation, last five-year citation, h-index and i-10 index are included in the report and presentation by both the departments.
8.6	Give the details regarding status (in Rs) of revolving fund generated in the department. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	All income generated by the department in various B.H. including revolving funds budgets is included in the report and presentation.
8.7	Deposit seeds of important/ endangered plant species (Eg.: *Striga*, Milching Palm, Local Orchids etc.) of Saurashtra area at NBPGR, New Delhi. (**Action: HoD, Dept. of GPB, CoA, JAU, Junagadh**)	Collection of propagating material of several tree/plant species made and planted at Paritalav as well as at family

Sr. No.	Suggestions	Action Taken
		block of Motibaug botanical garden. The seed of endangered plant species will be collected, identified and deposited to NBPGR, New Delhi.
8.8	Motivate the students for JRF/ SRF examination/preparation and arrange additional classes JRF/SRF classes in the department. (**Action: HoD, Dept. of GPB, CoA, JAU, Junagadh**)	Noted and implemented. Last year 10 students cleared ASRB/CSIR NET exam.
8.9	Aware the students about different scholarships like PM Scholarship, SHODH etc. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	Noted and implemented. Most of the Ph. D. students getting the SHODH fellowship or other fellowship.
8.10	Courses related to Seed Science and Technology subject [UG (GPB 4.4 (2+1)) and polytechnic (GPB 6.4 (0+2)] should be offered and taught from next year by the faculty of Seed Science and Technology. (**Action: HoD, Dept. of SST, CoA, JAU, Junagadh**)	GPB 4.4 (2+1) is offered to Dr. Jyoti R. Sondarva (theory) and Shri. D. V. Savaliya (practical) combinely and polytechnic course GPB 6.4 (0+2) is offered to Dr. V. R. Akabari, Asstt. Res. Scientist, MORS, JAU, Junagadh.
8.11	PG students should promote to work in Biotechnology Laboratory of department of Genetics and Plant Breeding. (**Action: HoD, Dept. of GPB, CoA, JAU, Junagadh**)	Few M. Sc. and most of Ph. D. students doing their molecular work in Biotechnology Laboratory of department of Genetics and Plant Breeding

APPENDIX-I (D)

Action Taken report of 9th Faculty Group of Crop Improvement meeting held during 8th February, 2024 at Seminar Hall, Department of Genetics and Plant Breeding, College of Agriculture, JAU, Junagadh

Sr. No	Suggestions	Action Taken
9.1	The result of supplementary courses should be placed below the result of regular courses in the report and ppt presentation. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	The results of supplementary courses are placed below the result of regular courses in the report and ppt presentation for better insight of results.
9.2	The practical manual published by the department for UG should be send for review to other university of SAU and outside the Gujarat. **(Action: HoD, Dept. of GPB, CoA, JAU, Junagadh)**	The preparation of new practical manuals as per the 6th Dean's committee report are under progress and will send for review to other universities of SAU's and out side the Gujarat.
9.3	The PG student admitted year should be incorporated in the table of PG student progress. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	The PG student admitted year is mention in the report and ppt presentation.
9.4	Include the PG placement data in the report if available. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	The PG placement data is incorporated in the report and ppt presentation.
9.5	Deposit seeds of important and rare plant/tree species of Saurashtra area at NBPGR, New Delhi. **(Action: HoD, Dept. of GPB, CoA, JAU, Junagadh)**	The process of identification and collection of seeds of important and rare plants/trees species is under way and once confirmed, the seeds will be deposited in the NBPGR.
9.6	The PG students feed-back report should be included in the report. **(Action: HoD, Dept. of SST, CoA, JAU, Junagadh)**	The PG students feedback report is incorporated in the report and ppt presentation.
9.7	The Ph.D. students securing various scholarship should be involved in teaching activities of UG courses.	The Ph. D. students of GPB and SST department receiving various

Sr. No	Suggestions	Action Taken
	(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)	scholarship are already involved in UG/Polytechnic teaching activities whenever needed or when teachers are on leaves.

APPENDIX-I (E)

Action Taken Report of 10th Faculty Group Subject (FGS) of Crop Improvement Meeting held on 9th January, 2025 at Seminar Hall, Department of Genetics and Plant Breeding, College of Agriculture, J.A.U., Junagadh

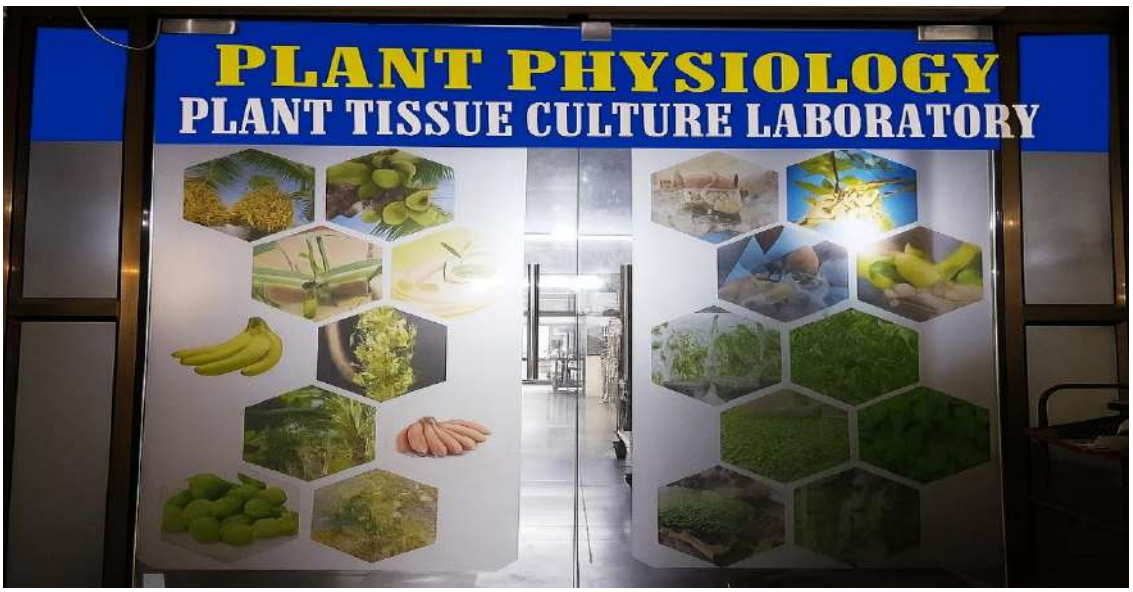
Sr. No.	Proceeding Suggestions	Action taken
10.1	Research fellows and supporting staff under the ad-hoc scheme should be included in the staff position in report. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	No any research fellow/supporting staff under ad-hoc schemes in both the departments (GPB and SST).
10.2	Encourage UG and PG students for JRF and SRF/NET examination and the classes for should be conducted in both the department. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	UG and PG students are encouraged for JRF/SRF/NET and Mock Test for NET Exam was conducted in GPB on 29.08.2025 and JRF/SRF classes to be taken in near future by both the departments (GPB and SST).
10.3	Encourage PG students and faculty to publish their research in reputed journals with a high NASS rating or impact factor. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	PG students and new faculty are encouraged to publish their research in reputed journals and during 2024-25, two research paper were published in *Plant Science Today* with NASS rating of 6.9 by Dept. of SST.
10.4	Include the information of strengthening the department in the report. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	Information included in report by both the departments (GPB and SST).
10.5	Provide a list of books purchased by the library following departmental recommendations. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	Information included in report by both the departments (GPB and SST).
10.6	Instead of complete synopsis presentation of Ph. D students, their research progress along with good quality photographs should be presented. **(Action: All the members of FGS of CI, JAU, Junagadh)**	Noted. Four Ph.D. students of GPB will present their synopsis with research progress and photographs. In Dept. of SST, no any student has to present his/her Ph. D. synopsis this year.
10.7	The teachers involved in polytechnic/UG/PG teaching if any should submit their teaching information to respective departments. **(Action: All the members of FGS of CI, JAU, Junagadh)**	Information included in report by both the departments (GPB and SST).
10.8	The teachers/scientists should give their extension activities in detail (Radio talk/TV talk/popular lectures, popular article, activities in *Krishi Mela* and *Krishi Mahotsv* etc.) in the report. **(Action: All the members of FGS of CI, JAU, Junagadh)**	Information included in report by both the departments (GPB and SST).

6.4:
Self-Study Report
for Ph.D.
in Plant Physiology

6.4. SELF-STUDY REPORT FOR PH.D. IN PLANT PHYSIOLOGY AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PH.D. DEGREE PROGRAM

- The Department of Plant Physiology (formerly known as Agricultural Botany) was established along with the College of Agriculture, Junagadh in the year 1960.
- Initially, the activities of the department were restricted to teaching mainly with a limited staff only up to the level of Assistant Professor.
- The work in the department got momentum and diversified into Teaching, Research and Extension activities from 1967.



Department of Plant Physiology, College of Agriculture, JAU, Junagadh

STEPPING-STONES OF THE DEPARTMENT

- Establishment of a post-graduation degree programme for Plant Physiology discipline, sheltered under the umbrella of 'Agricultural Botany' which was commenced at the College of Agriculture, Junagadh of Gujarat Agricultural University, during the academic year 1964.
- The work got momentum and diversified into Teaching, Research and Extension activities from 1967 and strengthened post Gujarat Agricultural University in 1972.
- The research programs were intensified with the sanction of the Botanical Research Schemes aimed at the development of three Botanical Gardens namely, *Motibaug, Paritalav and Laldhori*.
- The Plan Research scheme entitled "Department of Plant Physiology, Tissue Culture and Biotechnology" came into existence in the year 1997-98.
- GSBTM scheme entitled "Use of molecular markers in testing genetic purity of dwarf and tall coconut population at Mangrol and Mahuva" during the year 2017-18 to 2018-19, strengthened molecular research facilities for genetic purity testing in coconut.
- RKVY scheme entitled "Commercial exploitation of date palm through tissue culture at botany, J.A.U., Junagadh" came into existence during the year 2019-20 to 2021-22, which helps to strengthen PTC with good facilities and initiated the standardization of date palm protocol for benefit of the farmers.

MISSION, GOALS AND OBJECTIVES:

MISSION:

The department of Plant Physiology is committed to provide excellence, innovation and effectiveness in PG degree programme, research and transfer of technology in the field of Genetics and Plant Breeding and Plant Physiology for the benefit of farmers.

GOALS:

Goal of department of Plant Physiology is to develop quality human resources in the field of Plant Physiology with award of PG Degree that will lead to managerial excellence through quality higher education and research with socio-cultural sensitivity, ethical responsibility and concern for environment with aspirations of the farming community in particular.

OBJECTIVES:

1. To provide the intellectually and trained human resource for the public and private sector to develop the strategies of agricultural crop physiology and development of varieties/hybrids suitable to climate change, biotic and abiotic stresses, better quality and productivity to meet the demands and requirements of the farmers and consumers.
2. To conduct applied research in the field of Plant Physiology taking care of basic and translational biotechnology and fosters interactions and collaboration among faculties, researchers, seed industries and farmers.
3. To conserve plant biodiversity of Medicinal and Aromatic plants.
4. To develop, implement and evaluate the curriculum of Plant Physiology with a strong commitment to be aligned and comply with the national standards both offline and online under Covid-19 pandemic situation.

ACCOMPLISHMENTS/ ACHIEVEMENTS OF THE LAST FIVE YEARS

EXTERNAL FUNDED PROJECTS IN THE DEPARTMENTS OF GENETICS AND PLANT BREEDING AND PLANT PHYSIOLOGY *(AS OF 31-07-2025)*

Sr. No.	Title of the Project (Budget Head)	Period of project	Total Amount Sanctioned (In Rupees)
2020-21			
1.	Evaluation of Bio efficiency and phytotoxicity of Humesol on growth, yield and quality of cotton **(B. H. 18802-04)**	2 years	5,18,140/-
2.	Commercial exploitation of date palm through tissue culture at botany, J.A.U., Junagadh under RKVY **(B. H. 1824741)**	2 years	36,89,000/-
2021-22			
3.	Evaluation of Bio XGR on growth and yield para of cumin (Budget Head: 18802-06)	1 year	4,38,600/-
4.	Evaluation of Rapi Granule on growth, yield and quality and crop safety parameter of cumin **(Budget Head: 18802-07)**	1 year	4,03,300/-

2022-23			
5.	Evaluation of humesol for growth and yield parameter of soyabean **(Budget Head: 18802-08**)	1 year	4,56,700/-
6.	Evaluation of biovita XL for growth and yield parameter of soyabean **(Budget Head: 18802-09)**	1 year	4,56,700/-
7.	Evaluation of biovita XL for growth and yield parameter of cotton **(Budget Head: 18802-10)**	1 year	4,28,400/-
8.	Evaluation of biovita XGr for growth and yield parameter of cotton **(Budget Head: 18802-11)**	1 year	4,46,500/-
9.	Evaluation of biovita XL for growth and yield parameter of tomato **(Budget Head: 18802-12)**	1 year	4,23,600/-
10.	Evaluation of humesol for growth and yield parameter of cumin at botany **(Budget Head: 18802-13)**	1 year	4,99,000/-
2024-25			
11.	Tissue culture technology, Micropropagation of important crop of Saurashtra Regions **(B. H. 2260-07)**	1 year	31,00,000/-

RECOMMENDATIONS FROM THE DEPARTMENT OF PLANT PHYSIOLOGY FOR FARMERS

Sr. No.	Recommendation
2023-24	
1.	**Propagation of a rare and medicinally important declining shrub species Agnimantha (*Premna serratifolia* L.) by hardwood cuttings** **Recommendation for Nurseryman:** The nurserymen of Gujarat are recommended to use plant growth regulator either IBA @ 450 ppm (73.33 % sprouting) or IAA @ 450 ppm (70.67 % sprouting) [*i.e.* 450 mg in one litre water] for 15 minutes dipping for better propagation in hardwood cuttings of Agnimantha (*Premna serratifolia* L.)

RECOMMENDATIONS FROM THE DEPARTMENT OF PLANT PHYSIOLOGY FOR THE SCIENTIFIC COMMUNITY

Sr. No.	Recommendation
2020-21	
1.	**Application of brassinolide to mitigate saline stress during germination and growth period in chickpea** It is recommended to scientific community that pre-soaking of chickpea seed with 0.25 ppm brassinolide (B_2) for 2 hrs before sowing helps to mitigate salinity stress up to 6.0 dS/m with 50 % yield reduction as compared to control.

Sr. No.	Recommendation
2.	**Micropropagation in Kankoda (*Momordica dioica* Roxb.)** **For micro-propagation of Kankoda, the following protocol is used** 1. **Surface sterilization:** Internodal explant of kankoda to be used after surface sterilization with carbendazim for 30 minutes followed by 0.1 % Mercuric chloride treatment for 15 minutes and washed with sterilized distilled water for four to five times for removing traces of the chemicals. 2. **Shoot multiplication:** Low concentration of kinetin (MS + K1) is effective for getting early shoot initiation and maximum number of shoots. 3. **In-vitro rooting:** Half strength MS media supplemented with high concentration of IBA (IBA3) is effective for getting early root initiation. **Hardening:** A pot mixture of soil: sand (1: 1 volume basis) is effective for getting 60-65% and 90-95% survival rate of plantlets for primary and secondary hardening, respectively under greenhouse condition.

Table 6.4.126 Ph.D.: Year-wise NET qualified PG/Ph.D. students in Plant Physiology

Sr. No.	Year	No. of students qualified NET
1.	2020-21	Not conducted ICAR NET
2.	2021-22	1
3.	2022-23	1
4.	2023-24	Not conducted ICAR NET
5.	2024-25	Not conducted ICAR NET
	Total	**2**

Table 6.4.127 Ph.D.: Research publications of faculty members in Plant Physiology

Sr. No.	Particular	Number of publications during Last Five Years
1.	National/International Journal	41
	6.0 and above	07
	4.0-6.0	12
	< 4.0	22
2.	Books Published/Book Chapter	15
3.	Practical Manuals	03

Table 6.4.128 Ph.D.: Seminar / workshop / symposia organized by the Department Plant Physiology during 2020-21 to 2025-26

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2021-22				
1.	Training Programme on "Commercial Plant Tissue Culture as Business Entrepreneurship"	26/10/2021 to 31/10/2021	Department of Genetics and Plant Breeding, CoA, JAU., Junagadh	50
2.	One Day workshop on "Commercial Exploitation of Date Palm through Tissue Culture"	24/08/2021	Department of Genetics and Plant Breeding, CoA, JAU., Junagadh	>50 farmers

6.4.2. FACULTY STRENGTH AS OF 31-07-2025

PLANT PHYSIOLOGY

Table 6.4.129 Ph.D.: Details of faculty strength (Department of Plant Physiology)

Sr. No.	Sanctioned Faculty for PG	Faculty in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Professor	00	00	Not recommended by ICAR	-
2.	Associate Professor	00	00		-
3.	Assistant Professor*	00	01		01
	Total	00	01		01

* Faculty assigned as for both Teaching and Research mandates.

6.4.3 TECHNICAL /SUPPORTING STAFF AS OF 31/07/2025

Table 6.4.130 PG: Details of faculty strength (Department of Plant Physiology)

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Recommended by ICAR	Staff sanctioned by the GoG
1.	Technical/Supporting staff	-	-	Not recommended by ICAR	-
2.	Administrative staff	-	-		-
	Total	-	-		-

6.4.4. CLASSROOMS AND LABORATORIES

Table 6.4.131 Ph.D.: Classroom infrastructure in the department

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Genetics & Plant Breeding and Plant Physiology					
1.	Seminar Hall	111.02	54	Teaching	PG

PG Classroom

PG Classroom

Table 6.4.132 Ph.D.*: Departmental PG laboratories established (As of 31-07-2025)*

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Department of Plant Physiology					
1.	Plant Physiology	55.66	10	For PG and UG Practical	PG Research and Practical
2.	Plant Tissue Culture -1 (Media preparation room)	110.83	20	For Tissue-culture Research and Banana micro-Propagation	PG Research and Practical
3.	Plant Tissue Culture -2 (Inoculation I)	12.74	2	For Inoculation of explant	PG Research and Practical
4.	Plant Tissue Culture -2 (Inoculation II)	13.80	3	For Inoculation of explant	PG Research and Practical
5.	Plant Tissue Culture -2 (Inoculation III)	35.70	4	For Inoculation of explant	PG Research and Practical
6.	Plant Tissue Culture -2 (Inoculation IV)	22.38	2	For Inoculation of explant	PG Research and Practical

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
7.	Plant Tissue Culture -2 (Culture Room I)	33.34	---	For Incubation of culture	PG Research and Practical
8.	Plant Tissue Culture -2 (Culture Room II)	81.00	---	For Incubation of culture	PG Research and Practical
9.	Plant Tissue Culture -3 (Autoclave Room cum washing room)	37.08	---	For Autoclaving media and glassware washing	PG Research and Practical

Plant Physiology

Plant Physiology

Plant Tissue Culture -1
(Explant Preparation)

Plant Tissue Culture -2
(Media Preparation Room)

Plant Tissue Culture -2
(Inoculation Room)

Plant Tissue Culture -3
(Culture Room)

Plant Tissue Culture -4
(Autoclave Room)

Plant Tissue Culture -5
(Cleanig Room)

Table 6.4.133 Ph.D.: *List of major equipment available for* Ph.D. *research*

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in lakh)
Genetics and Plant Breeding and Plant Physiology				
1.	*Plant Physiology*	Seed Germinator	1	1.20
2.		UPS with Battery rack	1 unit	1.03
3.		Leaf area meter	1	12.85
4.		Centrifuge Incl Rotor 5418000.017	1 unit	1.08
5.		Plant Growth Chamber	1	2.03
6.		Spectro photometer Model:UV1800	1	3.89
7.		Refrigerated Centrifuge	1	6.00
8.		Chlorophyll /SPADMETER	1	1.89

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in lakh)
9.	*Plant Tissue-Culture -1*	Telescopic Binocular	1	1.63
10.		Electronic balance	1	1.18
11.		Environmental shaker	1	1.13
12.		Peristaltic pump	1	2.71
13.		SHIMADZU Electronic Weighing Scale	1	1.69
14.		IMOS stereo microscope trinocular	1	1.21
15.	*Plant Tissue-Culture -2*	Laminar Air Flow cabinet (Horizontal)	3	3.72
16.		Laminar Flow unit (Horizontal)	4	5.00
17.		Air Handling Unit with Auxiliary (AHU)	1	12.25
18.		Canon 30MP DSLR	1	1.22
19.		Creative lab world vertical air flow cabinet	1	1.71
20.	*Plant Tissue-Culture -3 (Autoclave Room)*	Horizontal Cylindrical Steam Sterilizer (Autoclave)	1	12.59
21.		Autoclave self-top loading	1	2.69
22.		Autoclave vertical	2	2.70
23.	*Green house*	Generator set	1	2.46
24.		Generator (Harison 62.5 KVA, Three phase	1	4.97
25.	*Seminar Hall*	LG Professional large format display	1	3.40

MAJOR EQIPMENT AVAILABLE FOR PG RESEARCH

Name of equipment: Leaf area meter

Name of equipment: Spectrophotometer Model: UV 1800

Name of equipment: Binocular Microscope

Name of equipment: Refrigerated Laboratory Centrifuge Model: MPW-65

Name of equipment: Autoclave self-top loading

Name of equipment: Plant Growth Chamber

Name of equipment: EZ-lyzer (Tissue Lyser)

Name of equipment: Refrigerated Centrifuge

Table 6.4.134 **Ph.D.:** *Farm facilities at the Department of Plant Physiology*

Sr. No.	Name of Farm/ Cafeteria	Area (hectare)	No. of Experiments continue		Details of activities
			Departmental	Students	
Genetics and Plant Breeding and Plant Physiology					
1.	Botanical Garden Motibaug	12-62-63	03	Research work of PG students of department of Genetics and Plant Breeding was carried out at Instructional Farm as well as concerned Research Stations of Junagadh Agricultural University.	PG Degree students frequently visited all the three gardens for conservation of plant biodiversity and identification of plant and morphological and taxonomical studies.
2.	Botanical Garden Paritalav	12-16-00	01		
3.	Botanical Garden Laldhori	12-60-60	00		
4.	Botanical Garden Dudheshwar	03-40-94	00		Conservation of Plant Biodiversity in both gardens

Botanical Garden, Motibaug

Botanical Garden, Paritalav

Botanical Garden, Laldhori

PG research work of Plant Physiology students at Res. Station and Dept. Laboratory

Table 6.4.135 **Ph.D.:** *Theory and practical batches for Ph.D. degree (AY 2024-25)*

Sr. No.	Name of the Degree Program	Semesters	Batch of students in theory class	Batch of students in practical class
1.	Ph.D. in Plant Physiology	Odd	One	One
2.		Even	One	One

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty prepares theory lectures from standard review articles and related books and practical manuals for each subject of PG Degree program and distributes to the students free of cost to serve as reference materials. The same material is uploaded to the university website for use.

PRACTICAL AND HANDS-ON-TRAINING

- The following practical manuals are prepared by the concerned course teachesr and distributed to the PG students for practical exposure.

Sr. No.	Course No.	Credit	Course Title
1.	PP 501	2+1	Principles of Plant Physiology-I: Plant Water Relations and Mineral Nutrition
2.	PP 502	2+1	Principles of Plant Physiology-II: Metabolic Processes and Growth Regulation
3.	PP 503	2+1	Plant Developmental Biology: Physiological and Molecular Basis
4.	PP 504	2+1	Physiological and Molecular Responses of Plants to Abiotic Stresses
5.	PP 505	2+1	Hormonal Regulation of Plant Growth and Development
6.	PP 510	2+1	Seed Physiology

6.4.6. SUPERVISION OF STUDENTS IN PG PROGRAMME

During the accreditation cycle from 2020-21 to 2024-25, the department has guided nine master's students to complete their PG degree programs. All the students are well-guided by the advisory committee members, with a faculty member from the department serving as the major guide. Field experiments of PG Degree students are conducted either on Instructional farm or on respective crop research station, while lab trials are set either in the Departments of Genetics and Plant Breeding and Seed Science and Technology or at the Department of Biotechnology.

Table 6.4.136 **Ph.D.:** *Number of Ph.D. students supervised by faculty in the last five years in Plant Physiology*

Department	No. of students supervised (guided) by faculty for Ph.D. Degree	No. of qualified faculty members
Plant Physiology	-	02

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS *ETC.*):

- Feedback from students, parents, farmers and industrialists are being taken from time to time. It reveals that students are getting education as per academic schedule and sufficient facilities are available at hostels, mess, gym, sport ground. Wi-fi facilities are available to all PG degree students. Parents who visited hostels college and department are satisfied with the existing facilities. The famers of the surrounding villages, also discuss their problems with staff and PG degree students. Staff and PG Degree student participate in "*krishimahotsav*", the state government flagship programme. PG students feedback report is given in Appendix ***6.4.7a***.
- ***STUDENT REPRESENTATIVE COUNCIL (SRC):*** SRC members frequently discuss the educational problems as well as the hostel related problems with the students, and the feedback is shared with the authorities for implementation. Through their dedicated involvement, the SRC plays a vital role in fostering student engagement, leadership, and holistic development on campus.
- ***FACULTY GROUP OF SUBJECTS:*** The meetings under the Faculty Group of Subjects for Basic Sciences are regularly conducted once in a year under the convenorship of Professor and Head, Dept. of Biotechnology every year. The meetings are also attended by Hon'ble Vice Chancellor, Director of Research, Registrar and Principal and Dean, Faculties of Agriculture, wherein the academic and research performance of the disciplines under the Basic Sciences are discussed and feedback is given for further improvement.
- ***PG BOARD OF STUDIES:*** The Faculty Research Committee operates at the faculty level and is responsible for evaluating and guiding the research proposals and progress of both faculty members and research scholars. It comprises senior professors, subject matter experts, and representatives from related departments. The committee ensures that research work aligns with the academic and ethical standards of the university. Recommendations made by the FRC are forwarded to the Board of Studies or Academic Council for further consideration and approval.
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per schedule wherein the Deans of all faculties, nominated Professors and Research Scientists of different faculties and renowned academicians serve as members. Based on the the Board of Study recommendation, the Academic Council takes the decision on academic matter for implementation in the university/college.

Table 6.4.137 PG: Year-wise Faculty Group of Subject Meetings of Basic Sciences

Sr. No.	Year	Convener	Dignitaries remaining present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	Suggestions received from concerned FGS meeting; corresponding action taken
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	

Sr. No.	Year	Convener	Dignitaries remaining present	Suggestions received
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal and Dean	report are submitted in ***Annexure 6.4.7b.***
4.	2023-24	Professor and Head	Director of Research and Dean PG Studies, Registrar, Director of Extension Education, Associate Director of Research and Principal and Dean	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research and Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal and Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR THE LAST FIVE YEARS

*Table 6.4.*138 Ph.D.*: Details of student intake and attrition in the last five years*

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
Ph.D. in Plant Physiology	2020-21	-	-	-
	2021-22	-	-	-
	2022-23	-	-	-
	2023-24	-	-	-
	2024-25	-	-	-

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

All postgraduate (PG) correspondences—such as the Plan of Work, Synopsis, Programme of Research, and submission of all PG-related forms—are carried out through the JAU Examination Management System (JEMS). Approvals from the Major Guide, members of the Advisory Committee, Head of the Department, Principal, Dean (PGS), and Registrar are also obtained online through JEMS, thereby ensuring a completely paperless process. Teaching is conducted using PowerPoint presentations and whiteboards. The courses are also taught in online mode through various platforms such as Google Classroom and Zoom. These platforms are used to deliver online lectures and to conduct final viva-voce examinations of the students. Besides, the other popular ICT tools utilized at the department are as follows:

1. **CeRA and other online e-resources: CeRA** is the ICAR Consortium of e-resources in Agriculture. This covers more than 3000 scholarly journals pertaining to the agriculture and allied sciences which are available in full text.
2. **E-books:** The University Library has access to Springer e-books covering nearly 2500 books in virtual format with full text availability and at a time 25 users can open an e-book. In addition, library has access to 200 Indian e-books, which are fully utilized by both departmental faculty members and students for reference and use.

3. **Krishikosh:** *Krishikosh* is database of theses contributed by all agriculture universities and ICAR institutions. The JAU is an active member for *Krishikosh* and all the theses submitted to the JAU are being uploaded regularly. The students also keep a track on the theses available at this portal for identifying research gaps.
4. **Internet:** Digital library with computers and internet facility is available and used by the PG Degree students. Wi-fi Internet facility is also provided at all the hostels which is available for all the time.
5. All the classrooms and laboratories are under vigilance of CCTV camera which is under direct monitoring of Professor and Head of the Department of Genetics and Plant Breeding.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: 31.01.2026
Place: Junagadh

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Annexure 6.4.7a

Postgraduate students' feedback report for AY 2024-25

Department of Plant Physiology, CoA, JAU, Junagadh			
No of Respondent: 6			
Particulars:			**Score**
Departmental Teaching - Learning Process			
1. How do you rate Student- Teacher relations?			3.2
2. How do you rate for completion of courses by the teachers?			3.3
3. How do you rate fairness in internal assessment in the department?			3.4
4. How do you rate practical exposure from the department?			3.1
5. How do you rate for statistical analysis facility provided by the department			3.5
6. Did teachers motivate /support you for solving your personal problems			3.7
P.G. Research facility			
1. How do you rate for your selection of research topic?			3.5
2. Did you get enough facilities for conducting experiment?			3.4
3. How do you rate material provided for conducting experiment?			3.3
4. How do you rate for major Guide for supporting in completion of Seminar and thesis project			3.6
Library facilities			
1. Books related to your subject are available in the library?			3.3
2. Internet facilities for learning and research purpose?			3.4
3. Availability of research journals (online /offline) for review purpose?			3.1
4. How do you rate for delivery of books system?			3.2
Hostel Facility			
1. How do you rate Hostel facilities?			3.2
2. How do you rate wi-fi facility?			3.2
3. How do you rate for food quality in mess?			3.1
4. How do you rate cleanliness in the hostel?			3.3
Sports facility			
1. How do you rate indoor sports facility?			3.5
2. How do you rate outdoor sports facility?			3.6
Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	3	2	1

Annexure 6.4.7b

Feedback received in the Faculty Group Meetings of Basic Sciences

PROCEEDING OF MEETING ON 7th FACULTY GROUP OF BASIC SCIENCE HELD ON 2nd DECEMBER, 2021 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COLLEGE OF AGRICULTURE, JAU, JUNAGADH

7.1: Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. H. P. Gajera, Professor and Head presented the action taken report of the 6th meeting of faculty group of " Basic Sciences". He has also presented teaching and research activities of Department of Biotechnology and Biochemistry. The house appreciated the presentation with following suggestions.

1. Add H-index; i10-index and No. of total citations of publications of each faculty in the presentation.
2. Arrange advanced training on analysis for PG students.

(**Action: Faculties of Department of Biotechnology and Biochemistry discipline**)

7.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Add H-index; i10-index and No. of total citations of publications of each faculty in the presentation.

(**Action: Faculties of Plant Physiology discipline**)

7.3 Department of English, JAU, CoA, JAU, Junagadh

Dr. P. I. Dave, Assistant Professor presented the activities of Library and English discipline. The house approved and appreciated.

1. Add the work load of all the English teacher of JAU, Junagadh.
2. English subject may be included in social science group of subject meeting.

(**Action: Faculties of English discipline**)

7.4 General Suggestions

Prof. (Dr.) N. K. Gontia, Chairman & Hon. Vice Chancellor, Junagadh Agricultural University gave the presidential remarks to evaluate the teaching and PG research activities of faculties of Basic Sciences group. Some of the important points are given below

1. Emphasize on importance of Basic science in agriculture in the era of climate changes.
2. Suggest to channelize the research work done by basic science up to the end users and outcome-based research.
3. Research fellows may be involved in teaching activities including practical.
4. Research papers should be published good NAAS rated journals.
5. Encourage the PG students to publish their research in reputed Journals.
6. Encourage the staff and students to apply in different prestigious awards.
7. Training/Dissertation/Project work to basic science students of other university may be initiated.

(Action: *All major guide and faculty members of FGS - Basic Sciences***)**

PROCEEDING OF 8th MEETING ON FACULTY GROUP OF SUBJECTS - BASIC SCIENCE
Venue: Seminar Hall, Department of Biotechnology, College of Agriculture, JAU, Junagadh. Date: January 27, 2023

8.1 Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. H. P. Gajera, Convener of FGS-BS and Professor & Head (Biotechnology) presented the action taken report on the proceeding of the 7th meeting of FGS-BS. The house approved the same after through discussion. He has also presented academic activities of UG and PG studies of Biotechnology and Biochemistry subjects. The house appreciated the presentation with following suggestions.

1. Job/Placement of students may be informed timely to placement cell by concern major guide.
2. Include JAU research for citation in PG thesis and research papers.

(Action: All the faculties, Department of Biotechnology and Biochemistry discipline)

8.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Information of the FGS report should be submitted strictly as per the format.
2. Job/Placement of students may be informed timely to placement cell by concern major guide.
3. Include JAU research for citation in PG thesis and research papers (Plant Physiology).

(Action: All the faculties of Plant Physiology discipline)

8.3 Department of Animal Science, CoA, JAU, Junagadh

Dr. N. K. Ribadiya, Assistant Professor and Head (Animal Sci.) presented the activities of animal science discipline. The house approved the presentation with following suggestions.

1. Information of the FGS report should be submitted strictly as per the format.

(Action: All the faculties of Animal Science discipline)

8.4 Presentation of Ph.D. Research work, Department of Biotechnology and Biochemistry, JAU, Junagadh

Two Ph.D. Students, (1) Ashwini M. N. and (2) Lakhani Komal G. presented their synopsis of Ph.D. research work. The house appreciated the presentation.

8.5 Presidential remarks

Dr. V. P. Chovatia, Chairman & Hon. Vice Chancellor, Junagadh Agricultural University gave the presidential remarks to evaluate the teaching and PG research activities of faculties of Basic Sciences group. Some of the important suggestions are given below

1. Emphasize more on Basic work related to Climate change in PG Research.
2. Encourage the PG students and faculties for published their research in reputed Journals having good NAAS rating/Impact factor.
3. Training/Dissertation/project work to basic science students of other university may be strengthen.
4. Encourage the Faculties and PG students to apply in different prestigious awards.

PROCEEDING OF MEETING ON 9th FACULTY GROUP SUBJECTS- BASIC SCIENCE, HORTICULTURE, ANIMAL SCIENCE HELD ON 25th JANUARY, 2024 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COA, JAU, JUNAGADH

8.1 Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. H. P. Gajera, Professor and Head (Biotechnology & Biochemistry) presented the action taken report of the 8th meeting FGS point wise and the house approved the same after thorough discussion. He also presented report of 9th FGS-Basic Science (BS) regarding teaching and research activities of Department of Biotechnology and Biochemistry. The house appreciated the presentation
with following suggestions.

1. Priorities should be given to cite JAU research in PG thesis writing.
2. Department wise credit hours or RAWEP should be calculate as per the norms.
3. Review the PG students progress timely

(Action: All the faculties and major guide, Department of Biotechnology and Biochemistry discipline)

8.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Use proper format of FGS.
2. Include self-citation of JAU research in PG thesis writing.

(Action: All the faculties of Plant Physiology discipline)

8.3 Department of Horticulture, CoA, JAU, Junagadh

Dr. N. D. Polara, Prof. and Head, Department of Horticulture, COA, JAU, Junagadh presented the activities of Horticulture discipline. The house appreciated the presentation with following suggestions.

1. Include self-citation of JAU research in PG thesis writing.
2. Use proper format of FGS
3. Hort 6.6 course to be transferred to PHT Department, CAET, JAU, Junagadh

(Action: Prof. and Head, Dept. of Horticulture, CoA, JAU, Junagadh)

8.4 Department of Animal Science, CoA, JAU, Junagadh

Dr. N. K. Ribadiya, Assistant Professor and Head (Animal Sci.) presented the teaching activities of animal science discipline. The house approved the presentation with following suggestion.

1. Use proper format for FGS.

(Action: Assistant Prof. and Head, Dept. of Animal Science, CoA, JAU, Junagadh)

8.5 Presentation of Ph.D. Research work, Department of Biotechnology and Biochemistry, JAU, Junagadh

Ph.D. Students, Kundan presented their synopsis of Ph. D research work. The house has appreciated the presentation and approved.

8.6 Presidential remarks

Dr. V. P. Chovatia, Chairman & Hon. Vice Chancellor, Junagadh Agricultural University gave the presidential remarks to evaluate the teaching and PG research activities of faculties of Basic Sciences and also for Horticulture and Animal Science group. He critically evaluated the teaching and research activities of each group and given

valuable suggestions to improve the education system. Some of the important points are given below

1. More emphasizeshould be given on ranking in NAAC.
2. Encourage the PG students and faculties for published their research in reputed Journals

having good NAAS rating/Impact factor along with thesis writing.

3. Encourage the staff and students to apply in different prestigious awards

PROCEEDING OF 10TH FACULTY GROUP OF BASIC SCIENCE HORTICULTURE AND ANIMAL SCIENCE HELD ON 13th JANUARY, 2025 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COLLEGE OF AGRICULTURE, JAU, JUNAGADH

10.1 Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. U. K. Kandoliya, Associate Professor presented the action taken report of the 9th meeting of faculty group of "Basic Sciences". He has also presented teaching and research activities of Department of Biotechnology and Biochemistry. The house appreciated the presentation with following suggestions.

1. The presentation must adhere strictly to the prescribed format, without including unnecessary information from previous years.
2. Research fellows and supporting staff under the ad-hoc scheme should be included in the staff position in report.
3. The list of experts for MBB and Biochemistry needs to be updated to include retired JAU experts.
4. Provide a list of books purchased by the library following departmental commendations.
5. Feedback from PG students should be collected by their respective guides and include the overall feedback in the report.

(Action: All the faculties, Department of Biotechnology and Biochemistry discipline)

10.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Collect feedback from PG students and include the general feedback in the report.

(Action: Faculty of Plant Physiology discipline)

10.3 Department of Horticulture

Dr. N. D. Polara, educational activities of Horticulture suggestions.

1. The Horticulture group from the College of Agriculture (CoA) will move to the College of made with the College of Horticulture, JAU, Junagadh.
2. Collect feedback from feedback in the report.

10.4 Department of Animal Science

Dr. N. K. Ribadiya, Assistant Professor, animal science discipline.

1. Collect feedback from feedback in the report.

10.5 Presentation of Ph.D. Research work, JAU, Junagadh

Ph. D. student Japada Ashish was approved by the house.

10.6 Presidential remarks

Dr. V. P. Chovatia, President important points are given below

1. NAAS rating or impact
2. Each faculty member should

3. knowledge in their respective subjects.
4. Motivate staff and students to apply for various prestigious award
(Action: All faculty members of FGS-Basic Sciences, Horti., Animal Sciences)

PROCEEDING OF MEETING ON 11th FACULTY GROUP OF BASIC SCIENCE AND ANIMAL SCIENCE HELD ON 12th SEPTEMBER, 2025 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COLLEGE OF AGRICULTURE, JAU, JUNAGADH
Venue: Seminar Hall, Department of Biotechnology Date: 12/09/2025

General suggestions:
11.1 All the faculty members of the group must attend the meeting.
11.2 The citation of the research papers of JAU faculties should be included in the PG research thesis and guide should check the same
11.3 All the major guide of PG students should follow the guidelines while submitting synopsis and final thesis will ensure high quality and reduce errors
11.4 Name of the registrar should be acknowledged in the PG thesis and major guide should ensure it.
11.5 Encourage the PG students and faculties for published their research in reputed Journals having good NAAS rating/Impact factor.
11.6 Every staff member has to take responsibility to improve University Ranking in various platforms/ accreditation.
11.7 Training for the staff for the updating in their subject.
(Action: All the members of Basic Science Group, JAU, Junagadh)

Action Taken:

All suggestions relevant to the Department of Plant Physiology, based on the feedback received from the esteemed members of the house who remained present in the Faculty Group of Subjects Meetings, were implemented from time to time and the concerned reports were also presented in the subsequent meetings.

6.4:
Self-Study Report for Ph.D. in Seed Science and Technology

6.4. SELF-STUDY REPORT FOR PH.D. IN SEED SCIENCE AND TECHNOLOGY AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PH.D. DEGREE PROGRAM

The Department of Seed Science and Technology was established in 2008 under the Department of Genetics and Plant Breeding, College of Agriculture, Junagadh Agricultural University (JAU), Junagadh. Subsequently, the Department of Genetics and Plant Breeding was bifurgated to form a separate Department of Seed Science and Technology at the College of Agriculture, JAU, Junagadh, as per the Office Note from the Director of Research, JAU, dated 20/06/2012, and Office Order No. JAU/Reg/A.3.1/2012 (21)/17610-84/12 dated 16/08/2012 issued by the Registrar, JAU. The department admitted its first postgraduate students in 2008, with thesis submissions beginning in 2010 and up to the academic year 2025-26, 71 postgraduate students (32 boys and 39 girls) have successfully submitted their theses in Seed Science and Technology, while eight students are currently persuing postgraduate studies during AY 2025-26. Since its inception, 15 students have qualified the NET examination and two have cleared the ARS examination in Seed Science and Technology conducted by ICAR.

Department of Seed Science and Technology, College of Agriculture, JAU, Junagadh

STEPPING-STONES OF THE DEPARTMENT

- To strengthen seed research, education, production, and distribution, the Mega Seed Project and Sagdividi Farm schemes were placed under the department's supervision with effect from 1 September 2012, and the Government of Gujarat approved the project "Establishment of Mega Seed Centre for Quality Seed Production and Distribution at Junagadh" during 2012-13 vide Government Resolution No. JKV-122011-3251-K-2 dated 13/12/2012, with the objective of promoting quality seed production and educating farmers, seed producers, and students.
- Further, the merger of AICRP on NSP (Crops) and the ICAR Seed Project into the unified "AICRP on Seed (Crops)" was approved on 30/09/2021, and Dr. J. B. Patel, Professor and Head, was appointed as Nodal Officer, with the scheme comprising STR (75:25 ICAR: State share) and QSP (100% ICAR share) components.
- The STR component along with posts was transferred from Jamnagar to Junagadh in August 2022, followed by the transfer of AICRP on BSP-NSP, Seed Technology Research B.H. 2076-2, with effect from 01/04/2023.

- Additionally, the Department of Agriculture and Farmers Welfare, Government of India, approved two Seed Hub Projects for pulses (2016-17) and groundnut (2018-19), which were implemented by the department, along with ongoing support to farmers through schemes such as RKVY-Seed Replacement Rate Enhancement, Certified Seed Production of Groundnut under NMOOP, and Financial Assistance for Certified Seed Production of pulse crops under NFSM, particularly chickpea.

MISSION, GOALS AND OBJECTIVES

MISSION:

- UG and PG teaching and research in Seed Science and Technology.
- Experiments and research work related to seed science.
- Imparting training to farmers, students, and various stakeholders associated with seed.
- To collaborate with National and International organizations dealing with seed research and education.
- Seed production and distribution of various classes of seeds of stable varieties / hybrids of various field crops.
- Enhancing quality seed availability through farmers' participation.

GOAL:

- To develop human resources in seed science and technology field and to provide quality seeds to farmers to serve the nation

OBJECTIVES:

- To provide under-graduation education leading to B. Sc. (Agriculture) degree students in seed science and technology subject
- To provide post-graduation education leading to Masters/Ph.D. degree in seed science and technology
- To educate students and development of human resources in seed science and technology to meet the national and global demands
- To introduce relevant vocational and professional courses related to seed science and technology discipline
- To assess the effect of high temperature on seed yield and quality in wheat and chickpea genotypes
- To evaluate morphological, physiological and molecular traits associated with seed vigour and longevity in different genotypes of crops of Saurashtra region
- To study the effect of different organic and inorganic products, storage containers and storage conditions on seed quality during storage in different crops of Saurashtra region
- To study the seed quality enhancement technologies for direct seeded high value low volume vegetable crops

ACCOMPLISHMENTS/ ACHIEVEMENTS OF THE LAST FIVE YEARS

EXTERNAL FUNDED PROJECTS IN THE DEPARTMENT OF SEED SCIENCE AND TECHNOLOGY (*AS OF 31-07-2025*)

2020-21

- ICAR Seed Project "Seed Production in Agricultural Crops and Fisheries"
- Seed Hub project "Creation of Seed Hubs for Increasing Indigenous Production of Pulses"
- Seed Hub project "Creation of Seed-Hubs for Enhancing Quality Seeds Availability of Major Oilseeds Crops-Groundnut"
- Certified Seed Production of Groundnut Under NMOOP
- RKVY Project "Seed Replacement Rate Enhancement"
- ELP on "Quality Seed Production in Field Crops"

2021-22

- Seed Hub project "Creation of Seed Hubs for Increasing Indigenous Production of Pulses"
- Seed Hub project "Creation of Seed-Hubs for Enhancing Quality Seeds Availability of Major Oilseeds Crops-Groundnut"
- Certified Seed Production of Groundnut Under NMOOP
- RKVY Project "Seed Replacement Rate Enhancement"
- ELP on "Quality Seed Production in Field Crops"

2022-23

- Seed Hub project "Creation of Seed Hubs for Increasing Indigenous Production of Pulses"
- Seed Hub project "Creation of Seed-Hubs for Enhancing Quality Seeds Availability of Major Oilseeds Crops-Groundnut"
- Financial Assistance for Certified Seed Production - Pulse Crop Under NFSM
- Certified Seed Production of Groundnut Under NMOOP
- RKVY Project "Seed Replacement Rate Enhancement"
- ELP on "Quality Seed Production in Field Crops"

2023-24

- Seed Hub project "Creation of Seed Hubs for Increasing Indigenous Production of Pulses"
- Seed Hub project "Creation of Seed-Hubs for Enhancing Quality Seeds Availability of Major Oilseeds Crops-Groundnut"
- Financial Assistance for Certified Seed Production - Pulse Crop Under NFSM
- Certified Seed Production of Groundnut Under NMOOP
- RKVY Project "Seed Replacement Rate Enhancement"
- ELP on "Quality Seed Production in Field Crops"

2024-25

- Seed Hub project "Creation of Seed Hubs for Increasing Indigenous Production of Pulses"
- Seed Hub project "Creation of Seed-Hubs for Enhancing Quality Seeds Availability of Major Oilseeds Crops-Groundnut"
- Certified Seed Production of Groundnut Under NMOOP
- RKVY Project "Seed Replacement Rate Enhancement"
- ELP on "Quality Seed Production in Field Crops"

RECOMMENDATIONS FROM THE DEPARTMENT OF SEED SCIENCE AND TECHNOLOGY FOR SCIENTIFIC COMMUNITY

2023-24

Heat stress mitigation through seed priming in wheat (*Triticum aestivum* L.)

It is recommended to scientific community to grow wheat variety GW 366 in late sowing condition with seed priming of salicylic acid 50 ppm (Hormonal Priming ((50ml/l) for 14 hours followed by shade drying recorded the highest grain and biological yield per plant to mitigate heat stress.

Table 6.4.139 Ph.D.: Awards/recognition received by faculty members (Department of Seed Science and Technology)

Sr. No.	Name of Faculty	Name of Award	Authority	Year
1.	Dr. J. B. Patel	Dr. A. P. J. Abdul Kalam Scientist Award - 2020	The Society of Tropical Agriculture, New Delhi	2020
2.	Dr. J. B. Patel	Best Teacher Award - 2021	Agro Environmental Development Society	2021
3.	Dr. J. B. Patel	Global Eminent Teacher Award	Vij Trust, Thirunindravur, Tamil Nadu	2022
4.	Dr. J. B. Patel	Best Seed Scientist Award	Agri Meet Foundation, India	2022
5.	Dr. J. B. Patel, Dr. C. A. Babariya, Dr. J. R. Sondarva and D. V. Savaliya	Best Performing Groundnut Seed Hub Centre Award	ICAR - DGR, Junagadh	2023
6.	Dr. Jyoti R. Sondarva	Best Poster Presentation	Indian Society of Seed Technology	2023
7.	Dr. J. B. Patel, Dr. C. A. Babariya, Dr. J. R. Sondarva and D. V. Savaliya	Best Poster Award	National Conference on Paradigm and Dynamics of Digital Horticulture for Food, Nutrition and Entrepreneurship held at JAU, Junagadh from 28-31 May, 2024 organized jointly by ASM foundation and JAU, Junagadh	2024
8.	Dr. J. B. Patel, Dr. C. A. Babariya, Dr. J. R. Sondarva and D. V. Savaliya	Best Performing Groundnut Seed Hub Centre Award	Annual Groundnut Meeting on Groundnut held at Rajasthan College of Agriculture, Maharana Pratap University of Agriculture and Technology, Udaipur during 18-20 March, 2025	2025

Table 6.4.140 Ph.D.: Awards received by PG degree students (Department of Seed Science and Technology)

Sr. No.	Name of Student	Name of Guide	Name of Award	Awardee	Year
2022-23					
1.	Vaghasiya Khushbu P.	Dr. J. B. Patel	Best Ph.D. thesis award	Agri Meet Foundation	2022

Table 6.4.141 Ph.D.: Year-wise NET qualified PG/Ph.D. Students in Seed Science and Technology

Sr. No.	Year	No. of students qualified NET
1.	2020-21	NET Exam not conducted
2.	2021-22	03
3.	2022-23	-
4.	2023-24	NET Exam not conducted
5.	2024-25	-
	Total	**03**

Table 6.4.142 Ph.D.: Research publications of faculty Members (Department of Seed Science and Technology)

Sr. No.	Particular	Number of publications during Last Five Years
1.	National/International Journal 6.0 and above 4.0-6.0 < 4.0	45 07 33 05
2.	Books Published/Book Chapter	06
3.	Practical Manuals	05

Table 6.4.143 Ph.D.: Seminar / workshop / symposia organized by Department Seed Science and Technology during 2020-21 to 2025-26

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2020-21				
1.	Online Five days Vocational Training on "Imperatives of Seed Production, Legislation and Seed Testing Quality Assurance Paradigm"	01/02/21 to 05/02/21	Online	150

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2021-22				
1.	Seed production in field crops	18/08/2021	JAU, Junagadh	50
2.	Five Days online vocational training programme on "Recent Advances in Seed Production Technologies of Field Crops"	07/02/22 to 11/02/22	Online	50

6.4.2. FACULTY STRENGTH (AS OF 31-07-2025)

Table 6.4.144 Ph.D.: *Details of faculty strength of Departmetn of Seed Science and Technology*

Sr. No.	Sanctioned Faculty for PG	Faculty in place	Vacant position	Faculty recommended by the ICAR	Faculty Sanctioned by GoG
1.	Professor	1*	-	Not recommended by ICAR	1
2.	Associate Professor	2**	1		1
3.	Assistant Professor	4**	1		3
	Total	7	2		5

Note: *Faculty member assigned for teaching and research works. **Faculty members assigned for teaching and extension duties.

6.4.3 TECHNICAL /SUPPORTING STAFF (AS OF 31-07-2025)

Table 6.4.145 Ph.D.: *Details of technical/supporting staff strength as of 31.07.2025 (Department of Seed Science and Technology)*

Sr. No.	Sanctioned staff	Staff in place	Vacant position	Staff sanctioned by the GoG
1.	Technical/Supporting staff	18*	10	24
2.	Administrative staff	2	2	4
	Total	20	12	28

*Among the four technical staff working on pooled basis, one each is working at the Dept. of GPB, Dept. of Agronomy, College of Agriculture, Motabhandariya, Amreli and Agriculture Research Station, Talaja.

6.4.4. CLASSROOMS AND LABORATORIES

Table 6.4.146 Ph.D.: Classroom infrastructure in the department

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Seed Science and Technology					
1.	PG Classroom 1	104	70	Teaching, Seminar, Farmers Training Meeting	Air Conditioning, LCD Projector, Laptop, Screen, Tables, Chairs, Audio Video Visuals

PG Classroom

PG Students Working in the Seed Testing Laboratory

Table 6.4.147 Ph.D.: Departmental PG laboratories established (As of 31-07-2025)

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Seed Science and Technology					
1.	PG / Seed Testing Laboratory	188	25	Practical work of students, Experimental work of PG students, Departmental research work, STR storage trials	Stools, Platform

PG Seed Testing Laboratory

Germination Room/Chamber

Table 6.4.148 Ph.D.: List of major equipment available with the Department of Seed Science and Technology

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
SEED SCIENCE AND TECHNOLOGY				
1.	PG/Seed Testing Laboratory	Plant growth chamber	1	8.96
2.		Dehumidifier	1	1.09
3.		Double door seed germinator	1	1.60
4.		Seed analyzer	1	1.42
5.		Vacuum seed sealing machine	1	2.59
6.		Moisture meter	1	2.12

Major equipment's available in department

Plant Growth Chamber

Vacuum Seed Sealing Machine

Double Door Seed Germinator

Seed Analyzer

Moisture Meter	Dehumidifier

Table 6.4.149 Ph.D.: *Farm facilities at Department of Seed Science and Technology*

Sr. No.	Name of Farm/ Cafeteria	Area (hectare)	No. of Experiments continue		Details of activities
			Departmental	Students	
Department of Seed Science and Technology					
1.	Sagdividi Farm	Total- 75.83 ha. Cultivated - 64.61 ha.	3 Experiments per year	5-6 students experiment per year	Departmental Research Experiments, STR field experiments, Students experiments, Quality (Breeder/Foundation/Certified / Truthful) Seed Production of Groundnut, Pigeonpea, Chickpea, Wheat, Soybean, Mungbean, Urdbean and Sesame

Sagadividi Farm

Table 6.4.150 Ph.D.: Theory and Practical batches for Ph.D. program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semesters	Batch of students in theory class	Batch of students in practical class
1.	Ph.D. in Seed Science and Technology	Odd	1 Batch (3 students)	1 Batch (3 students)
2.		Even	1 Batch (3 students)	1 Batch (3 students)

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The theory note is intensively prepared by the teachers from a variety of sources, including research articles, textbooks, and reference materials, and given to the students for their reading.
- Students gain real-world experience in the department's laboratory. The two most useful books for students studying Seed Science and Technology are "Seed Technology: Progress and Recent Advances," which was edited by Dr. J. B. Patel and Dr. M. A. Vaddoria, published by NIPA, New Delhi, in 2018, and "Multiple Choice Questions: Seed Science and Technology," which contains 8,000 multiple-choice questions and was edited by Dr. J. B. Patel and published by Brillion Publishing, New Delhi, in 2020. Both of these books may be found in the department's library as well as in the university library.
- Visits to diverse agro-based industries and various crop research centers to impart real-world knowledge of the topic.
- Between 2011 and 2013, the department created a one-of-a-kind museum called the **"High Tech Museum on Seed Production Technology"** under the RKVY project. The museum was designed to train farmers and give PG students hands-on experience. This museum is strongly backed by charts and models that provide the anatomy of seed, seed germination, flower structure, means of pollination, cell division, double fertilization, gamete development to seed maturation, and seed production technology of wheat, groundnut, cotton, bajra and castor.

PRACTICAL AND HANDS-ON-TRAINING

- In accordance with the course curricula for various courses such as floral biology of monocots and dicots, pollen morphology, pollen germination and pollen sterility, seed production technology, seed enhancement techniques, seed vigour and viability studies, etc., the students are receiving hands-on instruction.
- Students are often exposed to agro-based industries and various crop research facilities in order to gain practical understanding of the subject.

6.4.6. SUPERVISION OF STUDENTS IN PG DEGREE PROGRAM

Every student is ably guided and supervised by the Advisory Committee for thesis research with a major guide and at least three members of whom two are from outside the major field of specialization. The programme of research proposed by the advisory committee and approved by the Dean (Post Graduate Studies) is carried out by the student

under the supervision of advisory committee. The advisory committee meets to discuss research problems, synopsis, visit to farms/lab, and guide the students for their experiment, thesis presentation before *kachha* bound, *etc*. As shown in Table 6.4. 151, overall, 29 students were guided by the department for their M. Sc. (Agri.) degree program in Seed Science and Technolgy for the accreditation cycle.

Table 6.4.151* Ph.D.*: Number of* Ph.D. *students supervised (guided) by faculty in last five years in Seed Science and Technology

Degree Program	No. of students supervised (guided) by faculty for PG Degree
Ph.D. in Seed Science and Technology	7 students

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC*.) (2020-21 TO 2025-26)

- At regular intervals, feedback is collected from students **(Annexure 6.4.7a),** progressive farmers, and industrialists, and the department uses this input to improve teaching, seed production, marketing, and its new research program.
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per schedule, wherein Deans of all faculties, nominated Professors and Research Scientists of different crops and renowned academicians are members. The Academic Council makes decisions on academic issues for implementation in the university/college for the advancement of the teaching and research standards of post graduate students, based on the advice of the Board of Study.
- ***STUDENT ADVISORY COMMITTEE:*** The Student Advisory Committee is established at the time the student enrols in the postgraduate program for his/her PG graduation in Seed Science and Technology discipline. It comprises the Major Guide, Minor Guide, and two to three committee members from the major course, minor course, and allied subjects for each student. From choosing the topic of their PG research, presenting their synopsis and submitting it, participating in PG seminars, completing preliminary *viva voce* exams, presenting their thesis before submitting their kaccha bound thesis, and taking the thesis *viva voce* exam, students must conduct their PG research work under the close supervision of this advisory committee. The PG research work, whether conducted in the field or in the lab, was also reviewed by this committee, who provided insightful advice throughout the inspection. The students are also talking about the instructional and hostel-related issues, and the administration is responding accordingly. Furthermore, the Professor and Head convene a group of researchers who are involved in the PG instruction and mentorship of the SST field in order to talk about the PG research project assigned to students and prevent repetition.
- ***STUDENT REPRESENTATIVE COUNCIL:*** It is active in the institution, engaging in regular discussions with students about the learning and teaching process, soliciting their input, and acting appropriately.
- **PG Board of Studies:** The Faculty Research Committee operates at the faculty level and is responsible for evaluating and guiding the research proposals and

progress of both faculty members and research scholars. It comprises senior professors, subject matter experts, and representatives from related departments. The committee ensures that research work aligns with the academic and ethical standards of the university. Recommendations made by the FRC are forwarded to the Board of Studies or Academic Council for further consideration and approval.

- ***FACULTY GROUP OF SUBJECTS:*** The faculty group of subject's meetings for crop improvement is constructed, and the meeting held annually under the Convener ship of Professor and Head, Department of Genetics and Plant Breeding. The Vice Chancellor, Director of Research, Director of Extension Education and Registrar of the university, and also the Dean (Agriculture) attends the meeting every year, during which the departmental activities, the state of post graduate research issues, challenges in doing post graduate research, the workload of each faculty member, the scientists research paper publications, the faculties' training requirements, etc. are discussed, and the recommendations made during the meeting are implemented. **(Annexure 6.4.7b).**
- The details of FGMs of Crop Improvement group, covering the period from 2020-21 to 2024-25, are as follows:

*Table 6.4.*152 Ph.D.*: Faculty Group of Subject Meetings of Crop Improvement*

Sr. No.	Year	Convener	Dignitaries remaining present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	Suggestions received from concerned FGS meeting; corresponding action taken report are submitted in ***Annexure 6.4.7b.***
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal and Dean	
4.	2023-24	Professor and Head	Director of Research and Dean PG Studies, Registrar, Director of Extension Education, Associate Director of Research and Principal and Dean	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research and Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal and Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR THE LAST FIVE YEARS

Table 6.4.153 Ph.D.: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
Ph.D. in Seed Science and Technology	2020-21	1	0	100.00
	2021-22	2	1	50.00
	2022-23	2	1	50.00
	2023-24	1	1	0.00
	2024-25	3	3	0.00
	2025-26	3	3	0.00

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

CERA: The departmental faculty and PG stuents utilize the ICAR Consortium of e-resources in Agriculture (CeRA), which covers more than 3000 scholarly journals pertaining to the agriculture and allied sciences which are available in full text, in thesis research and credit seminar presentations. The theory and practical lectures are also updated with latest research findings from the published articles.

E-BOOKS: The University Library's possession of Springer e-books, comprising nearly 1900 books in virtual format, is put to use effectively by the PG students to advance their learning. In addition, from 200 Indian e-books available at the libraray, the relevant BSMA PG books are also utilized for reference.

KRISHIKOSH: The departmental theses are also timely submitted to Krishikosh, the theses respository of ICAR. The available theses in the repository are also widely utilized to identify the research gaps.

INTERNET: Digital library with computers and internet facility is available and used by the PG students. Wi-fi Internet facility is also provided at all the hostels round the clock.

ICT PLATFORMS: The department also takes pride in motivating students to opt for statistical analysis using standard online tools (like JOSARDA of the university) and build their peer-network with Google Scholar, ResearchGate, Academia, and other platforms.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, CoA, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Date: 31.01.2026
Place: Junagadh

Annexure 6.4.7a

Postgraduate students' feedback report for AY 2024-25

Particulars of the Department of Seed Science and Technology, CoA, JAU, Junagadh	Average Score	Rating
Departmental Teaching - Learning Process		
➢ How do you rate Student- Teacher relations?	3-4	Very good
➢ How do you rate for completion of courses by the teachers?	3-4	Very good
➢ How do you rate fairness in internal assessment in the department?	3-4	Very good
➢ How do you rate practical exposure from the department?	3-4	Very good
➢ How do you rate for statistical analysis facility provided by the department	3-4	Very good
➢ Did teachers motivate /support you for solving your personal problems	3-4	Very good
P.G. Research facility		
➢ How do you rate for your selection of research topic?	3-4	Very good
➢ Did you get enough facilities for conducting experiment?	3-4	Very good
➢ How do you rate material provided for conducting experiment?	3-4	Very good
➢ How do you rate for major Guide for supporting in completion of Seminar and thesis project	3-4	Very good
Library facilities		
➢ Books related to your subject are available in the library?	3-4	Very good
➢ Internet facilities for learning and research purpose?	3-4	Very good
➢ Availability of research journals (online /offline) for review purpose?	3-4	Very good
➢ How do you rate for delivery of books system ?	3-4	Very good
Hostel Facility		
➢ How do you rate Hostel facilities?	3-4	Very good
➢ How do you rate wi-fi facility?	1-2	Average
➢ How do you rate for food quality in mess?	1-2	Average
➢ How do you rate cleanliness in the hostel ?	1-2	Average
Sports facility		
➢ How do you rate indoor sports facility?	3-4	Very good
➢ How do you rate outdoor sports facility?	3-4	Very good

Ratings are as per following

Very good	Good	Average	Poor
4	3	2	1

Annexure 6.4.7b

Feedback received in the Faculty Group Meetings of Crop Improvement

Action Taken report of 6th Faculty Group of Crop Improvement meeting held during 27th November, 2020 at Seminar Hall, Department of Genetics and Plant Breeding, College of Agriculture, JAU, Junagadh.

Sr. No.	Suggestions	Action Taken
6.1	The students of UG and PG studies should be encouraged for competitive examinations as well as they are encouraged to achieve different teaching /research fellowships. **(Action: Dept of GPB and SST, CoA, JAU, Junagadh)**	The students of UG and PG students were encouraged for various competitive examinations as well as they were encouraged to achieve different teaching/research fellowship including SHODH.
6.2	Practical Manuals of different subjects should be sent (SAU's of Gujarat and other states, research scientists and colleagues etc.) to review the content and try to get the good remarks. **(Action: Dept of GPB and SST, CoA, JAU, Junagadh)**	Complimentary copy of two practical manuals had been sent to Professor and Head Dept. of GPB of different SAU's of Gujarat.
6.3	Take the review of last year ELP students regarding Online Learning by creating the Google Form. **(Action: Dept of GPB and SST, CoA, JAU, Junagadh)**	Good review had been received from last year ELP students regarding online learning but many students were interested to prefer offline mode
6.4	PG research problem should be fixed by considering the vision-2050 demand. **(Action: All Major Guide of Dept. of GPB and SST, JAU, Junagadh)**	Due to the COVID-19 Pandemic situation most of the students have taken experiment on variability parameters in different crops. While formulating PG research programme of newly admitted students, the themes and sub-points of vision-2050 will be taken into consideration
6.5	PG research work of PG students should be highlighted at ICAR level for the different National/International awards. **(Action: All Major Guide of Dept. of GPB and SST, JAU, Junagadh)**	PG students of both departments were encouraged for national/International awards related to PG research
6.6	Departmental research, departmental research papers, PG thesis and PG research papers should be used and cited while writing new research papers for raising the citation and H-index of the individuals. **(Action: All Major Guide of Dept. of GPB and SST, JAU, Junagadh)**	All the major guide and PG students informed regarding inclusion of review/ references of local recommendation or JAU research related to concerned crop in the thesis and cited while writing research papers.
6.7	Research Paper should be published in good NAAS rated journals. If journal doesn't have NAAS rating look for impact factor of the journal. **(Action: All Major Guide of Dept. of GPB and SST, JAU, Junagadh)**	All the major guide and PG students informed to publish the papers in good NAAS rated journals.
6.8	The subject materials for UG students updated regularly on AIMS portal. **(Action: Dept of GPB, CoA, JAU, Junagadh)**	The subject materials for UG students were uploaded in AIMS portal as well as circulate among students via Google Classroom in each semester by the concerned course teacher
6.9	Identify the Endangered species based on Red Data Book Review and deposit the seeds of the species available in our area in the NBPGR. **(Action: Dept of GPB, CoA, JAU, Junagadh)**	The planting material of many endangered species collected from different region of Gujarat and conserve the same in the different garden of the department. The

Sr. No.	Suggestions	Action Taken
		seed of the collected species will be deposit in the NBPGR after proper establishment of the species.

APPENDIX-I (B)

Action Taken report of 7th Faculty Group of Crop Improvement meeting held during 1st December, 2021 at Seminar Hall, Department of Genetics and Plant Breeding, College of Agriculture, JAU, Junagadh.

<table>
<tr><th>Sr. No.</th><th>Suggestions</th><th>Action Taken</th></tr>
<tr><td>7.1</td><td>Need to promote the students to take research works in horticultural crops and to strengthen the breeding of fruit, flower and vegetable crops.
(Action: All major guide)</td><td>During last seminar series most of the PG students delivered the seminar related to fruit crop breeding and few students also allotted research works in the vegetable crops. However, Ph. D. student of floriculture has initiated worked in breeding aspects on flower crops.</td></tr>
<tr><td>7.2</td><td>Make more efforts for standardization of plant tissue culture protocol in coconut. To complete the task, take help or make MoU with CPCRI,
Kasaragod scientists.
(Action: HOD, Dept of GPB, COA, JAU, Junagadh)</td><td>With view for standardization of plant tissue culture protocol in coconut, Dr. Rajiv Kumar attended the ICC-COGENT Tissue Culture workshop related to coconut tissue culture at Kasaragod which was organized by CPCRI during 16 -20 May, 2022.</td></tr>
<tr><td>7.3</td><td>Experiments of PG students may be taken on targeted plant breeding work using genetic engineering tools, marker assisted breeding etc.
(Action: All major guides)</td><td>Ph. D. students of department of GPB had initiated their research works on genetic engineering tools, QTL Mapping and GWAS etc.</td></tr>
<tr><td>7.4</td><td>Send the faculty members for training according to expertise require in the department.
(Action: HOD, Dept of GPB and SST COA, JAU, Junagadh)</td><td>The following trainings were attended by the faculties during 2022:
<table>
<tr><th>Name of Faculty</th><th>Time period</th><th>Institute/ Organization</th><th>Title of training/workshop</th></tr>
<tr><td>Dr. Rajiv Kumar</td><td>16/05/22 to 20/05/22</td><td>CPCRI, Kasargod</td><td>ICC-COGENT Tissue Culture workshop</td></tr>
<tr><td>Dr. S. B. Chaudhari
Dr. M. H. Sapovadiya
Shri. H. R. Meta</td><td>18/01/22 to 07/02/22</td><td>SDAU, S. K. Nagar</td><td>Conservation and utilization of potential crops in the era of climate changes</td></tr>
<tr><td rowspan="2">Dr. C. A. Babariya</td><td>08/06/22 to 10/06/22</td><td>EEI, AAU, Anand and JAU, Junagadh</td><td>Success story writing skills for print & electronic media</td></tr>
<tr><td>21/03/22 to 26/03/22</td><td>ICAR-NBPGR, Regional Station, Thrissur</td><td>Plant Taxonomy for Plant Genetic Resources Management</td></tr>
</table>
</td></tr>
</table>

Sr. No.	Suggestions	Action Taken
		Dr. L. J. Raval | 26/12/22 to 31/12/22 | EEI, AAU, Anand | Presentation skills for professional excellence
7.5	Every faculty should give their H index; I 10 index and total number of citations include in the proforma. **(Action: All major guides)**	Noted and included in 8th FG of CI report.
7.6	There is need to organize production technique related training for banana growers to promote its cultivation in collaboration with other disciplines at Fruit Research Station, JAU, Mangrol. **(Action: HOD, Dept of GPB, COA, JAU, Junagadh and Assistant Res. Scientist, FRS, JAU, Mangrol)**	The training programme for banana growers is not organized at FRS Mangrol. Besides, while banana farmers visited Dept of GPB for purchase of sapling and awareness and production technologies guidance is given to the farmers on personal contact and on mobile basis.
7.7	Every faculty should try to publish their research in reputed journals. **(Action: All major guides)**	All the major guide and PG students informed to publish the papers in good NAAS rated journals and many faculties and PG students of GPB had published research articles in reputed journals.

APPENDIX-I (C)

Action Taken report of 8th Faculty Group of Crop Improvement meeting held during 30th January, 2023 at Seminar Hall, Department of Genetics and Plant Breeding, College of Agriculture, JAU, Junagadh

Sr. No.	Suggestions	Action Taken
8.1	To promote awareness among farmers about Banana Tissue Culture plantlet selling at Department of Genetics and Plant breeding, Junagadh Agricultural University, the department of GPB should give the advertisement in *FM Janvani* radio and display the advertisement on our university website. **(Action: HoD, Dept. of GPB, CoA, JAU, Junagadh)**	Advertisement regarding selling of Banana Tissue Culture plantlet was display on JAU website.
8.2	Very good photographs that are present in power point presentation of faculty group of subjects should also be included in hard copy of report. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	Photographs are included in the report and presentation by both the departments.
8.3	Faculty group report of Crop Improvement should include teaching load of all the courses taught and TV/ Radio talk delivered by each faculty members. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	Teaching load of all the courses taught and TV/ Radio talk delivered by each faculty members are included in report.
8.4	List of external thesis Examiners/Evaluators/Experts in the Junagadh Agricultural University of both the disciplines should be revised. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	List of external thesis Examiners/Evaluators/Expert revised and also send to the Principal and Dean CoA, JAU, Junagadh.
8.5	Add information regarding total citation and last five-year citation, h-index and i-10 index etc. in the faculty group report for each member of Crop Improvement. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	Total citation, last five-year citation, h-index and i-10 index are included in the report and presentation by both the departments.
8.6	Give the details regarding status (in Rs) of revolving fund generated in the department. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	All income generated by the department in various B.H. including revolving funds budgets is included in the report and presentation.
8.7	Deposit seeds of important/ endangered plant species (Eg.: *Striga*, Milching Palm, Local Orchids etc.) of Saurashtra area at	Collection of propagating material of several tree/plant

Sr. No.	Suggestions	Action Taken
	NBPGR, New Delhi. (**Action: HoD, Dept. of GPB, CoA, JAU, Junagadh**)	species made and planted at Paritalav as well as at family block of Motibaug botanical garden. The seed of endangered plant species will be collected, identified and deposited to NBPGR, New Delhi.
8.8	Motivate the students for JRF/ SRF examination/preparation and arrange additional classes JRF/SRF classes in the department. (**Action: HoD, Dept. of GPB, CoA, JAU, Junagadh**)	Noted and implemented. Last year 10 students cleared ASRB/CSIR NET exam.
8.9	Aware the students about different scholarships like PM Scholarship, SHODH etc. (**Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh**)	Noted and implemented. Most of the Ph. D. students getting the SHODH fellowship or other fellowship.
8.10	Courses related to Seed Science and Technology subject [UG (GPB 4.4 (2+1)) and polytechnic (GPB 6.4 (0+2)] should be offered and taught from next year by the faculty of Seed Science and Technology. (**Action: HoD, Dept. of SST, CoA, JAU, Junagadh**)	GPB 4.4 (2+1) is offered to Dr. Jyoti R. Sondarva (theory) and Shri. D. V. Savaliya (practical) combinely and polytechnic course GPB 6.4 (0+2) is offered to Dr. V. R. Akabari, Asstt. Res. Scientist, MORS, JAU, Junagadh.
8.11	PG students should promote to work in Biotechnology Laboratory of department of Genetics and Plant Breeding. (**Action: HoD, Dept. of GPB, CoA, JAU, Junagadh**)	Few M. Sc. and most of Ph. D. students doing their molecular work in Biotechnology Laboratory of department of Genetics and Plant Breeding

APPENDIX-I (D)

Action Taken report of 9th Faculty Group of Crop Improvement meeting held during 8th February, 2024 at Seminar Hall, Department of Genetics and Plant Breeding, College of Agriculture, JAU, Junagadh

Sr. No	Suggestions	Action Taken
9.1	The result of supplementary courses should be placed below the result of regular courses in the report and ppt presentation. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	The results of supplementary courses are placed below the result of regular courses in the report and ppt presentation for better insight of results.
9.2	The practical manual published by the department for UG should be send for review to other university of SAU and outside the Gujarat. **(Action: HoD, Dept. of GPB, CoA, JAU, Junagadh)**	The preparation of new practical manuals as per the 6th Dean's committee report are under progress and will send for review to other universities of SAU's and out side the Gujarat.
9.3	The PG student admitted year should be incorporated in the table of PG student progress. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	The PG student admitted year is mention in the report and ppt presentation.
9.4	Include the PG placement data in the report if available. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	The PG placement data is incorporated in the report and ppt presentation.
9.5	Deposit seeds of important and rare plant/tree species of Saurashtra area at NBPGR, New Delhi. **(Action: HoD, Dept. of GPB, CoA, JAU, Junagadh)**	The process of identification and collection of seeds of important and rare plants/trees species is under way and once confirmed, the seeds will be deposited in the NBPGR.
9.6	The PG students feed-back report should be included in the report.	The PG students feedback report is incorporated in the report and ppt

Sr. No	Suggestions	Action Taken
	(Action: HoD, Dept. of SST, CoA, JAU, Junagadh)	presentation.
9.7	The Ph.D. students securing various scholarship should be involved in teaching activities of UG courses. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	The Ph. D. students of GPB and SST department receiving various scholarship are already involved in UG/Polytechnic teaching activities whenever needed or when teachers are on leaves.

APPENDIX-I (E)

Action Taken Report of 10th Faculty Group Subject (FGS) of Crop Improvement Meeting held on 9th January, 2025 at Seminar Hall, Department of Genetics and Plant Breeding, College of Agriculture, J.A.U., Junagadh

Sr. No.	Proceeding Suggestions	Action taken
10.1	Research fellows and supporting staff under the ad-hoc scheme should be included in the staff position in report. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	No any research fellow/supporting staff under ad-hoc schemes in both the departments (GPB and SST).
10.2	Encourage UG and PG students for JRF and SRF/NET examination and the classes for should be conducted in both the department. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	UG and PG students are encouraged for JRF/SRF/NET and Mock Test for NET Exam was conducted in GPB on 29.08.2025 and JRF/SRF classes to be taken in near future by both the departments (GPB and SST).
10.3	Encourage PG students and faculty to publish their research in reputed journals with a high NASS rating or impact factor. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	PG students and new faculty are encouraged to publish their research in reputed journals and during 2024-25, two research paper were published in *Plant Science Today* with NASS rating of 6.9 by Dept. of SST.
10.4	Include the information of strengthening the department in the report. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	Information included in report by both the departments (GPB and SST).
10.5	Provide a list of books purchased by the library following departmental recommendations. **(Action: HoD, Dept. of GPB and SST, CoA, JAU, Junagadh)**	Information included in report by both the departments (GPB and SST).
10.6	Instead of complete synopsis presentation of Ph. D students, their research progress along with good quality photographs should be presented. **(Action: All the members of FGS of CI, JAU, Junagadh)**	Noted. Four Ph.D. students of GPB will present their synopsis with research progress and photographs. In Dept. of SST, no any student has to present his/her Ph. D. synopsis this year.
10.7	The teachers involved in polytechnic/UG/PG teaching if any should submit their teaching information to respective departments. **(Action: All the members of FGS of CI, JAU, Junagadh)**	Information included in report by both the departments (GPB and SST).
10.8	The teachers/scientists should give their extension activities in detail (Radio talk/TV talk/popular lectures, popular article, activities in *Krishi Mela* and *Krishi Mahotsv* etc.) in the report. **(Action: All the members of FGS of CI, JAU, Junagadh)**	Information included in report by both the departments (GPB and SST).

6.4:
Self-Study Report
for Ph.D.
in Biochemistry

6.4. SELF-STUDY REPORT FOR PH.D. IN BIOCHEMISTRY AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PH.D. DEGREE PROGRAM

The Department of Biochemistry was established in 1980 under the ICAR Development Plan and has since developed into a well-equipped centre for advanced teaching and research. The Department has been offering the M.Sc. degree programme since 1985 and is supported by modern instructional and laboratory facilities. Its academic and research activities encompass a wide range of specializations, including plant and nutritional biochemistry, biochemistry of fruit ripening, molecular biology, biochemistry of biotic and abiotic stresses, and environmental biochemistry. In addition to the postgraduate degree programme, the Department also offers courses to undergraduate and postgraduate students from various departments of the constituent colleges of the University. Biochemistry is widely chosen as a minor and supporting subject by postgraduate students across disciplines. The curriculum is comprehensively designed to cover fundamental, applied, and emerging areas of biochemistry.

Department of Biochemistry, College of Agriculture, JAU, Junagadh

STEPPING-STONES OF THE DEPARTMENT

- NABL accreditation of the food testing laboratory in the year 2012-14, 2014-16, 2016-18, 2018-20, 2020-22, 2022-24 and 2025-29.
- Over 569738 samples from other departments, colleges, universities, research stations, farmers and entrepreneurs have been analysed as of 2024-25 in Food Testing Laboratory, Junagadh Agricultural University.
- Accreditation team from ICAR (2020-21) appreciated the Food Testing laboratory consisting of world class facility for biochemical and molecular analytical services in India. Even foreign students from University of Venda, South Africa and Iran came for work at the Food Testing Laboratory, Junagadh Agricultural University, Junagadh.

- About 25 students of dissertations/hands on trainings from other universities have been done in Food Testing Laboratory, Junagadh Agricultural University, Junagadh along with 80 M.Sc. and Ph.D. students of Biochemistry and Biotechnology during the last five years.
- Work on biosensor has been appreciated at world level, with its patent granted on 13/07/2023 (Patent No 438688).
- Work of Food Testing Laboratory team on nano- fertilizer is embarked with an overarching objective to reduce fertilizer use by 1/5th of present consumption. It will soon be a boon for the farmers across the country.

MISSION, GOALS AND OBJECTIVES

MISSION:

- To advance education, research, and innovation in biochemistry with emphasis on plant, nutritional, and environmental aspects, thereby generating knowledge and technologies that enhance crop productivity, food quality, and sustainable agricultural development.

Goals:

- **Academic Excellence:** To impart high-quality postgraduate education in Biochemistry and equip students with advanced analytical and research skills.
- **Research & Innovation:** To undertake basic and applied research in plant biochemistry, stress physiology, nutrition, and molecular biology for addressing agricultural challenges.
- **Infrastructure Development:** To strengthen laboratories and facilities, particularly the Food Testing Laboratory, as a national-level hub for biochemical and molecular analysis.
- **Capacity Building & Training:** To train students, researchers, and entrepreneurs in modern biochemical techniques, analytical methods, and emerging areas such as biosensors and nanotechnology.
- **Extension & Outreach:** To provide biochemical testing, consultancy, and innovative solutions that benefit farmers, industries, and policy makers.
- **Recognition & Collaboration:** To establish the department as a recognized center of excellence in biochemistry through collaborations, patents, and international engagement.

OBJECTIVES:

- To run M.Sc. programs in Biochemistry with specialization in plantbiochemistry.
- To develop advanced infrastructure for postgraduate teaching and research.
- To strengthen the Food Testing Laboratory for biochemical and molecular analyses.
- To offer training and workshops for students, faculty, and researchers.
- To conduct research on crop quality, stress tolerance, fruit ripening, and environmental pollution.
- To support students in achieving academic excellence and professional growth.

ACCOMPLISHMENTS/ ACHIEVEMENTS OF LAST FIVE YEARS:

EXTERNAL FUNDED PROJECTS IN THE DEPARTMENT OF SEED SCIENCE AND TECHNOLOGY (*AS OF 31-07-2025)*

2020-21:

1. Studies on phytochemicals and metabolomics profiling of seaweeds

The seaweed resources viz., Green, Red and Brown seaweeds analyzed through MS/MS based platform showed presence of 375 unique compounds. These seaweeds were found to contain important oil content, vitamin D3 and many bioactive compounds that can be used as nutraceutical products. In case of ω-3 polyunsaturated fatty acids, eicosapentaenoic acid (EPA) was found in seaweed species, viz., *Sarconemafiliforme* (5.02%) and *Spatoglossum asperum* (4.04%). Vitamin D-3 was found in *Caulerpa Lenthilifolia* (16.7%), *Caulerpa sertulorioides* (8.5%), *Ulva fasciata* (10.7%), *Halimeda tuna* (12.7%), *Hydroclatharusclathratus* (18.9%), *Halymeniavenusata* (6.5%), *H. porphyraeformis* (20.6%), *Dictyopteris marginatum*, *Gelidiopsisrepens* (18.2%) and *Heterosiphonia muelleri* (26.1%). Some species of seaweeds viz, *Dictyopterisdelicatula* (2.68%), *Heterosiphonia muelleri* (0.24%), *Dictyopterismarginatum* (*stoecospermum*) (4.07%), *Spatoglossum asperum* (8.1%), *Padina gymnospora* (4.86%), *Caulerpalenthilifolia* (0.96%) contained docosahexaenoic acid (DHA). These compounds are notfound in plants

2021-22:

1. Biochemical appraisal of enzymatic activities from soils of permanent plot experiment at JAU, Junagadh

The soil enzyme activity studied viz., urease, acid phosphatase, alkaline phosphatase, Galactosidase and nitrate reductase, from the plot having different fertilizer applications, remains higher during the mid-season and found to be lower before sowing and after harvest of the crop. Minimum variation of enzyme activity was observed in a plot of only FYM treatment (25 tons/ha). The activity of urease, β–Galactosidase and β–gluosidase as well as acid phosphatase and alkaline phosphatase was enhanced by balance fertilizer application (100 % NPK (25:50:50) as per soil test as well as 25 tons/ha FYM application. The pod yield of groundnut was remained highly positively correlated with urease, acid phosphatase and alkaline phosphatase enzyme activity.

2. Isolation and identification of entomopathogenic microorganisms from the soils of Junagadh district

The Scientific communities involved in microbial and entomological research are recommended to use native identified entomopathogenic microbes including *Pseudomonas putida* (MK415028.1), *P. monteilii* (KT881478.1), *P. knackmussii (KY324901.1)*, *P. fulva* (KC293832.1), *Bacillus subtilis* (MH141058.1), *B. thuringiensis* (KY003094.1), *B. clausii*(AB251924.1), *Enterobacter asburiae*(MK 467572.1), *E. cloacae* (JX514409.1), *Beauveria bassiana* (KC753382.1), *Metarhizium anisopliae* (KJ573520.1) and *Verticillium lecanii*(AJ292383.1) for the production of biofertilizer and biocontrol agent as they suppressed *Helicoverpa armigera,* and have PGPR activity.

3. Diversity analysis of fresh water diatoms through SEM-EDX from surface microalgae of water bodies of Junagadh region

The scientific community involved in diatom study of fresh water in context to climate change and environment are recommended to use cataloguing of fresh water diatoms collection images from water bodies in and around JAU, Junagadh. Total Forty-six species of diatoms were identified from water bodies of Junagadh, out of which eleven genera *viz., Cyclotella, Melosira, Navicula, Achnanthes, Amphora, Synedra, Nitzschia, Gomphonema, Hantzschia, Pinnularia* and*Fragillaria* were predominant.

The sizeable variation among the elements presents on freshwater algae through SEM EDAX showed the presence of all macro elements except phosphorus and nitrogen. All species of diatoms had higher amount of diversity indices including Shannon-Wiener diversity index (3.57) and Berger Parker Dominance (30.57). Morphometric analysis showed wider variability in location and species wise according to length (7.049µm to 43.08µm) and width (2.53µm to 23.44µm) as well as diversity indices too. Willington dam site showed maximum spp. variation of diatoms than the other location.

2022-23:

1. Biochemical analysis-based lipid indices of edible, non edible and medicinal herbs oils

Recommendation- I

Scientific community involved in lipid indices of edible oils research is recommended to use the sets of following biochemical based fatty acids calculation for the quality of oils and their lipid indices.

Recommendation- II

Scientific community involved in the essential oil research of the following crops are recommended to use marker bioactive compounds detected through GC MS platform

2. Diversity analysis of marine diatoms through SEM-EDX from surface microalgae of Saurashtra coastal belt

The scientific community working on diatoms of coastal belt of Saurashtra are recommended to use as ready references for diatoms diversity analysis done through Scanning electron microscopy. The diatom analysis of marine samples from three locations (Okha, Veraval and Aadri) identified fifty diatom species and most of them are pennate types. The *Cocconeis*spp, *Grammatophora*spp, *Fragilaria*sp, *Nitzschia*sp, *Navicula* sp., *Achnanthes*spp and *Licmophora* were found dominant diatoms on the surface of microalgae. Again, diatom abundance of *Cocconeis scutellum* were reported higher than 52% of total diatom considering three locations.

The energy dispersive X-ray spectroscopy (EDS) graph prepared for individual species of diatoms from SEM images observed that the frustules of the diatoms were other than Si. It has many elements at various sites attached to them. The catalogue of diatoms and alfa-diversity index revealed many diverse rich populations in coastal belt of Saurashtra region.

Table 6.4.154 Ph.D.: Awards/recognition received by faculty members (Department of Biochemistry)

Sr. No.	Name of Faculty	Name of Award	Authority	Year
1.	Dr. G. V. Marviya	Appreciation Certificate for act as a Senior Scientist & Head for Krishi Vigyan Kendra, Targhadia Centre during 'Certificate Course on Pesticide Management for Insecticides Dealers' organized by Junagadh Agricultural University, Junagadh during the year 2021 and 2022.	Junagadh Agricultural University	2023

Table 6.4.155 Ph.D.: Awards received by PG degree students (Department of Biochemistry)

Sr. No.	Name of Student	Name of Award	Year
1.	Patoliya Hinal	**Prime minister Fellowship** from A PPP Initiative of Science & Engineering Research Board (SERB) Department of Science & Technology, Government of India and Confederation of Indian Industry (CII) in the year 2023	2022-23
2.	Timbadiya Priyanka	**Women Scientist Award, Gold Medallist Award, Best Ph. D. Thesis Award and Excellence in Research Award** in 1st International Agriculture Conference on "natural Vs. Organic farming: in context to Bharatiya Agriculture" organized by Gujarat Natural Farming and Science University, Anand and Hindustan Agriculture Research Welfare Society and IIMTU, Meerut in the year 2023	2023-24
3.	Chovatita Nirbhay C.	**Best M. Sc. thesis Award** in 1st International Agriculture Conference on "natural Vs. Organic farming: in context to Bharatiya Agriculture" organized by Gujarat Natural Farming and Science University, Anand and Hindustan Agriculture Research Welfare Society and IIMTU, Meerut in the year 2023	2023-24
4.	Trivedi Sandhya Kiritbhai	Best Ph. D. thesis award – 2020-21: For Commendable Thesis work for Ph. D. Degree from The Gujarat Association for Agricultural Sciences (GAAS), Ahmadabad at 31st August, 2024	2024-25

Table 6.4.156 Ph.D.: Year-wise NET qualified PG/Ph.D. Students in Biochemistry

Sr. No.	Year	No. of students qualified NET
1.	2020-21	---
2.	2021-22	01
3.	2022-23	01
4.	2023-24	---
5.	2024-25	---
6.	2025-26	---
	Total	02

Table 6.4.157 Ph.D.: Research publications of faculty Members (Department of Biochemistry)

Sr. No.	Particular	Number of publications during the last five years
1.	National/International Journal	431
	6.0 and above	81
	4.0-6.0	324
	< 4.0	26
2.	Books Published/Book Chapter	43
3.	Practical Manuals	26

Table 6.4.158 Ph.D.: Seminar / workshop / symposia organized by the Department of Biochemistry during 2020-21 to 2025-26

Sr. No.	Title	Date	Place	No. of partici pants
2021-22				
1.	Hands-on training on "Pesticide Residues in Food and Environmental Samples"	09-13/ 08/ 2021	Department of Biochemistry, CoA, JAU, Junagadh (Jointly organized by Agilent University and Department of Biotechnology)	50
2024-25				
2.	National workshop on NABL Awareness Program including Soil Testing recognition program, titled "NABL Accreditation and Its Benefits"	20/07 /2024	Department of Biochemistry, College of Agriculture, JAU, Junagadh (Jointly organized by Department of Biotechnology and NABL)	85

6.4.2. FACULTY STRENGTH (AS OF 31-07-2025)

Totally four faculties are actively engaged in teaching and PG research of Biochemistry. However, four faculties from research and other departments are required to complete the academic of PG teaching and guiding. There are no any vacant posts in the department.

Table 6.4.159 Ph.D.: Details of faculty strength (Department of Biochemistry)

Sr. No	Sanctioned Faculty for PG	Faculty in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Professor	1+0	0	Not recommended by ICAR	1
2.	Associate Professor	1+3*	0		1
3.	Assistant Professor	2+1*	0		2
	Total	4+4*	0		4

* Faculty assigned for teaching and research from research stations/departments.

6.4.3 TECHNICAL /SUPPORTING STAFF (AS OF 31-07-2025)

Table 6.4.160 Ph.D.: *Details of technical/supporting staff strength as of 31.07.2025 (Department of Biochemistry)*

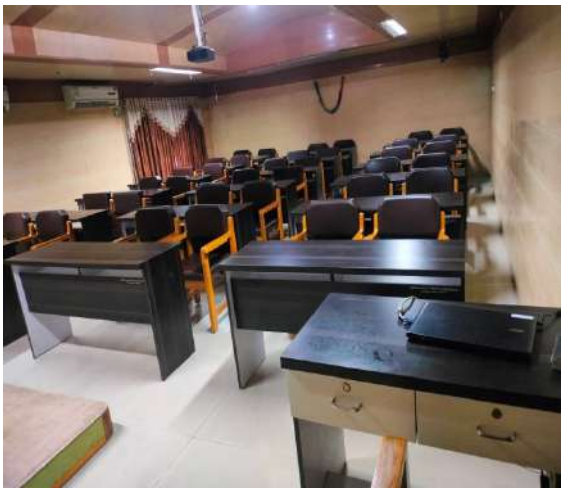
Sr. No.	Sanctioned staff	Staff in place	Vacant position	Recommended by ICAR	Staff sanctioned by the GoG
1.	Technical/Supporting staff	-	-	Not recommended by ICAR	-
2.	Administrative staff	-	1		1
	Total	-	1		1

6.4.4. CLASSROOMS AND LABORATORIES

Classroom for PG teaching is well furnished with AC, Projector, Computer, UPS and CCTV. Principal and Head of the Department are routinely monitored the classes taken by faculties either through CCTV or personally. PG laboratories are well equipped with instruments and equipments required for PG research in basic and applied field of agriculture.

Table 6.4.161 Ph.D.: *Classroom infrastructure in the department*

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Biochemistry					
1.	Classroom-PG	24.00	30	PG teaching	AC, Projector, Computer, UPS, CCTV
2.	Seminar hall	48.00	80	PG seminar, trainings, workshops	AC, Projector, Computer, UPS, CCTV



PG Classroom

Seminar Hall

The Food Testing Laboratory (FTL) at Junagadh Agricultural University, Junagadh (Gujarat) is a joint venture of JAU, Ministry of Food Processing Industries (New Delhi), ICAR (New Delhi) and Gujarat Agro Industries Corporation (GAIC). It includes building, interior and laboratory equipments. This laboratory is first of its kind providing professional interface to public and private sectors. FTL also provided central instrumentation facilities for PG and Departmental research of JAU. Laboratory facilities and equipments available in food testing laboratory are utilized for basic research in the field of Biochemistry/ Microbiology/Plant Biotechnology/ Nanotechnology/Bioinformatics.

Table 6.4.162 **Ph.D.:** *Departmental PG laboratories established (As of 31-07-2025)*

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Biochemistry					
1.	PG Laboratory	154.57	35	PG Practical and Research	AC, Computer, UPS, CCTV
2.	Food Testing Laboratory	1080.00	80	PG Practical and Research	Analytical sophisticated instruments, extraction platforms, and post-data analysis facilities

PG laboratories

Food Testing Laboratory

Table 6.4.163 **Ph.D.:** *List of major equipment available with the Department of Biochemistry*

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
Department of Biochemistry				
1.	PG Laboratory	Water Purification system	1	3.7
2.	PG Laboratory	PCR with Accessories	1	17.7
3.	PG Laboratory	Ultra-high-speed Refrigerated centrifuge (Plastocraft)	1	3.8
4.	PG Laboratory	Capillary electrophoresis	1	25.0
5.	PG Laboratory	DE -Auto clave	1	1.2
6.	PG Laboratory	U. V. 220 Volt Spectrophotometer with Accessories (PC)	1	4.8
7.	PG Laboratory	Sartorius German Make Micro Balance	1	5.1
8.	PG Laboratory	Gel Documentation System GDS 8000 with Accessories	1	3.1
9.	PG Laboratory	Freeze vertical -25 C	4	1.5
10.	PG Laboratory	Various Capacity Balance	7	10.0
11.	PG Laboratory	Pico drop Spectrophotometer	2	5.7
12.	PG Laboratory	Alico U.V. Spectrophoto.	2	2.3
13.	PG Laboratory	Veriti-96 Thermal cycler PCR machine	2	3.6
14.	FTL	Inverted Microscope	1	14.3
15.	FTL	Express Grinder	1	1.9
16.	FTL	Gene sequencer	1	98.5
17.	FTL	Micro Manipulator	1	31.0
18.	FTL	Vario scan flash top/bottom	1	25.7

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
19.	FTL	Snap ID	2	1.1
20.	FTL	Fully Automatic nucleic acid extraction system	1	21.0
21.	FTL	Gel Documentation system	1	30.0
22.	FTL	High Through Sequencer system	1	284.8
23.	FTL	Blotting Device system	1	9.9
24.	FTL	Bioinformatics setup system	1	149.0
25.	FTL	Deep fridge with Accessories	1	4.7
26.	FTL	Concentrator System	1	6.7
27.	FTL	Refrigerator Shaking Incubator	1	4.9
28.	FTL	Biocare Autoclave Fermented	1	20.4
29.	FTL	Laminar Air Flow	1	3.6
30.	FTL	Lovibond BOD	1	1.4
31.	FTL	BOD Incubator	1	1.4
32.	FTL	Microbiological Blender	1	5.5
33.	FTL	Photobio Reactors with Accessories	1	9.1
34.	FTL	Media Preparator with system	2	9.5
35.	FTL	Microscope	1	24.9
36.	FTL	Flowcyto meter	1	35.0
37.	FTL	HPLC Model LC 10-A with Accessories	1	7.1
38.	FTL	Lyophilizer with accessories	1	3.7
39.	FTL	Gerhardt soxhtherm	1	8.5
40.	FTL	Altra Centrifuge Max (BackmanCulter)	1	44.1
41.	FTL	Ingns rotary flash evaporator	1	4.6
42.	FTL	Solvent extraction dinox	1	31.7
43.	FTL	Sapbox	1	132.5
44.	FTL	FTIR with Accessories	1	11.3
45.	FTL	HPLC system with Accessories	1	27.9
46.	FTL	Elan-9000 Mass Spectrophotometer (ICPMS)	1	55.3
47.	FTL	836-tietrendo with aces.	1	12.6
48.	FTL	797-voltramatic system	1	11.1

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
49.	FTL	GCMS QP-2010 Plus	1	72.9
50.	FTL	IR moisture balance	1	3.0
51.	FTL	LN-2 Safety Cooling System	1	1.3
52.	FTL	Spectrofloro photometer	1	9.7
53.	FTL	"JASCO" Infrared spectrophotometer	1	6.8
54.	FTL	Microtrac Particle Size Analyzer	1	31.6
55.	FTL	T.Q.D. Aquity UPLC	1	93.0
56.	FTL	Acquity UPLC system	1	52.0
57.	FTL	Automatic Fibre Extraction System	1	9.2
58.	FTL	Rio meter	1	4.5
59.	FTL	Ion Meter	1	3.5
60.	FTL	Rotary Evaporator	1	1.5
61.	FTL	Pan analytical with Accessories	1	5.7
62.	FTL	XRF Spectro.with Accessories	1	29.5
63.	FTL	Gerhardt turbotherm	1	19.1
64.	FTL	Gluten Analyzer (LCGC)	1	8.5
65.	FTL	C.H.N. Analyzer	1	16.4
66.	FTL	Atomic Absorption Spectrophotometer	1	26.0
67.	FTL	Multi skin vacu.minifold	1	2.9
68.	FTL	K F coulometer	1	4.0
69.	FTL	Protein Fractionators System	1	19.9
70.	FTL	Spot Spicker&Digestor System	1	46.4
71.	FTL	Protein Analysis Scanner	1	54.4
72.	FTL	Surface Plasma Resonance System (SPR)	1	115.9
73.	FTL	2 D Gel Electrophoresis	1	29.9
74.	FTL	PCR mycycler System	1	3.4
75.	FTL	Inverted Microscope	1	14.3
76.	FTL	Hot Air Oven (Nova)	1	0.98
77.	FTL	Bioinformatics work station with accessories	1	209.45
78.	FTL	Refrigerated Hi-speed Centrifuge (Neuaion refrigerated centrifuge with LCD dispaly)	1	2.49

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
79.	FTL	Chiller (IKA movable with wheels recirculating chiller)	1	3.48
80.	FTL	Incubator with shaker (iGenelabserve TFT display orbital shaking incubator)	1	4.89
81.	FTL	Microplate reader (Dual life plate Elisa reader & washer)	1	2.99
82.	FTL	Flame Photometer (Elico)	1	1.60

Major equipment available in the Department of Biochemistry, CoA, JAU, Junagadh

U. V. 220 Volt Spectrophotometer with PC

LCMSMS

Flame Photometer

SEM

MP-AES

Laminar Air Flow

Table 6.4.164 Ph.D.: Theory and Practical batches for Ph.D. program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semesters	Batch of students in theory class	Batch of students in practical class
1.	Ph.D. in Biochemistry	Odd	1 Batch (6 students)	1 Batch (6 students)
2.		Even	1 Batch (5 students)	1 Batch (5 students)

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty members preparetheory note, practical manual, multiple choice questioner book, from various books, research papers and reference books practical manuals for each subject of degree program and distributed to students at free of cost. The same material is uploaded in university website also.
- Many faculties with five years experiences in UG/PG teaching also contributed to the ICAR E-learning portal as course creator, unit reviewer and course reviewer.
- Students get practical exposure in separate laboratory of each discipline.

PRACTICAL AND HANDS-ON-TRAINING

- The students are rigorously exposed to practical trainings on pesticide residues and analysis in the food samples received.
- Students are frequently exposed to farm visits in nearby farmer's field to study various pest and diseases prevalence as well as to collect samples.
- Sufficient exposure is also given to PG students in DNA sequencing and anlysis.

6.4.6. SUPERVISION OF STUDENTS IN PG DEGREE PROGRAM

Apart from UG teaching, faculties are involved in PG teaching /guiding of students. The details of qualified /supervised faculty members and the students guided by them for the accreditation cycle, from 2020-21 to 2025-26, are given in Table 6.4.165 PG. The Advisory Committee is formed with the faculty member from the department acting as a major guide, while the minor guide and members are drawn from Plant Breedings, Seed Science, Biotechnology and Agricultural Statistics domains. The entire thesis research of the students, from synopsis preparation to its submission, is guided by the committee, along with their support in credit seminar preparation and the publication of students' works in reputed journals.

Table 6.4.165 Ph.D.*: Number of* Ph.D. *students supervised (guided) by faculty in the last five years in Biochemistry*

Degree Program	No. of students supervised	No. of qualified faculty members
Ph.D. in Biochemistry	07	05

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*) (2020-21 TO 2025-26)

- Information was collected from the outgoing students (after thesis submission) to know their future plans and to get their feedback for further improvements. Feedback from students, parents, farmers, and industrialists revealed that students are getting education as per schedule and sufficient facilities at hostels, mess, gym., sport ground, Wi-Fi are provided **(Annexure 6.4.7a).**
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per schedule where in Deans of all faculties, nominated Professors and Research Scientists of different faculties and renowned academicians are members. Based on the Board of study recommendation, the Academic Council takes the decision on academic matter for implementation in the university/college.
- ***STUDENT ADVISORY COMMITTEE:*** It is framed in the college in which four to five students are allotted to each faculty. They are frequently discussing the educational problems as well as the hostel related problems and authorities are implementing accordingly.
- ***STUDENT REPRESENTATIVE COUNCIL:*** It works within the college ambit and frequently discusses the teaching and learning process with students, getting their feedback and subsequent implementation.
- ***FACULTY GROUP OF SUBJECTS:*** Faculty group of subjects for Basic Sciences which includes Biotechnolgy, Biochemistry and Plant Physiology subjects are conducted every year to monitor evaluations of subject wise performance of PG students and quality of teaching by faculties. The meetings are chaired by Hon'ble Vice-Chancellor. The research synopsis of PG/Ph.D. students are presented in this meeting and suggestions given by faculties to improve the quality of PG research.

*Table 6.4.*166 Ph.D.*: Year-wise Faculty Group of Subject Meetings of Basic Sciences*

Sr. No.	Year	Convener	Dignitaries remaining present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	Suggestions received from concerned FGS meeting; corresponding action taken report are submitted in ***Annexure 6.4.7b.***
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal and Dean	
4.	2023-24	Professor and Head	Director of Research and Dean PG Studies, Registrar, Director of Extension Education, Associate Director of Research and Principal and Dean	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research and Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal and Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR LAST FIVE YEARS

During each academic year, the admission has been full as per sanctioned strength. However, some students may leave after getting admission or paying 1st semester fees due to their better placement or other personal reasons. Once they left, the vacant seat cannot be filled again and hence it remain unfilled, which is explained here as attrition %.

Table 6.4.167 Ph.D.: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
Ph.D. in Biochemistry	2020-21	03	03	0.00
	2021-22	01	01	0.00
	2022-23	02	02	0.00
	2023-24	01	00	100.00
	2024-25	02	02	0.00
	2025-26	03	03	0.00

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

1. ***CERA AND OTHER ONLINE E-RESOURCES:*** CeRA, the ICAR Consortium of e-resources in Agriculture, is effectively put to use with more than 3000 scholarly journals pertaining to the agriculture and allied sciences in full text.
2. ***E-BOOKS:*** The Springer e-books avaialbe with the university library are also extensively used by the faculty members and PG students alike for ASRB NET examination and general reading.
3. ***KRISHIKOSH:*** Besides uploading departmental theses to Krishikosh repository of ICAR, the department students also use the portal for literature review, identifying the gaps in their research and framing objectives.
4. ***INTERNET:*** Digital library with computers and internet facility is available and used by the PG Degree students. Wi-Fi Internet facility is also provided at all the hostels, which is available for all the time.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, CoA, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Date: 31.01.2026
Place: Junagadh

Annexure 6.4.7a

Postgraduate students' feedback report for AY 2024-25

Department of Biochemistry			
No of Respondent: 24			
Particulars:			**Score**
Departmental Teaching - Learning Process			
1. How do you rate Student- Teacher relations?			3.6
2. How do you rate for completion of courses by the teachers?			3.7
3. How do you rate fairness in internal assessment in the department?			3.5
4. How do you rate practical exposure from the department?			3.5
5. How do you rate for statistical analysis facility provided by the department			3.4
6. Did teachers motivate /support you for solving your personal problems			3.6
P.G. Research facility			
1. How do you rate for your selection of research topic?			3.4
2. Did you get enough facilities for conducting experiment?			3.6
3. How do you rate material provided for conducting experiment?			3.7
4. How do you rate for major Guide for supporting in completion of Seminar and thesis project			3.4
Library facilities			
1. Books related to your subject are available in the library?			3.5
2. Internet facilities for learning and research purpose?			3.5
3. Availability of research journals (online /offline) for review purpose?			3.5
4. How do you rate for delivery of books system?			3.1
Hostel Facility			
1. How do you rate Hostel facilities?			3.5
2. How do you rate wi-fi facility?			3.4
3. How do you rate for food quality in mess?			3.2
4. How do you rate cleanliness in the hostel?			3.3
Sports facility			
1. How do you rate indoor sports facility?			3.4
2. How do you rate outdoor sports facility?			3.3
Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	3	2	1

Annexure 6.4.7b

Feedback received in the Faculty Group Meetings of Basic Sciences

PROCEEDING OF MEETING ON 7th FACULTY GROUP OF BASIC SCIENCE HELD ON 2nd DECEMBER, 2021 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COLLEGE OF AGRICULTURE, JAU, JUNAGADH

7.1: Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. H. P. Gajera, Professor and Head presented the action taken report of the 6th meeting of faculty group of " Basic Sciences". He has also presented teaching and research activities of Department of Biotechnology and Biochemistry. The house appreciated the presentation with following suggestions.

1. Add H-index; i10-index and No. of total citations of publications of each faculty in the presentation.
2. Arrange advanced training on analysis for PG students.

(**Action: Faculties of Department of Biotechnology and Biochemistry discipline**)

7.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Add H-index; i10-index and No. of total citations of publications of each faculty in the presentation.

(**Action: Faculties of Plant Physiology discipline**)

7.3 Department of English, JAU, CoA, JAU, Junagadh

Dr. P. I. Dave, Assistant Professor presented the activities of Library and English discipline. The house approved and appreciated.

1. Add the work load of all the English teacher of JAU, Junagadh.
2. English subject may be included in social science group of subject meeting.

(**Action: Faculties of English discipline**)

7.4 General Suggestions

Prof. (Dr.) N. K. Gontia, Chairman & Hon. Vice Chancellor, Junagadh Agricultural University gave the presidential remarks to evaluate the teaching and PG research activities of faculties of Basic Sciences group. Some of the important points are given below

1. Emphasize on importance of Basic science in agriculture in the era of climate changes.
2. Suggest to channelize the research work done by basic science up to the end users and outcome-based research.
3. Research fellows may be involved in teaching activities including practical.
4. Research papers should be published good NAAS rated journals.
5. Encourage the PG students to publish their research in reputed Journals.
6. Encourage the staff and students to apply in different prestigious awards.
7. Training/Dissertation/Project work to basic science students of other university may be initiated.

(**Action:** *All major guide and faculty members of FGS - Basic Sciences*)

PROCEEDING OF 8th MEETING ON FACULTY GROUP OF SUBJECTS - BASIC SCIENCE
Venue: Seminar Hall, Department of Biotechnology, College of Agriculture, JAU, Junagadh. Date: January 27, 2023

8.1 Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. H. P. Gajera, Convener of FGS-BS and Professor & Head (Biotechnology) presented the action taken report on the proceeding of the 7th meeting of FGS-BS. The house approved the same after through discussion. He has also presented academic activities of UG and PG studies of Biotechnology and Biochemistry subjects. The house appreciated the presentation with following suggestions.

1. Job/Placement of students may be informed timely to placement cell by concern major guide.
2. Include JAU research for citation in PG thesis and research papers.

(Action: All the faculties, Department of Biotechnology and Biochemistry discipline)

8.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Information of the FGS report should be submitted strictly as per the format.
2. Job/Placement of students may be informed timely to placement cell by concern major guide.
3. Include JAU research for citation in PG thesis and research papers (Plant Physiology).

(Action: All the faculties of Plant Physiology discipline)

8.3 Department of Animal Science, CoA, JAU, Junagadh

Dr. N. K. Ribadiya, Assistant Professor and Head (Animal Sci.) presented the activities of animal science discipline. The house approved the presentation with following suggestions.

1. Information of the FGS report should be submitted strictly as per the format.

(Action: All the faculties of Animal Science discipline)

8.4 Presentation of Ph.D. Research work, Department of Biotechnology and Biochemistry, JAU, Junagadh

Two Ph.D. Students, (1) Ashwini M. N. and (2) Lakhani Komal G. presented their synopsis of Ph.D. research work. The house appreciated the presentation.

8.5 Presidential remarks

Dr. V. P. Chovatia, Chairman & Hon. Vice Chancellor, Junagadh Agricultural University gave the presidential remarks to evaluate the teaching and PG research activities of faculties of Basic Sciences group. Some of the important suggestions are given below

1. Emphasize more on Basic work related to Climate change in PG Research.
2. Encourage the PG students and faculties for published their research in reputed Journals having good NAAS rating/Impact factor.
3. Training/Dissertation/project work to basic science students of other university may be strengthened.
4. Encourage the Faculties and PG students to apply in different prestigious awards.

PROCEEDING OF MEETING ON 9th FACULTY GROUP SUBJECTS- BASIC SCIENCE, HORTICULTURE, ANIMAL SCIENCE HELD ON 25th JANUARY, 2024 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COA, JAU, JUNAGADH

8.1 Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. H. P. Gajera, Professor and Head (Biotechnology & Biochemistry) presented the action taken report of the 8th meeting FGS point wise and the house approved the same after thorough discussion. He also presented report of 9th FGS-Basic Science (BS) regarding teaching and research activities of Department of Biotechnology and Biochemistry. The house appreciated the presentation
with following suggestions.

1. Priorities should be given to cite JAU research in PG thesis writing.
2. Department wise credit hours or RAWEP should be calculate as per the norms.
3. Review the PG students progress timely

(Action: All the faculties and major guide, Department of Biotechnology and Biochemistry discipline)

8.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Use proper format of FGS.
2. Include self-citation of JAU research in PG thesis writing.

(Action: All the faculties of Plant Physiology discipline)

8.3 Department of Horticulture, CoA, JAU, Junagadh

Dr. N. D. Polara, Prof. and Head, Department of Horticulture, COA, JAU, Junagadh presented the activities of Horticulture discipline. The house appreciated the presentation with following suggestions.

1. Include self-citation of JAU research in PG thesis writing.
2. Use proper format of FGS
3. Hort 6.6 course to be transferred to PHT Department, CAET, JAU, Junagadh

(Action: Prof. and Head, Dept. of Horticulture, CoA, JAU, Junagadh)

8.4 Department of Animal Science, CoA, JAU, Junagadh

Dr. N. K. Ribadiya, Assistant Professor and Head (Animal Sci.) presented the teaching activities of animal science discipline. The house approved the presentation with following suggestion.

1. Use proper format for FGS.

(Action: Assistant Prof. and Head, Dept. of Animal Science, CoA, JAU, Junagadh)

8.5 Presentation of Ph.D. Research work, Department of Biotechnology and Biochemistry, JAU, Junagadh

Ph.D. Students, Kundan presented their synopsis of Ph. D research work. The house has appreciated the presentation and approved.

8.6 Presidential remarks

Dr. V. P. Chovatia, Chairman & Hon. Vice Chancellor, Junagadh Agricultural University gave the presidential remarks to evaluate the teaching and PG research activities of faculties of Basic Sciences and also for Horticulture and Animal Science group. He critically evaluated the teaching and research activities of each group and given

valuable suggestions to improve the education system. Some of the important points are given below

1. More emphasizeshould be given on ranking in NAAC.
2. Encourage the PG students and faculties for published their research in reputed Journals

having good NAAS rating/Impact factor along with thesis writing.

3. Encourage the staff and students to apply in different prestigious awards

PROCEEDING OF 10TH FACULTY GROUP OF BASIC SCIENCE HORTICULTURE AND ANIMAL SCIENCE HELD ON 13th JANUARY, 2025 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COLLEGE OF AGRICULTURE, JAU, JUNAGADH

10.1 Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. U. K. Kandoliya, Associate Professor presented the action taken report of the 9th meeting of faculty group of "Basic Sciences". He has also presented teaching and research activities of Department of Biotechnology and Biochemistry. The house appreciated the presentation with following suggestions.

1. The presentation must adhere strictly to the prescribed format, without including unnecessary information from previous years.
2. Research fellows and supporting staff under the ad-hoc scheme should be included in the staff position in report.
3. The list of experts for MBB and Biochemistry needs to be updated to include retired JAU experts.
4. Provide a list of books purchased by the library following departmental commendations.
5. Feedback from PG students should be collected by their respective guides and include the overall feedback in the report.

(Action: All the faculties, Department of Biotechnology and Biochemistry discipline)

10.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Collect feedback from PG students and include the general feedback in the report.

(Action: Faculty of Plant Physiology discipline)

10.3 Department of Horticulture

Dr. N. D. Polara, educational activities of Horticulture suggestions.

1. The Horticulture group from the College of Agriculture (CoA) will move to the College of made with the College of Horticulture, JAU, Junagadh.
2. Collect feedback from feedback in the report.

10.4 Department of Animal Science

Dr. N. K. Ribadiya, Assistant Professor, animal science discipline.

1. Collect feedback from feedback in the report.

10.5 Presentation of Ph.D. Research work, JAU, Junagadh

Ph. D. student Japada Ashish was approved by the house.

10.6 Presidential remarks

Dr. V. P. Chovatia, President important points are given below

1. NAAS rating or impact
2. Each faculty member should

3. knowledge in their respective subjects.
4. Motivate staff and students to apply for various prestigious award
(Action: All faculty members of FGS-Basic Sciences, Horti., Animal Sciences)

PROCEEDING OF MEETING ON 11th FACULTY GROUP OF BASIC SCIENCE AND ANIMAL SCIENCE HELD ON 12th SEPTEMBER, 2025 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COLLEGE OF AGRICULTURE, JAU, JUNAGADH
Venue: Seminar Hall, Department of Biotechnology Date: 12/09/2025

General suggestions:
11.1 All the faculty members of the group must attend the meeting.
11.2 The citation of the research papers of JAU faculties should be included in the PG research thesis and guide should check the same
11.3 All the major guide of PG students should follow the guidelines while submitting synopsis and final thesis will ensure high quality and reduce errors
11.4 Name of the registrar should be acknowledged in the PG thesis and major guide should ensure it.
11.5 Encourage the PG students and faculties for published their research in reputed Journals having good NAAS rating/Impact factor.
11.6 Every staff member has to take responsibility to improve University Ranking in various platforms/ accreditation.
11.7 Training for the staff for the updating in their subject.
(Action: All the members of Basic Science Group, JAU, Junagadh)

Action Taken:

All suggestions relevant to the Department of Biochemistry, based on the feedback received from the esteemed members of the house who remained present in the Faculty Group of Subjects Meetings, were implemented from time to time and the concerned reports were also presented in the subsequent meetings.

6.4:
Self-Study Report for Ph.D. in Molecular Biology and Biotechnology

6.4. SELF-STUDY REPORT FOR PH.D. IN MOLECULAR BIOLOGY AND BIOTECHNOLOGY AT COA, JAU, JUNAGADH

6.4.1. BRIEF HISTORY OF THE PH.D. DEGREE PROGRAM

The Department of Biotechnology was established at the College of Agriculture, Junagadh Agricultural University, Junagadh, during the academic year 2008-09 under a Plan Scheme, *vide* letter No. JAU/Reg./AdM.31 New Scheme/2008/23463-47 dated 07.08.2008. Prior to its establishment as an independent department, biotechnology activities were carried out through a Biotechnology Centre, with research responsibilities shared among faculty members from the Departments of Biochemistry and Genetics and Plant Breeding.

The Biotechnology department now offers M. Sc. programs in Plant Biotechnology / Plant Molecular Biology and Biotechnology since 2008, and in the coming years it will also offer one-year PG diploma course. Today, the Department of Biotechnology has emerged as a leading seat of learning in the field of Agricultural Biotechnology in India with emphasis on plants and microorganisms. The Department has good infrastructure and ample facilities for pursuing research in several priority areas of state/country's interests.

Besides the Department offering M.Sc. degrees in the discipline of Molecular Biology and Biotechnology, Biotechnology forms an integral part of the curriculum of UG and PG students of different disciplines of Agriculture, Veterinary Sciences, Fisheries Sciences and Basic Sciences. The department is also undertaking research projects and schemes related to biotechnological works important for agriculture.

Department of Biotechnology, College of Agriculture, JAU, Junagadh

STEPPING-STONES OF THE DEPARTMENT

- NABL accreditation of the food testing laboratory in the year 2012-14, 2014-16, 2016-18, 2018-20, 2020-22, 2022-24 and 2025-29.
- Over 569738 samples from other departments, colleges, universities, research stations, farmers and entrepreneurs have been analysed as of 2024-25 in Food Testing Laboratory, Junagadh Agricultural University.
- Accreditation team from ICAR (2020-21) appreciated the Food Testing laboratory consisting of world class facility for biochemical and molecular analytical services in India. Even foreign students from University of Venda, South Africa and Iran came for work at the Food Testing Laboratory, Junagadh Agricultural University, Junagadh.

- About 25 students of dissertations/hands on trainings from other universities have been done in Food Testing Laboratory, Junagadh Agricultural University, Junagadh along with 80 M.Sc. and Ph.D. students of Biochemistry and Biotechnology during the last five years.
- Work on biosensor has been appreciated at world level, with its patent granted on 13/07/2023 (Patent No 438688).
- Work of Food Testing Laboratory team on nano- fertilizer is embarked with an overarching objective to reduce fertilizer use by 1/5th of present consumption. It will soon be a boon for the farmers across the country.

MISSION, GOALS AND OBJECTIVES

MISSION:

- To advance education, research, and innovation in biochemistry with emphasis on plant, nutritional, and environmental aspects, thereby generating knowledge and technologies that enhance crop productivity, food quality, and sustainable agricultural development.

Goals:

- **Academic Excellence:** To impart high-quality postgraduate education in Biochemistry and equip students with advanced analytical and research skills.
- **Research & Innovation:** To undertake basic and applied research in plant biochemistry, stress physiology, nutrition, and molecular biology for addressing agricultural challenges.
- **Infrastructure Development:** To strengthen laboratories and facilities, particularly the Food Testing Laboratory, as a national-level hub for biochemical and molecular analysis.
- **Capacity Building & Training:** To train students, researchers, and entrepreneurs in modern biochemical techniques, analytical methods, and emerging areas such as biosensors and nanotechnology.
- **Extension & Outreach:** To provide biochemical testing, consultancy, and innovative solutions that benefit farmers, industries, and policy makers.
- **Recognition & Collaboration:** To establish the department as a recognized center of excellence in biochemistry through collaborations, patents, and international engagement.

OBJECTIVES:

- To run M.Sc. programs in Biochemistry with specialization in plantbiochemistry.
- To develop advanced infrastructure for postgraduate teaching and research.
- To strengthen the Food Testing Laboratory for biochemical and molecular analyses.
- To offer training and workshops for students, faculty, and researchers.
- To conduct research on crop quality, stress tolerance, fruit ripening, and environmental pollution.
- To support students in achieving academic excellence and professional growth.

ACCOMPLISHMENTS/ ACHIEVEMENTS OF LAST FIVE YEARS:

EXTERNAL FUNDED PROJECTS IN THE DEPARTMENT OF BIOTECHNOLOGY

(AS OF 31-07-2025)

2022-23:

- Microbial, Meta-omics and On-farm Evaluation study on Biostimulants (Beejamrit and Dravajivamrit) and Biorationals (Neemastra and Dashaparni Ark) by Gujarat State Biotechnology Mission, Gandhinagar.

2023-24:

- Microbial, Meta-omics and On-farm Evaluation study on Biostimulants (Beejamrit and Dravajivamrit) and Biorationals (Neemastra and Dashaparni Ark) by Gujarat State Biotechnology Mission, Gandhinagar.

2024-25:

- Microbial, Meta-omics and On-farm Evaluation study on Biostimulants (Beejamrit and Dravajivamrit) and Biorationals (Neemastra and Dashaparni Ark) by Gujarat State Biotechnology Mission, Gandhinagar.

2025-26:

- Microbial, Meta-omics and On-farm Evaluation study on Biostimulants (Beejamrit and Dravajivamrit) and Biorationals (Neemastra and Dashaparni Ark) by Gujarat State Biotechnology Mission, Gandhinagar.

RECOMMENDATIONS FROM THE DEPARTMENT OF BIOTECHNOLOGY FOR SCIENTIFIC COMMUNITY

2020-21:

1. Elemental, nutritional and microbiological analysis of panchagavya (ancient liquid organic)

The Scientific communities involved in panchagavya research or microbial research are recommended to use 19-day old panchagavya to study microbial diversity. The proportion of α-proteobacteria was found maximum in 19-dayold panchagavyasolution while 21-day panchagavya formulation was found to be dominated by Firmibacteria, ß-proteobacteria and Actinobacteria. The presence of unknown /novel microbes were also found highest in 21-day old Panchagavya, as revealed by Metagenomic analysis.

The results also revealed that, the panchagavya solution was dominated by the bacteria belonging to nitrogen fixing, phosphate solubilizers and potash mobilizers group. Moreover, it showed in vitro antagonism towards plant pathogenic fungi like Helminthosporium (47%), A. flavus (45%), A. niger (35%) and Sclerotiumrolfsii (40%). Elemental composition of Panchagavya showed higher concentration of Fe (158.94 ppm), Ca (2789.99 ppm), Mg (1553.76 ppm) and Mo (25.50 ppm). It also contained N-Methyl-2-pyrrolidinone used as insecticide, herbicide and fungicide. Phenylacetaldehyde is a second major compound found in pachagavyawhich has very important antibiotic capability.

2. Biochemical and molecular evaluation of A1 and A2 casein protein of milk in Holstein friesian cow and indigenous Gir cow

The scientific community involved in Cattle improvement are recommended to use Marker Assisted Selection to detect or distinguish A1A2 and A2A2 genotypic frequency among the Gir Bulls and Cows using below mentioned marker.

1	A1 Forward	5' CTTCCCTGGGCCCATCCA3'
	A1 Reverse	5' AGACTGGAGCAGAGGCAGAG 3'
2	A2 Forward	5' CTTCCCTGGGCCCATCCC3'
	A2 Reverse	5' AGACTGGAGCAGAGGCAGAG 3'

3. Genome sequencing of cumin (Cuminum cyminum) to reveal insight of its genomic architecture

The scientific community involved in Cumin improvement are recommended to use genomic information generated (https://drive.google.com/file/d/ 1ukln R77lYWJcR Ip8m40lLpm OP_ujqJz/view ?usp=sharing) for cumin in Marker Assisted Selection for the improvement of cumin. They are also advised to use the genes identified as mentioned below and SSRs identified in Marker Assisted Selection.

Sr. No.	Character	Number of genes	Gene identified
1	Flavonoid	21	U78D2, C75A2, 75A4, C75B3, C93C F3PH, FAOMT, FL3H3, MOMT, SOMT SOT5, UFOG, UFOG1, UFOG2, UFOG UFOG4, UFOG5, UFOG6, FOG7, UGF and Y1103
2	Chalcone synthase	9	6DCS, CHS1, CHS2, CHSA, CHSB, CHS CHSL1, CHSY, PKS5
3	Chalconeisomerase	4	CFI, CFI1, CFI2B, CFI3
4	Flavanone synthase	3	C93C1, FNSI, C93B1
5	Terpenoid synthase	15	BAMS, GBIS1, GBIS2, HUMS, TPS TPS05, TPS07, TPS08, TPS09, TPS TPS18, TPS22, TPS26, TPS29, TPS30
6	Disease resistance	89	ADR2, CDR1, CHS1, CSA1, DF230, DR206, DRL12, DRL13, DRL14, DRL15, DRL16,DRL17, DRL18, DRL19, DRL2, DRL20,DRL21, DRL23, DRL24, DRL25, DRL26,DRL27, DRL28, DRL29, DRL3, DRL30,DRL31, DRL32, DRL33, DRL34, DRL36,DRL37, DRL38, DRL39, DRL4, DRL40,DRL41, DRL42, DRL43, DRL45, DRL5,DRL7, DRL8, DRL9, DSC1, DSC2, EDR1,EDR2, EDR2L, EDR4, LAZ5, LOV1A,NDR1, R13L1, R13L2, R13L3, R13L4,RFL1, RGA1, RGA2, RGA3, RGA4,RLM1B, RLM3, RP8HA, RP8L2, RP8L3,RP8L4, RPM1, RPP1, RPP13, RPP4, RPP5,RPP8, RPS2, RPS4C, RPS4L, RPS4W,RPS5, RPS6C, RPS6R, RPS6R, SUMM2,TAO1, WR52C, WR52N, WR52R, WR52W,Y4117
7	Antifungal	4	DEF1, DEF15, DEF2, DEF4

Sr. No.	Character	Number of genes	Gene identified
8	Early flowering	13	ASHH2, EFM, ELF3, ELF6, HD16N, PA PIE1, REF6, RUP1, RUP2, SKIP, SWC VIP6
9	Aromatic	11	5MAT, ANTA, AVT3A, AVT3B, AVT3 DDC, ISS1, PGL1, PGL2, PGL3, SOT16
10	Drought	8	AL7A1, DIS1, ERG14, HDG11, LSM5, SAD2, SDIR1, SSP1A
11	Nematodes	2	ELF3, HSPR2

4. Transcriptome analysis in coriander for identification of candidate genes against stem gall disease

The scientific community involved in Coriander improvement is recommended to use the following set of 7 primers in the process of marker assisted selection for the identification of disease defence genes in coriander genotypes

Sr. No.	Gene Name	Forward Primer	Reverse Primer	Function
1.	RL31	GCCAAACCAAAAG GTGAGAA	CGGATACCCTTA GCCCAGAT	Jasmonic acid mediated signaling pathway
2.	A0A2Z5D8 54	CCACCGTTTCCAAT GCTAGT	GGAATCTCTCGG GCCTAAAC	Metal ion binding;
3.	A0A166CJ74	ATTGGCTGAGCTTT GGATTG	GGCTTGATGCTC CATTGTTT	Regulation of transcription, DNA-templated
4.	A0A166CJ74	CACGCATTTCTCCT CCTGAT	TCAGAGGGGGT TTTCTGATG	DNA-templated
5.	Y1934	ACTCGGTGTCACGG TTTTTC	CAAAAGCCGAG ATTGTGGAT	Molecular function DNA-binding
6.	TGA10	CCCTGTTGGGAAAC TTCGTA	GCTGCAAAGGT CCAGCTATC	Nitogen-activated protein kinase binding
7.	A0A164XUZ0	GAGTTGGAGTTCAG GGAGGA	GATGAGCGGGA TATCTGGAA	Affects Fungal Development and Pathogenicity of Fusarium graminearum
8.	A0A164XUZ0	CTGGCTGGAGAGAG GATGTC	CTACCGTGCCCAA GTTCTGT	Defense response to fungus
9.	A0A164XUZ0	AGACTGAAGTGGAC CCCAGA	TCCATGCAGATTT TTGCTGA	Transferring phosphorus-containing groups
10.	A0A164XUZ0	GAGTTGGAGTTCAG GGAGGA	GATGAGCGGGAT ATCTGGAA	Defense response to fungus

5. Transcriptome and Proteomic characterization for identification of candidate genes responsible for pistillate inflorescence and its reversion in castor

The scientific community involved in Castor improvement are recommended to use the set of 14 primers as mentioned below to distinguish the pistillate and monoecious plants in castor. They are also advised to use the castor database developed (http://webtom.cabgrid.res.in/castdb/) for the identification of gene of interest and selection of SSRs and their primers to be used under Marker Assisted Selection and molecular breeding.

Sr. No.	Name of the Gene	Forward primer	Reverse Primer	Gene Function
1	Dynamin-2A	GCTAAGCAAGGGTTCGTCAG	CTGGCAGGTCGATCAATTTT	Response to hormone stimulus
2	Auxin response factor	CACACATGGTGGGTTCTCAG	TGAGTTGGTGGTTGCATTGT	Organ development; and post-embryonic development
3	ATP-binding protein	CATTGGACAGGTCCTCCACT	AAGCAAGGTGAAGCAAGGAA	Regulation of ARF protein signal transduction
4	Spermidine synthase	GGTGCTGCATTTCTCTCCTC	TGCCCTGGAATAAATCTTGC	Polyamine biosynthetic process
5	Xaa-pro amino peptidase	GGATGGAAGCTTTGGCATAA	GCCCTTCTCACCAAAATTGA	Auxin transport
6	Conserved hypothetical protein	TCGAATGAAGAGGCCATTCT	GTGAGAAGGGCAAAAGCAAG	Abscisic acid metabolic process
7	MADS box protein	AAAGGTTGGCCTGAGGAGTT	GTCACTTGCCTGTTGCTTGA	Transcription, DNA-dependent
8	RNA polymerase sigma factor rpoD1	GATCTTCAGGCAAGCACTCC	ATATCCTCCCCTTGGTCCAC	DNA-dependent transcription, initiation
9	Protein with	TTGTCAAGGGCCAGTTC	TTGACCTGCTGTGTCCC	Guanylribonucl

Sr. No.	Name of the Gene	Forward primer	Reverse Primer	Gene Function
	unknown function	TTT	ATA	eoti de binding
10	Arginine/serine-rich splicing factor	CGGAAGCTTGATGACACTGA	GGCTTCTACTTCGGCTCCTT	Sex differentiation
11	Acid phosphatase	TCCTGTAACCGTTCCTTTCG	TGTTCAGGCTCGAAACCTCT	Phosphatase activity
12	DNA replication helicase dna2	AGGCTGTGAATAACCCAACG	CCCAATATCTTCGCCTTGAA	DNA metabolic process
13	Eukaryotic translation initiation factor 2c	CACGACTTTTTCCCGTTGAT	GAACTCCCTCTGGTGGCATA	Translation
14	s-adenosyl-methyltransferase mraw	TCTCCGTTCTTTCGTCGATT	GGGTCAACATCCATTCCAAC	rRNA methylation

2021-22:

1. Isolation and identification of salt tolerant strains of beneficial microorganisms from the coastal soils of Saurashtra region

Native halophilic bacterial strains isolated from agricultural soils of coastal regions of Saurashtra have potential for application in both industries and agriculture. The promising performance of these isolates in terms of plant growth promoting characteristics such as nitrogen fixing capacity, solubilization of phosphate and potash, production of IAA, siderophore along with production of biochemically important enzymes and bioactive compounds such as chitinase, cellulase, protease, carotene, ectoine and glycine betaine was observed.

Halophilic bacterial isolates were *Halomonas pacifica* strain_JAU_7B (MK955347), *H. pacifica* strain_JAU_20A (MK575078), *H. pacifica* strain_JAU_22A (MK042491), *H. pacifica* strain_JAU_22C (MK043087), *H. pacifica* strain_JAU_25A (MK116946), *H. pacifica* strain_JAU_29A (MK114047), *H. pacifica* strain_JAU_36A(MK114047), *H. pacifica* strain_JAU_36B (MK114047), *H. stenophila* strain_JAU_37A (MK961217), *Oceanobacillusaidingensis*strain_JAU_39B (MK148253), *H. pacifica* strain_JAU_40B (MK114047), *Bacillus haynesii*strain_JAU_41A (MK157609), *B. licheniformis* strain_JAU_43A (MK118996), *B. haynesii*strain_JAU_43B (MK157608) and *B. haynesii* strain_JAU_45A (MK157609) which confirmed through molecular characterization by 16srRNA.

2. Development and characterization of polymer based nanofertilizers and their response to wheat

Chitosan nanoparticles (CS-NPs) were synthesized and examined greater than 40 mV zeta potential indicating good stability. The urea, tricalcium phosphate and muriate of potash were used as sources for incorporation of N, P and K elements individually onto the CS-NPs and the elevation of size of the nanofertilizers, without aggregation of nanoparticles, were observed. Scanning electron micrograph illustrated spherical shape of the CS-NPs and gave the idea about the morphology of incorporated NPK nanofertilizers. The FTIR study indicated that there is an electrostatic interaction occurs between the charges of CS-NPs and the N P K elements, resulted to stretching of spectra (peak) at specific wavelength confirming the incorporation of N P and K elements on to the CS-NPs. The application of 5% NPK nanofertilizers (10 time less) on wheat suggested higher nutritional seed quality and maintained yield equivalent to chemical fertilizers. The cost-effective NPK-nanofertilizers thus developed may save the forex (subsidy) about 38.22%. It has better controlled-release system in a liquid formulation to enhance nutrient use efficiency and sustained crop growth.

2022-23:

1. Development of biochemical and molecular markers for heat tolerance in chickpea

The chickpea genotype namely ICC-4958 was identified highly tolerant when exposed to 42/37 ºC temperature at germination stage. This genotype had high antioxidant activity, ascorbic acid, glutathione, super oxide dismutase, ascorbate peroxidase, glutathione reductase along with Quinone oxidoreductase, glutaredoxine and heat shock protein 70. SSR markers namely Cam1536, TA27, TR 58 could also reveal this genotype different at DNA level. Hence, this genotype can be exploited in breeding to develop heat tolerance lines/varieties of chickpea.

2023-24:

1. Improvement of Groundnut oil quality for high oleic acid through CRISPR/Cas gene editing technology

The scientific communities involved in groundnut improvement through genome editing technology are recommended to use CRISPR/Cas9 technology and pRGEB31 vector for successfully editing the gene of interest.

2024-25:

1. Optimization of regeneration protocol using different plant growth regulator in Pomegranate (*Punica granatum* L.) cv. 'Bhagwa' Cultivar (2024-25)

A regeneration protocol was successfully developed from using nodal explant for pomegranate (*Punica granatum* L.) cv. 'Bhagwa,' highlighting the following key findings:

- Surface sterilization with Carbendazim-50% @ 10 min + Cefotaxime @ 7 min + Kanamycin @ 5 min + Ketokenazol @ 10 min + 0.1% $HgCl_2$ @ 3 min was effectively prevented contamination in nodal explant.
- Transfer of explants every 24 hours reduces 90% polyphenol accumulation.
- Shoot initiation was achieved using MS +0.2 mg/L BAP + 0.1 mg/L NAA.
- The highest number of multiple shoots was observed using MS + 0.2 mg/L BAP + 0.1 mg/L KIN.
- Root induction was optimal with MS + 0.3 mg/L IBA using WPM media for root development.
- Hardening was most effective when plantlets were acclimatized in a 3:1 soil-to cocopeat ratio, with a 94% survival rate.

Table 6.4.168 Ph.D.: Awards/recognition received by faculty members (Department of Biotechnology)

Sr. No.	Name of Faculty	Name of Award	Authority	Year
1.	Dr. M. V. Parakhia	Young Microbiologist Award	Agro Environmental Development Society (AEDS), Majhara Ghat, Rampur, U. P., India.	2020-21
2.	Dr. A. G. Vala	Academic excellence award	The International Multidisciplinary Research Foundation, Bangalore.	2020-21
3.	Dr. R. S. Tomar	Fellow of SHRD	Society of Horticultural Research and Development, New Delhi	2022-23
4.	Dr. A. G. Vala	Young Scientist Awards	Asia-Pacific: SCIFAX	2022-23
5.	Dr. A. G. Vala	Young Scientist Awards	Science Father	2022-23
6.	Dr. S. B. Bhatt	Senior Scientist Award –Gujarat State	Microbiology Society of India	2022-23
7.	Dr. M. V. Parakhia	Excellence in research award	1st international conference organized by GNFSU, IIMTU, Meerut and HARWS	2023-24
8.	Dr. S. B. Bhatt	Distinguished scientist award	Gujarat Natural Farming and Science University, Anand, India.	2023-24
9.	Dr. S. B. Bhatt	Senior scientist award	Microbiology Society India	2023-24
10.	Dr. S. B. Bhatt	Best popular article award	The Science world International Magazine	2023-24
11.	Dr. A. G. Vala	Young researcher award	Institutional Research	2024-25

Table 6.4.169 Ph.D.: Awards received by PG degree students (Department of Biotechnology)

Sr. No.	Name of Student	Name of Award	Year
1.	Hirpara Darshna G.	ICAR National Award - 2019 **with cash prize of 50000/- Rs: Jawaharlal Nehru Award for Outstanding Doctoral Thesis** Research in Agricultural and Allied Sciences 2019 in the category of Biotechnology at 92nd foundation day of ICAR and award ceremony at Indian Council of Agricultural Research (ICAR), New Delhi on July 16, 2020	2020-21

Sr. No.	Name of Student	Name of Award	Year
2.	Likhindra Reang	**"Best Poster presentation" 1st Rank** in National Conference entitled "Innovations in Biological Sciences" held at Saurashtra University, Rajkot on 2020	2020-21
3.	Savani Khyati R	**Late Dr. Diwakar M. Patel Gold medal** for Best research work in M. Sc. from Anand Agriculture University, Anand	2020-21
4.	Bhadani Rushita V.	**Dr. A. V. Barad´s Late Parents Smt. Amarba& Shri Virsangbhai barad Memorial Gold Plated Silver medal** for securing highest overall grade point average in faculty of Agriculture or Horticulture in Doctoral Degree from Junagadh Agricultural University, Junagadh on Jan 8th, 2022	2021-22
5.	Savani Khyati R	**2nd position for oral presentation** for research paper entitled "Metabolomisc of developing anthers and sepals influenced by salicylic acid functionalized nano-chitosan particles to attenuate damage under heat stress in cotton" in International Conference on Biotechnological Initiative for climate resilient Agriculture at RPCAU, PUSA, Bihar on Jan 7-9th, 2022	2021-22
6.	Hirpara Darshna G.	**Best Ph. D. thesis award** – 2018 & 2019: For Commendable Thesis work for Ph. D. Degree from The Gujarat Association for Agricultural Sciences (GAAS), Ahmedabad on 2nd February, 2023.	2022-23
7.	Hirpara Darshna G.	**Shri Chaitanya Mehta Award-2020 with cash prize of 11000/- Rs**: For Commendable presentation of Ph. D. Thesis work sponsored by Dr. K. G. Mehta, Ahmedabad from The Gujarat Association for Agricultural Sciences (GAAS), Ahmedabad on 2nd February, 2023.	2022-23
8.	Hirpara Darshna G.	**Best oral presentation - first prize** in National Conference on "Emerging Paradigm in Agricultural Microbiology" held at Atmiya University, Rajkot on 11th February, 2023.	2022-23
9.	Ashwini M. N.	**ICAR SRF** from Indian Council of Agricultural Research (ICAR), New Delhi in the year 2023	2022-23
10.	Lakhani Komal	**Prime minister Fellowship** from A PPP Initiative of Science & Engineering Research Board (SERB) Department of Science & Technology, Government of India and Confederation of Indian Industry (CII) in the year 2023	2023-24

Table 6.4.170 Ph.D.: Year-wise NET qualified PG/Ph.D. Students in Biotechnology

Sr. No.	Year	No. of students qualified NET
1.	2020-21	Exam not Coundected
2.	2021-22	04
3.	2022-23	02
4.	2023-24	Exam not Coundected
5.	2024-25	Exam not Coundected
6.	2025-26	01 (CSIR NET -2025)
	Total	07

Table 6.4.171 Ph.D.: Research publications of faculty Members (Department of Biotechnology)

Sr. No.	Particular	Number of publications during the last five years
1.	National/International Journal	431
	6.0 and above	81
	4.0-6.0	324
	< 4.0	26
2.	Books Published/Book Chapter	43
3.	Practical Manuals	26

Table 6.4.172 Ph.D.: Seminar / workshop / symposia organized by the Department of Biotechnology during 2020-21 to 2025-26

Sr. No.	Title	Date (DD/MM/YY)	Place	No. of participants
2021-22				
1.	Hands-on training on "Pesticide Residues in Food and Environmental Samples"	Aug. 09-13, 2021	Department of Biotechnology, College of Agriculture, JAU, Junagadh (Jointly organized by Agilent University and Department of Biochemistry)	50
2022-23				
2.	Hands-on five days training on "Next generation sequencing"	Nov. 21-25, 2022	Department of Biotechnology, College of Agriculture, JAU, Junagadh (jointly organized by Department of Biochemistry and GBRC, Gandhinagar)	12
2023-24				
3.	NAHEP-IDP sponsored National training on "Application of Next Generation DNA sequencing technology in Agriculture"	June. 26-30, 2023	Department of Biotechnology, College of Agriculture, JAU, Junagadh	50
2024-25				
4.	National workshop on NABL Awareness Program including Soil Testing recognition program, titled "NABL Accreditation and Its Benefits"	July. 20, 2024	Department of Biotechnology, College of Agriculture, JAU, Junagadh (Jointly organized by Department of Biochemistry and NABL)	85

6.4.2. FACULTY STRENGTH (AS OF 31-07-2025)

In total, six faculty members are actively engaged in teaching and PG research of Plant Molecular Biology and Biotechnology. However, seven faculties from research stations and other departments are required to complete the academic of PG teaching and guiding. There are five vacant faculty positions at the department (as of July 31, 2025).

Table 6.4.173 Ph.D.: Details of faculty strength (Department of Biotechnology)

Sr. No	Sanctioned Faculty for PG	Faculty in place	Vacant position	Faculty recommended by the ICAR	Staff sanctioned by the GoG
1.	Professor	0+1*	1	Not recommended by ICAR	1
2.	Associate Professor	1+4*	3		4
3.	Assistant Professor	5+2*	1		6
	Total	6+7*	5		11

* Faculty assigned for both teaching and research works.

6.4.3 TECHNICAL /SUPPORTING STAFF (AS OF 31-07-2025)

Technical and Supporting staff are enough and required for lab analysis of departmental and other agency projects.

Table 6.4.174 Ph.D.: Details of technical/supporting staff strength as of 31.07.2025 (Department of Biotechnology)

Sr. No.	Sanctioned staff	Staff in position place	Vacant	Recommended by ICAR	Staff sanctioned by the GoG
1.	Technical/Supporting staff	12	01	Not recommended by ICAR	13
2.	Administrative staff	02	01		03
	Total	14	03		16

* Pooled from other departments

6.4.4. CLASSROOMS AND LABORATORIES

Classroom for PG teaching is well furnished with AC, Projector, Computer, UPS and CCTV. Principal of the college and Head of the Department routinely monitor the classes taken by faculties either through CCTV or personal visits. PG laboratories are well equipped with instruments and equipment required for PG research in basic and applied field of agriculture.

Table 6.4.175 Ph.D.: Classroom infrastructure in the department

Sr. No.	Classroom	Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Department of Biotechnology					
1.	Classroom-PG	24.00	30	PG teaching	AC, Projector, Computer, UPS, CCTV
2.	Seminar Hall	48.00	80	PG seminar, trainings, workshops	AC, Projector, Computer, UPS, CCTV

PG Classroom

Seminar Hall

The Food Testing Laboratory (FTL) at Junagadh Agricultural University, Junagadh (Gujarat) is a joint venture of JAU, Ministry of Food Processing Industries (New Delhi), ICAR (New Delhi) and Gujarat Agro Industries Corporation (GAIC). It includes building, interior and laboratory equipments. This laboratory is first of its kind providing professional interface to public and private sectors. FTL also provided central instrumentation facilities for PG and Departmental research of JAU. Laboratory facilities and equipments available in food testing laboratory are utilized for basic research in the field of Biochemistry/ Microbiology/Plant Biotechnology/ Nanotechnology/Bioinformatics.

Table 6.4.176 Ph.D.: *Departmental PG laboratories established (As of 31-07-2025)*

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	Facilities
Biochemistry					
1.	PG Laboratory	154.57	35	PG Practical and Research	AC, Computer, UPS, CCTV
2.	Food Testing Laboratory	1080.00	80	PG Practical and Research	Analytical sophisticated instruments, extraction platforms, and post-data analysis facilities

PG laboratories

Food Testing Laboratory

Table 6.4.177 **Ph.D.:** *List of major equipment available with the Department of Biotechnology*

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
Department of Biochemistry				
1.	PG Laboratory	Water Purification system	1	3.7
2.	PG Laboratory	PCR with Accessories	1	17.7
3.	PG Laboratory	Ultra-high-speed Refrigerated centrifuge (Plastocraft)	1	3.8
4.	PG Laboratory	Capillary electrophoresis	1	25.0
5.	PG Laboratory	DE -Auto clave	1	1.2
6.	PG Laboratory	U. V. 220 Volt Spectrophotometer with Accessories (PC)	1	4.8
7.	PG Laboratory	Sartorius German Make Micro Balance	1	5.1
8.	PG Laboratory	Gel Documentation System GDS 8000 with Accessories	1	3.1
9.	PG Laboratory	Freeze vertical -25 C	4	1.5
10.	PG Laboratory	Various Capacity Balance	7	10.0
11.	PG Laboratory	Pico drop Spectrophotometer	2	5.7

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
12.	PG Laboratory	Alico U.V. Spectrophoto.	2	2.3
13.	PG Laboratory	Veriti-96 Thermal cycler PCR machine	2	3.6
14.	FTL	Inverted Microscope	1	14.3
15.	FTL	Express Grinder	1	1.9
16.	FTL	Gene sequencer	1	98.5
17.	FTL	Micro Manipulator	1	31.0
18.	FTL	Vario scan flash top/bottom	1	25.7
19.	FTL	Snap ID	2	1.1
20.	FTL	Fully Automatic nucleic acid extraction system	1	21.0
21.	FTL	Gel Documentation system	1	30.0
22.	FTL	High Through Sequencer system	1	284.8
23.	FTL	Blotting Device system	1	9.9
24.	FTL	Bioinformatics setup system	1	149.0
25.	FTL	Deep fridge with Accessories	1	4.7
26.	FTL	Concentrator System	1	6.7
27.	FTL	Refrigerator Shaking Incubator	1	4.9
28.	FTL	Biocare Autoclave Fermented	1	20.4
29.	FTL	Laminar Air Flow	1	3.6
30.	FTL	Lovibond BOD	1	1.4
31.	FTL	BOD Incubator	1	1.4
32.	FTL	Microbiological Blender	1	5.5
33.	FTL	Photobio Reactors with Accessories	1	9.1
34.	FTL	Media Preparator with system	2	9.5
35.	FTL	Microscope	1	24.9
36.	FTL	Flowcyto meter	1	35.0
37.	FTL	HPLC Model LC 10-A with Accessories	1	7.1
38.	FTL	Lyophilizer with accessories	1	3.7
39.	FTL	Gerhardt soxhtherm	1	8.5
40.	FTL	Altra Centrifuge Max (BackmanCulter)	1	44.1
41.	FTL	Ingns rotary flash evaporator	1	4.6
42.	FTL	Solvent extraction dinox	1	31.7
43.	FTL	Sapbox	1	132.5
44.	FTL	FTIR with Accessories	1	11.3
45.	FTL	HPLC system with Accessories	1	27.9
46.	FTL	Elan-9000 Mass Spectrophotometer (ICPMS)	1	55.3
47.	FTL	836-tietrendo with aces.	1	12.6
48.	FTL	797-voltramatic system	1	11.1
49.	FTL	GCMS QP-2010 Plus	1	72.9
50.	FTL	IR moisture balance	1	3.0
51.	FTL	LN-2 Safety Cooling System	1	1.3
52.	FTL	Spectrofloro photometer	1	9.7

Sr. No.	Name of Laboratory	Name of Equipment / Instrument	No. of Equipment / Instrument	Purchase price (Rs. in Lakh)
53.	FTL	"JASCO" Infrared spectrophotometer	1	6.8
54.	FTL	Microtrac Particle Size Analyzer	1	31.6
55.	FTL	T.Q.D. Aquity UPLC	1	93.0
56.	FTL	Acquity UPLC system	1	52.0
57.	FTL	Automatic Fibre Extraction System	1	9.2
58.	FTL	Rio meter	1	4.5
59.	FTL	Ion Meter	1	3.5
60.	FTL	Rotary Evaporator	1	1.5
61.	FTL	Pan analytical with Accessories	1	5.7
62.	FTL	XRF Spectro.with Accessories	1	29.5
63.	FTL	Gerhardt turbotherm	1	19.1
64.	FTL	Gluten Analyzer (LCGC)	1	8.5
65.	FTL	C.H.N. Analyzer	1	16.4
66.	FTL	Atomic Absorption Spectrophotometer	1	26.0
67.	FTL	Multi skin vacu.minifold	1	2.9
68.	FTL	K F coulometer	1	4.0
69.	FTL	Protein Fractionators System	1	19.9
70.	FTL	Spot Spicker&Digestor System	1	46.4
71.	FTL	Protein Analysis Scanner	1	54.4
72.	FTL	Surface Plasma Resonance System (SPR)	1	115.9
73.	FTL	2 D Gel Electrophoresis	1	29.9
74.	FTL	PCR mycycler System	1	3.4
75.	FTL	Inverted Microscope	1	14.3
76.	FTL	Hot Air Oven (Nova)	1	0.98
77.	FTL	Bioinformatics work station with accessories	1	209.45
78.	FTL	Refrigerated Hi-speed Centrifuge (Neuaion refrigerated centrifuge with LCD dispaly)	1	2.49
79.	FTL	Chiller (IKA movable with wheels recirculating chiller)	1	3.48
80.	FTL	Incubator with shaker (iGenelabserve TFT display orbital shaking incubator)	1	4.89
81.	FTL	Microplate reader (Dual life plate Elisa reader & washer)	1	2.99
82.	FTL	Flame Photometer (Elico)	1	1.60

Major equipment available in the Department of Biotechnology, CoA, JAU, Junagadh	
Name of equipment: SEM	**Name of equipment:** Bioinformatics setup system
Name of equipment: Microscope	**Name of equipment:** Incubator
Name of equipment: Capillary electrophoresis	**Name of equipment:** UV-Visible spectrophotometer

Table 6.4.178 Ph.D.: Theory and Practical batches for the PG program (AY 2024-25)

Sr. No.	Name of the Degree Program	Semesters	Batch of students in theory class	Batch of students in practical class
1.	Ph.D. in Molecular Biology and Biotechnology	Odd	1 Batch (8 students)	1 Batch (8 students)
2.		Even	1 Batch (8 students)	1 Batch (8 students)

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING

LEARNING MATERIALS

- The faculty members preparetheory note, practical manual, multiple choice questioner book, from various books, research papers and reference books practical manuals for each subject of degree program and distributed to students at free of cost. The same material is uploaded in university website also.
- Many faculties with five years experiences in UG/PG teaching also contributed to the ICAR E-learning portal as course creator, unit reviewer and course reviewer.
- Students get practical exposure in separate laboratory of each discipline.

PRACTICAL AND HANDS-ON-TRAINING

- The students are rigorously exposed to practical trainings on pesticide residues and analysis in the food samples received.
- Students are frequently exposed to farm visits in nearby farmer's field to study various pest and diseases prevalence as well as to collect samples.
- Sufficient exposure is also given to PG students in DNA sequencing and anlysis.

6.4.6. SUPERVISION OF STUDENTS IN PG DEGREE PROGRAM

Apart from UG teaching, faculty members are involved in PG teaching /guiding of students. The details of qualified /supervised faculties are given Table 6.4.179.

Table 6.4.179 Ph.D.: Number of Ph.D. students supervised by faculty in the last five years in Molecular Biology and Biotechnology

Degree Program	No. of students being supervised (guided) by faculty for PG Degree	No. of qualified faculty members
Ph.D. in Molecular Biology and Biotechnology	20	09

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, *ETC.*) (2020-21 TO 2025-26)

- Information was collected from the outgoing students (after thesis submission) to know their future plans and to get their feedback for further improvements. Feedback from students, parents, farmers, and industrialists revealed that students are getting education as per schedule and sufficient facilities at hostels, mess, gym., sport ground, Wi-Fi are provided **(Annexure 6.4.7a).**
- ***THE ACADEMIC COUNCIL:*** It is constituted by the University as per schedule where in Deans of all faculties, nominated Professors and Research Scientists of different faculties and renowned academicians are members. Based on the Board of study recommendation, the Academic Council takes the decision on academic matter for implementation in the university/college.
- ***STUDENT ADVISORY COMMITTEE:*** It is framed in the college in which four to five students are allotted to each faculty. They are frequently discussing the

educational problems as well as the hostel related problems and authorities are implementing accordingly.

- ***STUDENT REPRESENTATIVE COUNCIL:*** It works within the college ambit and frequently discusses the teaching and learning process with students, getting their feedback and subsequent implementation.
- ***FACULTY GROUP OF SUBJECTS:*** Faculty group of subjects for Basic Sciences which includes Biotechnolgy, Biochemistry and Plant Physiology subjects are conducted every year to monitor evaluations of subject wise performance of PG students and quality of teaching by faculties. The meetings are chaired by Hon'ble Vice-Chancellor. The research synopsis of PG/Ph.D. students are presented in this meeting and suggestions given by faculties to improve the quality of PG research.

Table 6.4.180 Ph.D.: Year-wise Faculty Group of Subject Meetings of Basic Sciences

Sr. No.	Year	Convener	Dignitaries remaining present	Suggestions received
1.	2020-21	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	Suggestions received from concerned FGS meeting; corresponding action taken report are submitted in ***Annexure 6.4.7b***.
2.	2021-22	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Registrar, Director of Student Welfare and Principal and Dean	
3.	2022-23	Professor and Head	Hon'ble Vice Chancellor, Director of Extension Education, Associate Director of Research and Principal and Dean	
4.	2023-24	Professor and Head	Director of Research and Dean PG Studies, Registrar, Director of Extension Education, Associate Director of Research and Principal and Dean	
5.	2024-25	Professor and Head	Hon'ble Vice Chancellor, Director of Research and Dean PG Studies, Director of Extension Education, Director of Student Welfare and Principal and Dean	

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAM FOR THE LAST FIVE YEARS

During each academic year, the admission has been full as per sanctioned strength. However, some students may leave after getting admission or paying 1st semester fees due to their better placement or other personal reasons. Once they left, the vacant seat cannot be filled again and hence it remain unfilled, which is explained here as attrition %.

Table 6.4.181 Ph.D.: Details of student intake and attrition in the last five years

Name of the Degree Program	Year	Sanctioned strength	Actual intake	Attrition (%)
Ph.D. in Molecular Biology and Biotechnology	2020-21	04	04	0.00
	2021-22	02	02	0.00
	2022-23	00	00	0.00
	2023-24	00	00	0.00
	2024-25	03	03	0.00
	2025-26	01	01	0.00

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

1. ***CERA AND OTHER ONLINE E-RESOURCES:*** CeRA, the ICAR Consortium of e-resources in Agriculture, is effectively put to use with more than 3000 scholarly journals pertaining to the agriculture and allied sciences in full text.
2. ***E-BOOKS:*** The Springer e-books avaialbe with the university library are also extensively used by the faculty members and PG students alike for ASRB NET examination and general reading.
3. ***KRISHIKOSH:*** Besides uploading departmental theses to Krishikosh repository of ICAR, the department students also use the portal for literature review, identifying the gaps in their research and framing objectives.
4. ***INTERNET:*** Digital library with computers and internet facility is available and used by the PG Degree students. Wi-Fi Internet facility is also provided at all the hostels, which is available for all the time.

6.4.12 CERTIFICATE

I, Dr. P. D. Kumawat, Dean, Faculty of Agriculture, CoA, JAU, Junagadh, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: 31.01.2026
Place: Junagadh

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

Annexure 6.4.7a

Postgraduate students' feedback report for AY 2024-25

Department of Biotechnology, CoA, JAU, Junagadh			
No of Respondent: 27			
Particulars:			**Score**
Departmental Teaching - Learning Process			
1. How do you rate Student- Teacher relations?			3.8
2. How do you rate for completion of courses by the teachers?			3.5
3. How do you rate fairness in internal assessment in the department?			3.6
4. How do you rate practical exposure from the department?			3.4
5. How do you rate for statistical analysis facility provided by the department			3.9
6. Did teachers motivate /support you for solving your personal problems			3.5
P.G. Research facility			
1. How do you rate for your selection of research topic?			3.3
2. Did you get enough facilities for conducting experiment?			3.8
3. How do you rate material provided for conducting experiment?			3.6
4. How do you rate for major Guide for supporting in completion of Seminar and thesis project			3.5
Library facilities			
1. Books related to your subject are available in the library?			3.4
2. Internet facilities for learning and research purpose?			3.3
3. Availability of research journals (online /offline) for review purpose?			3.7
4. How do you rate for delivery of books system?			3.4
Hostel Facility			
1. How do you rate hostel facilities?			3.4
2. How do you rate wi-fi facility?			3.0
3. How do you rate for food quality in mess?			3.1
4. How do you rate cleanliness in the hostel?			3.2
Sports facility			
1. How do you rate indoor sports facility?			3.5
2. How do you rate outdoor sports facility?			3.3
Rating Criteria			
Very good	**Good**	**Average**	**Poor**
4	3	2	1

Annexure 6.4.7b

Feedback received in the Faculty Group Meetings of Basic Sciences

PROCEEDING OF MEETING ON 7th FACULTY GROUP OF BASIC SCIENCE HELD ON 2nd DECEMBER, 2021 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COLLEGE OF AGRICULTURE, JAU, JUNAGADH

7.1: Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. H. P. Gajera, Professor and Head presented the action taken report of the 6th meeting of faculty group of " Basic Sciences". He has also presented teaching and research activities of Department of Biotechnology and Biochemistry. The house appreciated the presentation with following suggestions.

1. Add H-index; i10-index and No. of total citations of publications of each faculty in the presentation.
2. Arrange advanced training on analysis for PG students.

(**Action: Faculties of Department of Biotechnology and Biochemistry discipline**)

7.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Add H-index; i10-index and No. of total citations of publications of each faculty in the presentation.

(**Action: Faculties of Plant Physiology discipline**)

7.3 Department of English, JAU, CoA, JAU, Junagadh

Dr. P. I. Dave, Assistant Professor presented the activities of Library and English discipline. The house approved and appreciated.

1. Add the work load of all the English teacher of JAU, Junagadh.
2. English subject may be included in social science group of subject meeting.

(**Action: Faculties of English discipline**)

7.4 General Suggestions

Prof. (Dr.) N. K. Gontia, Chairman & Hon. Vice Chancellor, Junagadh Agricultural University gave the presidential remarks to evaluate the teaching and PG research activities of faculties of Basic Sciences group. Some of the important points are given below

1. Emphasize on importance of Basic science in agriculture in the era of climate changes.
2. Suggest to channelize the research work done by basic science up to the end users and outcome-based research.
3. Research fellows may be involved in teaching activities including practical.
4. Research papers should be published good NAAS rated journals.
5. Encourage the PG students to publish their research in reputed Journals.
6. Encourage the staff and students to apply in different prestigious awards.
7. Training/Dissertation/Project work to basic science students of other university may be initiated.

(Action: *All major guide and faculty members of FGS - Basic Sciences***)**

PROCEEDING OF 8th MEETING ON FACULTY GROUP OF SUBJECTS - BASIC SCIENCE
Venue: Seminar Hall, Department of Biotechnology, College of Agriculture, JAU, Junagadh. Date: January 27, 2023

8.1 Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. H. P. Gajera, Convener of FGS-BS and Professor & Head (Biotechnology) presented the action taken report on the proceeding of the 7th meeting of FGS-BS. The house approved the same after through discussion. He has also presented academic activities of UG and PG studies of Biotechnology and Biochemistry subjects. The house appreciated the presentation with following suggestions.

1. Job/Placement of students may be informed timely to placement cell by concern major guide.
2. Include JAU research for citation in PG thesis and research papers.

(Action: All the faculties, Department of Biotechnology and Biochemistry discipline)

8.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Information of the FGS report should be submitted strictly as per the format.
2. Job/Placement of students may be informed timely to placement cell by concern major guide.
3. Include JAU research for citation in PG thesis and research papers (Plant Physiology).

(Action: All the faculties of Plant Physiology discipline)

8.3 Department of Animal Science, CoA, JAU, Junagadh

Dr. N. K. Ribadiya, Assistant Professor and Head (Animal Sci.) presented the activities of animal science discipline. The house approved the presentation with following suggestions.

1. Information of the FGS report should be submitted strictly as per the format.

(Action: All the faculties of Animal Science discipline)

8.4 Presentation of Ph.D. Research work, Department of Biotechnology and Biochemistry, JAU, Junagadh

Two Ph.D. Students, (1) Ashwini M. N. and (2) Lakhani Komal G. presented their synopsis of Ph.D. research work. The house appreciated the presentation.

8.5 Presidential remarks

Dr. V. P. Chovatia, Chairman & Hon. Vice Chancellor, Junagadh Agricultural University gave the presidential remarks to evaluate the teaching and PG research activities of faculties of Basic Sciences group. Some of the important suggestions are given below

1. Emphasize more on Basic work related to Climate change in PG Research.
2. Encourage the PG students and faculties for published their research in reputed Journals having good NAAS rating/Impact factor.
3. Training/Dissertation/project work to basic science students of other university may be strengthened.
4. Encourage the Faculties and PG students to apply in different prestigious awards.

PROCEEDING OF MEETING ON 9th FACULTY GROUP SUBJECTS- BASIC SCIENCE, HORTICULTURE, ANIMAL SCIENCE HELD ON 25th JANUARY, 2024 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COA, JAU, JUNAGADH

8.1 Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. H. P. Gajera, Professor and Head (Biotechnology & Biochemistry) presented the action taken report of the 8th meeting FGS point wise and the house approved the same after thorough discussion. He also presented report of 9th FGS-Basic Science (BS) regarding teaching and research activities of Department of Biotechnology and Biochemistry. The house appreciated the presentation
with following suggestions.

1. Priorities should be given to cite JAU research in PG thesis writing.
2. Department wise credit hours or RAWEP should be calculate as per the norms.
3. Review the PG students progress timely

(Action: All the faculties and major guide, Department of Biotechnology and Biochemistry discipline)

8.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Use proper format of FGS.
2. Include self-citation of JAU research in PG thesis writing.

(Action: All the faculties of Plant Physiology discipline)

8.3 Department of Horticulture, CoA, JAU, Junagadh

Dr. N. D. Polara, Prof. and Head, Department of Horticulture, COA, JAU, Junagadh presented the activities of Horticulture discipline. The house appreciated the presentation with following suggestions.

1. Include self-citation of JAU research in PG thesis writing.
2. Use proper format of FGS
3. Hort 6.6 course to be transferred to PHT Department, CAET, JAU, Junagadh

(Action: Prof. and Head, Dept. of Horticulture, CoA, JAU, Junagadh)

8.4 Department of Animal Science, CoA, JAU, Junagadh

Dr. N. K. Ribadiya, Assistant Professor and Head (Animal Sci.) presented the teaching activities of animal science discipline. The house approved the presentation with following suggestion.

1. Use proper format for FGS.

(Action: Assistant Prof. and Head, Dept. of Animal Science, CoA, JAU, Junagadh)

8.5 Presentation of Ph.D. Research work, Department of Biotechnology and Biochemistry, JAU, Junagadh

Ph.D. Students, Kundan presented their synopsis of Ph. D research work. The house has appreciated the presentation and approved.

8.6 Presidential remarks

Dr. V. P. Chovatia, Chairman & Hon. Vice Chancellor, Junagadh Agricultural University gave the presidential remarks to evaluate the teaching and PG research activities of faculties of Basic Sciences and also for Horticulture and Animal Science group. He critically evaluated the teaching and research activities of each group and given

valuable suggestions to improve the education system. Some of the important points are given below

1. More emphasizeshould be given on ranking in NAAC.
2. Encourage the PG students and faculties for published their research in reputed Journals

having good NAAS rating/Impact factor along with thesis writing.

3. Encourage the staff and students to apply in different prestigious awards

PROCEEDING OF 10TH FACULTY GROUP OF BASIC SCIENCE HORTICULTURE AND ANIMAL SCIENCE HELD ON 13th JANUARY, 2025 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COLLEGE OF AGRICULTURE, JAU, JUNAGADH

10.1 Department of Biotechnology and Biochemistry, CoA, JAU, Junagadh

Dr. U. K. Kandoliya, Associate Professor presented the action taken report of the 9th meeting of faculty group of "Basic Sciences". He has also presented teaching and research activities of Department of Biotechnology and Biochemistry. The house appreciated the presentation with following suggestions.

1. The presentation must adhere strictly to the prescribed format, without including unnecessary information from previous years.
2. Research fellows and supporting staff under the ad-hoc scheme should be included in the staff position in report.
3. The list of experts for MBB and Biochemistry needs to be updated to include retired JAU experts.
4. Provide a list of books purchased by the library following departmental commendations.
5. Feedback from PG students should be collected by their respective guides and include the overall feedback in the report.

(Action: All the faculties, Department of Biotechnology and Biochemistry discipline)

10.2 Plant Physiology Discipline, CoA, JAU, Junagadh

Dr. Chandrakant Singh, Assistant Professor presented the educational activities of plant physiology discipline. The house appreciated the presentation with following suggestions.

1. Collect feedback from PG students and include the general feedback in the report.

(Action: Faculty of Plant Physiology discipline)

10.3 Department of Horticulture

Dr. N. D. Polara, educational activities of Horticulture suggestions.

1. The Horticulture group from the College of Agriculture (CoA) will move to the College of made with the College of Horticulture, JAU, Junagadh.
2. Collect feedback from feedback in the report.

10.4 Department of Animal Science

Dr. N. K. Ribadiya, Assistant Professor, animal science discipline.

1. Collect feedback from feedback in the report.

10.5 Presentation of Ph.D. Research work, JAU, Junagadh

Ph. D. student Japada Ashish was approved by the house.

10.6 Presidential remarks

Dr. V. P. Chovatia, President important points are given below

1. NAAS rating or impact
2. Each faculty member should

3. knowledge in their respective subjects.
4. Motivate staff and students to apply for various prestigious award
(Action: All faculty members of FGS-Basic Sciences, Horti., Animal Sciences)

PROCEEDING OF MEETING ON 11th FACULTY GROUP OF BASIC SCIENCE AND ANIMAL SCIENCE HELD ON 12th SEPTEMBER, 2025 AT SEMINAR HALL, DEPARTMENT OF BIOTECHNOLOGY, COLLEGE OF AGRICULTURE, JAU, JUNAGADH
Venue: Seminar Hall, Department of Biotechnology Date: 12/09/2025

General suggestions:
11.1 All the faculty members of the group must attend the meeting.
11.2 The citation of the research papers of JAU faculties should be included in the PG research thesis and guide should check the same
11.3 All the major guide of PG students should follow the guidelines while submitting synopsis and final thesis will ensure high quality and reduce errors
11.4 Name of the registrar should be acknowledged in the PG thesis and major guide should ensure it.
11.5 Encourage the PG students and faculties for published their research in reputed Journals having good NAAS rating/Impact factor.
11.6 Every staff member has to take responsibility to improve University Ranking in various platforms/ accreditation.
11.7 Training for the staff for the updating in their subject.
(Action: All the members of Basic Science Group, JAU, Junagadh)

Action Taken:

All suggestions relevant to the Department of Biotechnology, based on the feedback received from the esteemed members of the house who remained present in the Faculty Group of Subjects Meetings, were implemented from time to time and the concerned reports were also presented in the subsequent meetings.

6.5:

Self-Study Report for the College: CoA, JAU, Junagadh

6.5. SELF-STUDY REPORT FOR THE COLLEGE

6.5.1. COLLEGE ADMINISTRATION

6.5.1.1 COLLEGE DEAN'S OFFICE ESTABLISHMENT

The post of Dean has been sanctioned as per the Model Act of the ICAR adopted by Junagadh Agricultural University, Junagadh. The selection of the Dean is carried out through a process involving wide advertisement, interview, and direct selection. At present, Dr. P. D. Kumawat has been serving as Principal and Dean of the college since January 1, 2024.

Principal/Dean post has been sanctioned by	:	**Government of Gujarat**
Date of selection of the Present Dean	:	01/01/2024
Mode of selection of Dean / Principal	:	Direct Selection (Dean is nominated by Vice-Chancellor on rotation basis for three years)
Tenure of the Head of the College	:	Three years

	:	**Dr. P. D. Kumawat** Principal and Dean College of Agriculture Junagadh Agricultural University, Junagadh
Telephone No.	:	Office (No): 02792-277998 Fax: 02792-277998
Mobile	:	+91 9879104667
Email	:	principal_coa@jau.in (O) pdkumawat@jau.in (P)

DEAN'S SECRETARIAT

Sr. No.	Name of staff	Designation	Space (Sq. m.)	Remarks
1.	Dr. B. H. Tavethiya	TA to Principal	39.01	Computer with internet facility, printer, photo copier machine, Telephone with fax machine, AC, chairs and tables
2.	Smt. Sneha Sekhda	PA to Principal	169.33 (Including principal and dean chamber)	Computer, printer with internet facility, Telephone with fax machine, AC, chairs and tables, waiting room (lounge) with attached meeting hall are available

Sr. No.	Name of staff	Designation	Space (Sq. m.)	Remarks
3.	Mr. A. S. Thakakar	Assistant Administrative Officer	21.00	Computer, printer with internet facility, Telephone, AC, chairs and tables
4.	Mr. T. V. Vora	Agricultural Officer	17.83	Computer, printer with internet facility, Telephone, AC, chairs and tables
5.	Mr. Y. K. Meghnathi	Agril. Asstt.	17.83	Computer, printer with internet facility, Telephone, AC, chairs and tables
6.	Mr. M.C. Chauhan	Agril. Asstt.	17.83	Computer, printer with internet facility, Telephone, AC, chairs and tables
7.	Mr. G. D. Bhakhar	Agril. Asstt.	39.01	Computer, printer with internet facility, Telephone, AC, chairs and tables
Administrative Staff				
8.	Mr. P. N. Borisaniya	Head Clerk	52.31	Computer, printer with internet facility, Telephone, AC, chairs and tables
9.	Mr. S. H. Sondarva	Sr. Clerk		Computer, printer with internet facility, Telephone, AC, chairs and tables
10.	Mrs. S. J. Chandvaniya	Sr. Clerk		Computer, printer with internet facility, Telephone, AC, chairs and tables
11.	Mr. S. L. Chavda	Sr. Clerk		Computer, printer with internet facility, Telephone, AC, chairs and tables
12.	Mr. H. S. Tarak	Sr. Clerk		Computer, printer with internet facility, Telephone, AC, chairs and tables
13.	Ms. Neha P. Bheda	Jr. Clerk		Computer, printer with internet facility, Telephone, AC, chairs and tables
14.	Ms. Shradhdha M. Ghosiya	Jr. Clerk		Computer, printer with internet facility, Telephone, AC, chairs and tables
15.	Ms.Janakben M. Mer	Jr. Clerk		Computer, printer with internet facility, Telephone, AC, chairs and tables
16.	Mr. N. K. Chavada	Jr. Clerk		Computer, printer with internet facility, Telephone, AC, chairs and tables

Incumbency information of the Principal and Dean, CoA JAU, Junagadh

Sr. No	Name	Period
1.	Dr. Ashok Mishra	01-05-2004 to 31-05-2006
2.	Dr. P. G. Butani	01-06-2006 to 30-11-2010
3.	Dr. A. V. Barad	01-12-2010 to 31-05-2016
4.	Dr. B. K. Sagaraka (I/C)	01-07-2017 to 31-01-2020
5.	Dr. M. A. Vaddoria (I/C)	01-02-2020 to 31-07-2020
6.	Dr. K. A. Khunt (I/C)	01-08-2020 to 31-07-2021
7.	Dr. S. G. Savalia (I/C)	01-08-2021 to 31-12-2023
8.	Dr. P. D. Kumawat (I/C)	01-01-2024 to Cont.

6.5.1.2. MONITORING MECHANISM FOR QUALITY EDUCATION

The College has a robust monitoring mechanism to ensure the effective delivery of quality education to students enrolled in UG, PG, and Ph.D. degree programmes. Continuous and sincere efforts are being made to impart current and up-to-date scientific knowledge to students, while simultaneously enhancing the scientific acumen of the faculty to meet the expectations of all stakeholders. An efficient monitoring system, well equipped with modern tools and techniques, has been established to assist the authorities in the regular and periodic evaluation of academic processes.

For regular monitoring of quality education, various initiatives are being undertaken, which include:

- The college has facility of smart classrooms for video conferencing, which is useful for the students.
- CCTV cameras are installed in all the classrooms for effective supervision of teaching and examination, and internet facility.
- Principal and Dean visits the classrooms and practical rooms regularly for monitoring purpose.
- Principal and Dean has formed one committee comprising three members who visit the classrooms regularly during the lectures and practical sessions. During the examination, they also supervise the examination through examination scored committee appointed by the Principal and Dean.
- Hon'ble Vice Chancellor and Director of Research and other university officers frequently visit college and hostels, monitoring their regular conduct and upkeep.

- For delivering the lectures as per schedule, an attendance register for the teachers is maintained in teachers' room and teachers also take regular attendance of UG and PG students.
- Mock tests are held for all the students to practice any time in the University examination hall, enabling them to get acquainted with the online examination system. Various zero-hour quiz tests are also conducted in a semester.
- Assignments and practical manuals are given for both UG and PG courses and the submission of which is mandatory for the students to give their final examinations.
- Academic calendars are prepared in advance in consultation with the colleges of other SAUs' of Gujarat.
- A common semester end examination including paper setting and evaluation for UG degree program is conducted in all the four SAUs' of Gujarat simultaneously.
- The Heads of the departments also monitor the PG classes regularly and frequently monitor by the PG Dean and university officers.
- The College has developed student advisory system in which about 12 to 15 students are allotted to one faculty member as advisor in the first year who will mentor them throughout the UG course programme. The advisors also guide the students regarding their academic activities, other extra-curricular activities and career opportunities.
- PG students are allocated to the teachers based on their area of specialization along with student's merit and their area of research interest. External qualifying examination system is conducted in M. Sc./Ph.D. degree programs.
- JAU Exam Management System (JEMS) is a Web-Enabled application Software for Management of various academic activities of the College as well as the university. The system caters to the requirements of different users Dean, Registrar, Heads, Guides, Faculty, Teachers, Students, Administrators and officials for performing their assigned tasks. The System is user friendly and can be accessed by all.
- The online capabilities of the system allow the students, faculty members, guides and administrators to publish and retrieve the information from their respective disciplines. It has modules like Dashboard, Mapping Details, Master, Master Mapping, Dashboard Dean PG, Exam, Setting and Report. This software helps in Management of Courses, Student Management, Faculty Management, Examinations and Results and Transcripts.
- The "Student Fee software" with modules of dashboard, student master, online Fee schedule and report allows the students to submit the fees directly online in the college account. This is helpful in monitoring the students who have paid their fees within the time limit.
- An Anti-Plagiarism policy of the university is also put in place which monitors the quality of the master's and doctoral theses submitted at all colleges.
- The college strictly adheres to the 'Placement Policy' of the university with the help of which on-campus and off-campus placements of students are streamlined.

MONITORING OF TEACHING, RESEARCH AND EXTENSION (TRE)

- The college is actively engaged in the three core functions of **education, research, and extension education**. Dedicated statutory and academic bodies are in place to plan, review, and monitor these activities at the **semester, annual, and long-term** levels, ensuring systematic and sustained institutional development.
- The academic calendar for implementing undergraduate and postgraduate programmes is proposed by the college and submitted to the university. A common academic calendar is prepared for all State Agricultural Universities of Gujarat through a joint meeting of the authorities of the four agricultural universities. This calendar ensures the smooth conduct of academic activities such as classroom teaching, practicals, internal examinations, skill development training, the Experiential Learning Programme (ELP), educational tours, and end-semester theory and practical examinations. For undergraduate programmes, end-semester theory question papers are common across all State Agricultural Universities of Gujarat, and examinations and evaluation are conducted uniformly.
- Research proposals are submitted by the departments and discussed in the ZREAC (Zonal Research and Extension Advisory Council) committee, after which the approved proposals are forwarded to various sub-committees of the Agricultural Research Council (AGRESCO). Following detailed deliberations, the proposals are placed before the Joint AGRESCO of all faculties and the Combined AGRESCO of SUA's of Gujarat, where recommendations and new technical programmes are approved. In addition to regular programmes, ad hoc and externally funded projects are also sanctioned by the Hon'ble Vice Chancellor. All programmes are subsequently placed before the University Research Council and the Board of Management for final approval.
- The College has a separate department of Agricultural Extension Education. The department adopt transfer the technology developed by the college, University and other institutes to the farmers of the state. The Extension Education activities are proposed by the departments and approved in the Extension Education Council.
- The budgetary and financial proposals, which needs the approval of the Board of Management of the University submitted for approval to the board and ultimately the approved proposal is submitted to the State Government for the necessary financial assistance.

IMPACT OF MONITORING ON THE OUTCOMES

- The College has produced quality human resource in field of Agriculture which is catering the need of the state and country in academic institutes, public sectors, private organizations, NGOs and agro-based industries. Our students have also developed their own enterprises and manufacturing units and strengthened the agricultural infrastructure of the state.
- The College has its own Student Counseling and Placement Cell (SCPC) for facilitating carrier guidance and personality development programmes that aim at increasing employability of the students. Faculty members are also encouraging and coaching students during zero-hours to prepare for various competitive exams like NET/ARS, JRF, SRF, TOEFL, IELTS, CAT and other competitive exams like GPSC, UPSC and Banking services, *etc.*

6.5.1.3. COLLEGE COMMITTEE / BOARD OF STUDIES

The College of Agriculture, Junagadh is a constituent college of Junagadh Agricultural University, Junagadh and is governed by decisions of the statutory bodies *viz.*, Faculty Group of Subjects, Board of Studies (BOS) and Academic Council which includes nominated Professors, Associate Professors, Assistant Professors of all the constituent colleges along with university officers and Co-opted members.

Every year, the meetings of Faculty Group of Subjects and Board of Studies in Agriculture faculty are being organized by Junagadh Agricultural University and different recommendations/suggestions made in the meetings of Faculty Group of Subjects, Board of Studies as well as Academic Council are being implemented. Any matter related to improving quality and standard of education are discussed at length.

The Board of Studies of Faculty of Agriculture is constituted of the following members: -

(a) The Dean of the Faculty - Chairman
(b) The Head of the Department and Professors teaching subjects assigned to that faculty
(c) The Director of Extension Education
(d) The Director of Research and Dean Postgraduate Studies or Representative
(e) Five Co-opted members
(f) The Assistant Registrar (Academic) as Secretary

The minutes of all such meetings related to the College of Agriculture, JAU, Junagadh is given below briefly.

Table 6.5.1: Minutes of Board of Studies meetings

Sr. No.	Meeting No. & Date	Major Recommendation
1.	13th 30/03/2021	Recommended to change the erstwhile name of Department of Soil Science to Department of Soil Science and Agriculture Chemistry to academic council *vide* 13th Board of studies in Agriculture (Item No. 13.3) Industrial training component is started under student RAWE in 13th Board of studies in Agriculture (Item No. 13.4) Confirmed all the minutes of 5th meeting of Faculty Group of Subjects in Agriculture faculty in 13th Board of studies in Agriculture (Item No. 13.5) Modified fee structure of hostel for electricity bill for UG and PG studies 13th Board of studies in Agriculture (Item No. 13.6)
2.	14th 25/05/2022	It is hereby resolved that a total of 10 students from the College of Agriculture, JAU, Junagadh and Mota Bhandariya were sent abroad for training under the IDP programme. Hence, they could not remain present at the college for the regular ongoing RAWEP and ELP programmes. Therefore, the actions taken to treat the respective phase(s) of their curriculum as completed and to fulfill their

Sr. No.	Meeting No. & Date	Major Recommendation
		academic requirements are hereby accorded post-facto approval. (Item No. 14.5)
3.	15th 19/05/2023	As per the decision taken under Item No. 6 in the minutes of the meetings held on 22.07.2022 under the chairmanship of Hon'ble Governor and on 14.09.2022 under the chairmanship of Hon'ble Minister (Agriculture), the Faculty of Agriculture hereby resolves as under: In Junagadh Agricultural University, a non-credit course on Natural Farming shall be taught in the 4th, 6th and 8th semesters of the undergraduate programmes implemented in the Faculty of Agriculture from the academic year 2022-23, as per the course syllabus given in Appendix-I to III included in the agenda, and the implementation methodology shall be as per the details mentioned in the said Appendices. The Faculty Board of Studies recommends to the Academic Council to accord post-facto approval for the same. (Item No. 15.7)
4.	16th 20/05/2024	As per the directives issued by the Hon'ble Supreme Court, an 'Anti-Ragging Committee' and an 'Anti-Ragging Squad' have been constituted at the College of Agriculture, Junagadh (under Junagadh Agricultural University) with the purpose of preventing the menace of ragging in the college. The Faculty Board of Studies takes note of the same (Item No. 16.8)
5	17th 11/12/2024	The members of Board of Studies of Agriculture faculty recommend the Academic Council to approve the syllabus of VI Deans' Committee of ICAR with some changes/ modification in Department wise course distribution, Semester-wise course distribution with Credit load, Syllabus for UG-Certificate course (Agriculture), UG-Diploma in Agriculture and B.Sc. (Hons.) in Agriculture course as per Appendix A, Appendix B and Appendix C (Appended in Agenda) for its implementation in Junagadh Agricultural University, Junagadh from the academic year 2024-25. (Item No. 17.8) It is hereby resolved to recommend the implementation of Articulation Agreement for UG students and Memorandum of Understanding for Institutional Collaboration on Dual Awards and Joint Higher Degrees for PG students with Western Sydney University, Australia for the students of Agriculture Faculty as per Annexure - I to VI (Appended in Agenda) to the Academic Council for its necessary approval. (Item No. 17.9)

Sr. No.	Meeting No. & Date	Major Recommendation
6	18th 07/04/2025	Regarding the workload determined with necessary amendments as mentioned in Appendix-1 of the agenda for the various academic duties performed by faculty members serving in different departments of all Agricultural Colleges and all Agricultural Polytechnics under Junagadh Agricultural University, Junagadh – such as Diploma / UG / PG teaching subjects, seminars, PG guidance (Major / Minor / Member), RAWEP, ELP, etc., the Faculty Board of Studies recommends the same to the Academic Council. (Item No. 18.7) As per the proceedings of the meeting held at Anand Agricultural University, Anand on 25/11/2024 regarding the implementation of the 6th Dean's Committee in the State Agricultural Universities, the Faculty Board of Studies of this University recommends to the Academic Council to accord post-facto approval for including, in every faculty under this university, the program conducted by IPDC in the course titled Communication Skill and Personality Development under Ability Enhancement Courses, without making any change in the course title. (Item No. 18.14)

6.5.1.4. ANTI-RAGGING CELL

As per UGC regulation on curbing the menace of ragging in higher educational institutions, 2009, the College has established the Anti-ragging Cell and Anti-ragging Squad **(Annexure 6.5.1.4 on pg. 717 and Annexure 6.5.15 on pg. 718).**

PREVENTION OF RAGGING IN THE COLLEGE

The Anti-ragging Committee and Anti-ragging Squad has been formed for prohibition of ragging in the college. The Anti-ragging committee and Anti-ragging squad works as per the norms and directives of Hon'ble Supreme court. Directions and guidelines of the UGC issued from time to time are strictly implemented in this College to curb the menace of ragging. The College is taking all precautionary measures and formalities at the time of admission. During the reporting period, no incident of ragging was observed in the college.

THE FOLLOWING MEASURES ARE TAKEN TO CURB THE MENACE OF RAGGING:

- The Dean, faculty, DSW and Rector and Asstt. Rector of the hostels regularly address all the students and educate them about the consequences of involving in ragging related activities.
- Newly admitted students and parents are well oriented about the punishments for ragging and they are sensitized about the ragging and its prevention.
- Anti-ragging committee conducts regular meetings with teachers, students and local police staff & local social activists.

- Anti-ragging squads is constituted, to make surprise visits to sensitive areas like hostel premises, canteen, corridors, classrooms, fields and playground.
- Each department arrange special duties of faculty and staff for supervisions, strict vigilance during night hours in the hostels during the first two months after admission of students.
- Every teaching and non-teaching staff, employees of mess/canteen are given necessary instructions to keep strict vigilance and to report any incidence of ragging to the college authorities.
- Both administrative and college building as well as hostels are under CCTV surveillance which is monitored by the office of the Dean at college level and rectors at hostel level.
- As per the UGC guidelines all the students are registered on the website http://www.amanmovement.org and http://www.antiragging.in and given an undertaking that they will not involve/indulge in any type of ragging activities.
- Flex boards and banners have been displayed in the college primise and hostels highlighting guidelines, warnings, punishments and its harmful consequences of ragging.
- Counseling of both freshers and seniors is conducted by their respective advisors.
- The College website is updated with nodal officers related to anti-ragging committee with contact details.
- The newly admitted students are encouraged to be free to submit their complaints and problems to authorities.
- Periodical reports of ragging incidents if any or nil reports are submitted to MHRD and UGC Secretariats of Government of India through the University.

Table 6.5.2: Anti-Ragging Committee

Sr. No.	Designation	Name and Address	Status
1.	Principal	Dr. P.D. Kumawat, College of Agriculture	Convenor
2.	Representative of the Police Inspector / Police Sub Inspector	Police Sub Inspector, Gandhigram Police Station, Gandhigram, Junagadh	Member
3.	Local Media	Shri Sunilbhai Navani, Editor, Kesri News, College Road, Junagadh	Member
4.	Representative of NGO (Swami Vivekanand Centre, Junagadh)	Dr. D.M. Thakrar, 403, Giriraj Palace, Giriraj Society, Nr. Rameshvar Temple, B/h. Bus Stand, Junagaadh	Member
5.	Representative of the Parents	Mr. Hirpara Kailashbhai Hardasbhai Block No-32, Thakarshi Nagar-2, Khalilpur Road, Joshipura, Junagadh	Member
6.	Representative of the Senior Students	Mr. Vadar Bhargav Devdashbhai 7th Sem., B.Sc. (Hons.) Agri. Student	Member

Sr. No.	Designation	Name and Address	Status
7.	Representative of the Fresh Students	Ramoliya Manav Lalitbhai 1st Sem., B.Sc. (Hons.) Agri. Student	Member
8.	Non-Teaching Staff	Shri M.C. Chauhan, Agri. Asstt., CoA, JND	Member
9.	Representative of the Civil Service	Deputy Director of Agriculture, Farming Training Centre, Sardarbaug, Junagadh.	Member
10.	Faculty Member / Professor	Dr. J.B. Patel, Professor & Head, Dept. of Seed Science, CoA, JND.	Member

Table 6.5.3: Anti-Ragging Squad

Sr. No.	Name	Designation	Status
1.	Dr. D.S. Kelaiya	Professor & Head, Dept. of Pl. Pathology	Convenor
2.	Dr. N.D. Polara	Rector, Hostel, College of Agriculture	Member
3.	Dr. S.K. Bhuva	Asstt. Rector, Hostel, College of Agriculture & Asstt. Professor, Dept. of Horticulture	Member
4.	Mr. Ramoliya Manav L	First sem. student of B.Sc. (Hons.) Agri.	Member
5.	Ms. Bhatt Krishnaben N	First sem. student of B.Sc. (Hons.) Horti.	Member
6.	Mr. Vadar Bhargav D	Seventh sem. student of B.Sc. (Hons.) Horti.	Member
7.	Ms. Vala Nistha U.	Seventh sem. student of B.Sc. (Hons.) Agri.	Member
8.	Mr. Borkhatariya Tejas H.	Fourth Sem., Ph.D. (Agri.) Student	Member
9.	Ms. Barad Bhumi D.	Fourth Sem., Ph.D. (Agri.) Student	Member

6.5.1.5. BIOLOGICAL WASTE DISPOSAL FACILITY

- Chemical, biological and recyclable wastes generated through a variety of research and educational activities, plant clinical service, maintenance and cleaning operation at the college level are disposed systematically.
- The College encourages its faculties and students to take part in '*Swachh Bharat Abhiyan*' from time to time in order to appreciate the value of physical labour.
- For its clean and green campus efforts, the College has also been recognized by the Junagadh Municipal Corporation, Junagadh.
- Field wastes are converted to compost. Many vermicompost and NADEP units are established within the college campus for handling litters and other plant wastes.

- The sanitary napkin related wastes generated at the Ladies hostel are also incinerated for safe disposal.
- The food waste generated at the students' dining halls, which are self-run by the students themselves, at each of the hostels are also taken care of in the most economic manner.
- Strict instructions are also given for the students to keep their hostel rooms neat and clean.
- The laboratory chemical wastes are disposed by burying deep into the soil. Lab waste and clinical waste are managed through waste management committee.
- Garbage bins are maintained at regular distances within the campus premises and at all the rooms of the faculties and technical staff and clean it timely.
- Regular cleaning activities of the wastes accumulated are also done by the NSS students of the college.

6.5.1.6. INSTITUTIONAL ETHICS COMMITTEE FOR EXPERIMENT ON ANIMALS

Experimentation on animals in course of veterinary science research and education is not being taken up at the College; hence no such committee was formed.

6.5.1.7. COMMITTEE FOR PREVENTION OF SEXUAL HARASSMENT OF WOMEN AT WORK PLACES

As per the Prevention, Prohibition and Redressal Act, 2013, the Gender Committee for the Prevention of Sexual Harassment of Women at Work Place has been formed at the college level **(Annexure 6.5.1.6, pg. 719).** The committee has taken all necessary measures for the prevention for Sexual Harassment of Women at work place. The committee meets at least once in a year. Till date, such complaints are not reported in this College.

Table 6.5.4: Committee for prevention of sexual harassment of women at work

Sr. No.	Name	Designation	Status
1.	Dr. P. D. Kumawat	Principal & Dean, College of Agriculture	Convenor
2.	Dr. L. J. Raval	Professor, Dept. of GPB	Member
3.	Ku. M. H. Vasoya	Ph. D. Student, College of Agriculture	Member
4.	Smt. S. H. Shekhda	PA to Principal, College of Agriculture	Co-opt Member

6.5.2. FACULTY

6.5.2.1. FACULTY STRENGTH

The positions sanctioned are for all UG, PG and Ph.D. programs of the College. To enrich the interdisciplinary nature of agricultural education, the supporting faculty from research schemes / projects of the departments and PG recognized teachers of concerned

discipline/domain available in the other colleges / units of the university are utilized. Therefore, the sufficient teachers are available to teach the courses of UG and PG programmes, students' READY programmes and other academic activities.

Table 6.5.5: Details of faculty recommended by the ICAR and sanctioned by the Government of Gujarat

Sr. No.	Designation	Faculty Sanctioned by GoG	Faculty in place	Vacant position	Faculty recommended by the ICAR
1.	Professor	12	9	3	3
2.	Associate Professor	38	16	22	8
3.	Assistant Professor	68	52	16	34
	Total	118	77	41	45

6.5.2.2. FACULTY PROFILE (DEPARTMENT WISE)

Table 6.5.6: Details of the department-wise faculty position (as of 31.07.2025)

Sr. No.	Department	Number of faculty positions sanctioned			Faculty positions filled		
		Professor	Assoc. Professor	Asstt. Professor	Professor	Assoc. Professor	Asstt. Professor
1.	Agronomy	12	38	68	3	1	5
2.	Horticulture				0	1	3
3.	Soil Science and Agricultural Chemistry				0	1	8
4.	Agricultural Entomology				1	1	3
5.	Plant Pathology				0	2	4
6.	Agricultural Extension Education				0	1	4
7.	Agricultural Economics				1	2	2
8.	Agricultural Statistics				1	0	2
9.	Genetics and Plant Breeding				1	3	8
10.	Seed Science and Technology				1	1	3
11.	Biochemistry				1	1	2
12,	Biotechnology				0	1	5
13.	Agricultural Engineering				0	0	2
14.	Animal Science				0	1	1
	Total				**9**	**16**	**52**

Table 6.5.7: Awards/recognition received by faculty (2020-21 to 2024-25)

Sr. No	Department	Awards / recognition
1.	Agronomy	7
2.	Horticulture	4
3.	Soil Science and Agricultural Chemistry	6
4.	Agricultural Entomology	12
5.	Plant Pathology	16
6.	Agricultural Extension Education	7
7.	Agricultural Economics	10
8.	Agricultural Statistics	0
9.	Genetics and Plant Breeding	0
10.	Seed Science and Technology	7
11. 12.	Departments of Biochemistry and Biotechnology	11
13.	Department of Agricultural Engineering	2
14.	Department of Animal Science	10
	Total	92

6.5.2.3. TECHNICAL AND SUPPORTING STAFF

Table 6.5.8: Details of faculty strength and achievements (AY 2020-21 to 2024-25)

Sr. No.	Name of faculty & designation	Highest degree obtained	Work experience (in years)	No. of research papers published	No. of seminar/ symposia *etc.* participated	No. of trainings attended	No. awards/ recognition	No. of recommendation / varieties released
1. Department of Agronomy								
1.	Dr. P. K. Chovatia Professor & Head	Ph.D.	31	20	9	-	-	12
2.	Dr. R. M. Solanki Professor	Ph.D.	31	16	18	3	-	3

Sr. No.	Name of faculty & designation	Highest degree obtained	Work experience (in years)	No. of research papers published	No. of seminar/ symposia *etc.* participated	No. of trainings attended	No. awards/ recognition	No. of recommendation / varieties released
3.	Dr. P. J. Gohil Professor	Ph.D.	19	2	4	-	1	9
4.	Dr. V. B. Bhalu Associate Professor	Ph.D.	31	11	11	10	-	-
5.	Dr. B. S. Gohil Assistant Professor	Ph.D.	9	11	43	17	5	11
6.	Dr. S. K. Chhodavadia Assistant Professor	Ph.D.	9	11	12	1	-	12
7.	Prof. D.R. Vaghasiaya Assistant Professor	M. Sc	6 months	4	3	1	-	-
8.	Dr. K. V. Hirpara Assistant Professor	Ph.D.	6 months	4	2	2	-	-
9.	Dr. S. H. Lakhani Assistant Professor	Ph.D.	10	6	18	2	-	-
2. Department of Horticulture								
10.	Dr. N. D. Polara Professor and Head	Ph.D.	19	11	5	1	-	3
11.	Prof. R. L. Chitroda Assistant Professor	M.Sc.	17	4	6	2	0	2
12.	Dr. S. K. Bhuva Assistant Professor	Ph.D.	8	9	6	2	1	6
13.	Dr. M. A. Dudhat Assistant Professor	Ph.D.	7 months	4	8	2	0	0
3. Department of Soil Science and Agricultural Chemistry								
14.	Dr. H. L. Sakarvadiya Professor and Head	Ph. D.	30	16	15	1	1	26

Sr. No.	Name of faculty & designation	Highest degree obtained	Work experience (in years)	No. of research papers published	No. of seminar/ symposia *etc.* participated	No. of trainings attended	No. awards/ recognition	No. of recommendation / varieties released
15.	Dr. A. V. Rajani Professor	Ph. D.	32	34	10	5	2	5
16.	Dr. H. P. Dholariya Associate Professor	Ph.D.	12	11	10	1	-	-
17.	Dr. L. C. Vekariya Associate Professor	Ph.D.	11	40	22	8	-	46
18.	Prof. P. I. Jetpara Assistant Professor	M.Sc. (Agri.)	12	1	6	3	1	-
19.	Dr. A. S. Jadeja Assistant Professor	Ph. D.	8	18	18	8	3	6
20.	Prof. K. P. Bhuriya Assistant Professor	M.Sc. (Agri.)	8	12	19	4	3	8
21.	Dr. D. V. Parakhiya Assistant Professor	Ph. D.	3 months	2	1	1	-	-
22.	Dr. P. B. Kotadiya Assistant Professor	Ph. D.	6 months	2	-	1	-	-
23.	Prof. T. R. Ribadiya Assistant Professor	M.Sc. (Agri.)	6 months	1	-	4	-	-
4. Department of Agricultural Entomology								
24.	Dr. D. M. Jethva Professor and Head	Ph. D.	18	20	1	0	6	24
25.	Dr. M. K. Ghelani Associate Professor	Ph. D.	10	17	19	9	0	19
26.	Dr. K. D. Shah Assistant Professor	Ph. D.	10	20	25	7	6	6

Sr. No.	Name of faculty & designation	Highest degree obtained	Work experience (in years)	No. of research papers published	No. of seminar/ symposia *etc.* participated	No. of trainings attended	No. awards/ recognition	No. of recommendation / varieties released
27.	Dr. S. R. Patel Assistant Professor	Ph. D.	8	5	5	8	3	0
28.	Prof. H. S. Godhani Assistant Professor	M.Sc.	9	3	5	1	0	0
5. Department of Plant Pathology								
29.	Dr. K. K. Kanzaria Professor and Head	Ph. D.	30	12	9	7	2	6
30.	Dr. S. V. Undhad Associate Professor	Ph. D.	13	05	7	9	0	0
31.	Dr. J. R. Talaviya Assistant Professor	Ph. D.	10	26	8	6	0	5
32.	Dr. S. V. Lathiya Assistant Professor	Ph.D.	9	21	5	5	4	7
33.	Dr. A. J. Barad Assistant Professor	Ph.D.	1	11	1	1	0	0
34.	Dr. M. D. Sanghani Assistant Professor	Ph.D.	7	7	1	1	0	0
6. Department of Agricultural Extension Education								
35.	Dr. V. N. Chavada Associate Professor	Ph. D.	8 years	6	4	10	-	1
36.	Prof. P. I. Dave Associate Professor	M.A. B.Ed.	27 years	1	1	-	-	-
37.	Dr. B. H. Tavethiya Assistant Professor	Ph. D.	12 years	6	4	1	1	2

Sr. No.	Name of faculty & designation	Highest degree obtained	Work experience (in years)	No. of research papers published	No. of seminar/ symposia *etc.* participated	No. of trainings attended	No. awards/ recognition	No. of recommendation / varieties released
38.	Dr. Sujata J. Parmar Assistant Professor	Ph. D.	9 years	4	6	1	1	2
39.	Dr P. B. Ravia Assistant Professor	Ph. D.	6 months	1	1	-	-	-
7. Department of Agricultural Economics								
40.	Dr. V. D. Tarpara Professor	Ph. D.	36	6	8	7	5	4
41.	Dr. Kalpesh Kumar Associate Professor	Ph. D.	16	20	18	5	3	10
42.	Dr. B. Swami nathan Associate Professor	Ph. D.	10	28	21	8	6	6
43.	Dr. Haresh Chavda Assistant Professor	Ph. D.	6 months	3	5	0	0	1
44.	Dr. S. R. Dahima Assistant Professor	Ph. D.	6 months	3	-	-	-	0
8. Department of Agricultural Statistics								
45.	Dr.D.V. Patel Prof. & Head	Ph.D. in Agril. Stat.	20	6	1	1	-	6
46.	Dr.M.S. Shitap Assistant Professor	Ph.D. in Agril. Stat.	10	8	2	1	-	6
47.	Prof.A.P. Prajapati Assistant Professor	MCA & M.Com. (Business Stat.)	20	2	9	2	-	3

Sr. No.	Name of faculty & designation	Highest degree obtained	Work experience (in years)	No. of research papers published	No. of seminar/ symposia *etc.* participated	No. of trainings attended	No. awards/ recognition	No. of recommendation / varieties released
9. Department of Genetics and Plant Breeding								
48.	Dr. D. R. Mehta Professor and Head	Ph. D.	30	34	6	7	5	5
49.	Dr. L. J. Raval Professor	Ph. D.	17	41	7	4	1	4
50.	Dr. G. U. Kulkani Professor	Ph. D.	17	39	5	5	0	1
51.	Dr. Rajiv Kumar Associate Professor	Ph. D.	13	17	7	4	1	4
52.	Dr. M. H. Sapovadiya Associate Research Scientist	Ph. D.	10	25	12	8	0	1
53.	Dr. S. B. Chaudhari Assistant Research Scientist	Ph. D.	12	12	4	6	0	1
54.	Dr. R. J. Patel Assistant Research Scientist	Ph. D.	6 months	31	03	3	1	0
55.	Prof. C. S. Radadiya Assistant Professor	M.Sc. (Agri)	6 months	4	22	8	0	0
56.	Dr. H. B. Limbani Assistant Professor	Ph. D.	10	6	18	1	0	0
57.	Dr. T. H. Borkhatariya Assistant Professor	Ph. D.	6 months	15	16	6	1	0
58.	Dr. K. V. Rathawa Assistant Professor	Ph. D.	6 months	2	13	6	1	0

Sr. No.	Name of faculty & designation	Highest degree obtained	Work experience (in years)	No. of research papers published	No. of seminar/ symposia *etc.* participated	No. of trainings attended	No. awards/ recognition	No. of recommendation / varieties released
59.	Dr. A. M. Hadiya Assistant Professor	Ph.D.	6 months	2	9	3	1	0
10. Department of Seed Science and Technology								
60.	Dr. J. B. Patel Professor & Head	Ph. D. (Agri.)	27	27	13	1	7	1
61.	Dr. Jyotiben R. Sondarva Associate Professor	Ph. D. (Agri.)	10	10	11	1	4	1
62.	Dr. H.V. Bhoot Assistant Professor	Ph. D. (Agri.)	6 Months	8	-	-	-	-
63.	Prof. M.H. Donga Assistant Professor	M. Sc. (Agri.)	6 Months	4	-	1	-	-
64.	Dr. D. V. Savaliya Assistant Professor	Ph.D.	6 Months	5	2	1	1	-
11. Department of Biochemistry								
65.	Dr. H. P. Gajera Professor and Head	Ph. D.	30	28	8	1	0	8
66.	Dr. U. K. Kandoliya Associate Professor	Ph. D.	30	32	7	2	2	4
67.	Dr. S. R. Parmar Assistant Professor	Ph. D.	6 months	2	15	2	2	0

Sr. No.	Name of faculty & designation	Highest degree obtained	Work experience (in years)	No. of research papers published	No. of seminar/ symposia *etc.* participated	No. of trainings attended	No. awards/ recognition	No. of recommendation / varieties released
68.	Dr. H. R. Sodha Parmar Assistant Professor	Ph. D.	6 months	03	07	2	0	0
12. Department of Biotechnology								
69.	Dr. Y. V. Naghera Associate Professor	Ph. D.	15	12	6	6	0	5
70.	Dr. M. V. Parakhia Assistant Professor	Ph. D	16	15	12	2	3	4
71.	Dr. A. G. Vala Assistant Professor	Ph. D	10	20	4	5	6	3
72.	Dr. S. B. Bhatt Assistant Professor	Ph. D	10	15	7	2	5	4
73.	Dr. D. G. Hirpara Assistant Professor	Ph. D	6 months	23	6	5	5	2
74.	Dr. J. V. Khaniya Assistant Professor	Ph. D	6 months	6	48	2	1	0
13. Department of Agricultural Engineering								
75.	Dr. M. L. Ramani Assistant Professor	Ph.D. (REE)	6 months	5	1	2	-	-
76.	Prof. V. R. Vagadiya Assistant Professor	M. Tech. (Agril. Enggg.)	36	12	8	-	2	1
14. Department of Animal Science								
77.	Dr. B. D. Savaliya Professor	Ph. D.	34	7	5	-	2	1

6.5.2.4. TECHNICAL AND SUPPORTING STAFF

The College has been sanctioned with adequate technical and supporting staff to meet the requirement of teaching, research and extension, administration and academic activities. The vacancies are filled through recruitment as well as through contractual/ outsourcing. The details are presented in the following tables.

Table 6.5.9: Details of technical/supporting staff strength as of 31.07.2025

Sr. No.	Sanctioned staff	Staff sanctioned by GoG	Staff in place	Vacant position	ICAR Recommendation
1.	Technical /Supporting staffs	202	99	103	-
2.	Administrative staff	51	31	20	-
Total		**253**	**130**	**123**	**43**

Sr. No.	Cadre of staff	Staff in place
Technical Staff:		
1.	Agricultural Officer	22
2.	Agricultural Supervisor	11
3.	Agricultural Assistant	40
4.	Steno - Grade II	1
5.	Computer Programmer	2
6.	Data Entry Operator	1
7.	Junior Engineer	1
8.	Laboratory Technician	9
9.	Technical Assistant	2
10.	Peon	10
	Total	**99**
Administrative Staff:		
1.	Head Clerk	1
2.	Senior Clerk	13
3.	Junior Clerk	12
4.	Jeep Driver	2
5.	Lab Boy	2
6.	Pump Operator	1
	Total	**31**
	Grant Total	**130**

As on 31.07.2025, a total of 253 technical and administrative posts are sanctioned, of which 130 positions are filled, leaving 123 vacant. Among the staff in place, Agricultural Assistants, Agricultural Officers, and clerical cadres constitute the major share of technical and administrative manpower. The technical/supporting staff accounts for 202 sanctioned posts, with 99 staff in position and 103 vacancies.

6.5.3. LEARNING RESOURCES

6.5.3.1 COLLEGE LIBRARY (DIGITAL)

From the details of library facilities available with the College, as furnished below, it could be seen that the College library is modernized with the state-of-the-art facilities such as RFID system for book issuance coupled with a fully functional e-library set-up with up-to-date reference databases and other repositories.

Particularly, the library provides online access to national and international journals through platforms such as CeRA and J-Gate Plus services. The library offers Wi-Fi-enabled internet facilities, seating for over 225 users in air-conditioned reading rooms, and remains open from 8:00 AM to 11:00 PM.

Table 6.5.10: Details of library facilities available in the campus

Facilities	Details
Location of library	College Campus, JAU, Junagadh
Availability of Wi-Fi	100 mbps LAN connectivity
Books	59500
Other reading materials	Newspapers, text books, general books, novels, encyclopaedia, competitive exam books, E- journals, E-books, CAB, AGRICOLA, AGRIS, CeRA, J-Gate *etc*.
Periodicals and research journals	Online access of Journals through CeRA and KRISHIKOSH
Internet with sufficient number of computers	Having facilities with 5 computers
Seating capacity	100 + 125 in AC reading room
Stocking arrangements	Subject wise
Volumes of different subjects	14,000 back volumes
Automation and user service through computer	Implementation of RFID system and online database like J-Gate plus
Opening hours	8.00 AM to 6.30 PM
Reading room	8.00 AM to 11.00 PM
Subscription of journals	53 Indian and 11 foreign journals and around 14,000 back volumes
Magazines	Various magazines related to agriculture and allied field has been subscribed by library

Library Council at University level meets regularly to plan and execute the development of library. The required books and journals are procured based on the recommendations of the concerned faculty, HoDs and research scientists of the university.

6.5.3.2 LABORATORIES, INSTRUCTIONAL FARM, WORKSHOPS, DAIRY PLANT, VETERINARY CLINIC, HATCHERY, PONDS, ETC.

The College has UG and PG programs for various disciplines. Adequate number of classrooms and laboratories have been established at the College and respective Departments. All the departments have well equipped laboratories with the required equipment as indicated in the tables below.

Table 6.5.11: Details of area, capacity and purpose of laboratories, farms, etc. available at campus

Sr. No.	Name of lab.	Laboratory size (Sq.m.)	Seating capacity	Purpose	UG or PG
Department of Agronomy					
1.	Lab-1	63.33	15	Research	PG
2.	Agmet lab	35.00	30	Teaching	UG & PG
3.	Museum	63.33	30	Exhibition	UG & PG
Department of Horticulture					
4.	Lab-1	110.86	35	Practical	PG
Department of Soil Science and Agricultural Chemistry					
5.	MSS Research Lab	60	15	Research	Salinity Indices
6.	Micronutrients Research Lab	60	15	Research	Micronutrient analysis
7.	G-1 Research Lab	60	15	Research	Soil Plant NPK
8.	Soil Water Analysis Lab	120	10	Research	All instruments related to soil analysis
9.	STCR Lab	62	10	Research	Plant analysis
10.	Soil Survey Lab	41	10	Research	Fertility estimation
11.	LTFE Lab	41	10	Research	Soil Plant analysis
12.	PG Lab	41	10	Practical and research	PG/Ph.D. research work
13.	UG Lab	180	50	Practical	UG/Ph.D. dual

Sr. No.	Name of lab.	Laboratory size (Sq.m.)	Seating capacity	Purpose	UG or PG
Department of Agricultural Entomology					
14.	UG Lab	88.35	40	Practical	UG
15.	PG Research Lab-1	132.60	10	Practical, research	PG
16.	Storage Research Lab	38.43	05	Practical, research	PG
17.	Bio-Control Research Lab	1300	40	ELP, Mass production of bio-agents	UG & PG
Department of Plant Pathology					
18.	Lab-1	84.080	35	Teaching & practical	UG
19.	Lab-2	84.080	35	Teaching & practical	UG
20.	Lab-3	84.080	35	Teaching & practical	UG
21.	Lab-1	37.088	15	Teaching & research	PG
22.	Lab-2	85.192	15	Teaching & research	PG
23.	Lab Part-1	35.469	10	For conducting various Department research of the concerned faculties	Departmental Research
Department of Agricultural Extension Education					
24.	Audio-Visual Lab	34.84	25	Teaching	UG & PG
Department of Agricultural Statistics					
25.	UG Computer Laboratory	81	50	Practical work of computer related courses	50 computer systems, 6 ACs, Computer furniture, software required for practical work, Internet and LAN, Intranet, Projector
26.	Hardware & Network Laboratory	24	10	Demonstration of computer	Hardware and

Sr. No.	Name of lab.	Laboratory size (Sq.m.)	Seating capacity	Purpose	UG or PG
				hardware and network devices	networking devices and parts for demonstration, Optical Fiber Network, Internet and LAN, Intranet
27.	PG Computer Laboratory	35	20	Statistical Analysis Work	20 computer systems, 2 AC, Computer furniture, statistical software (BASICA, MICROSTAT, SPAR 1, SPSS, R studio, Python) Internet
Department of Genetics and Plant Breeding					
28.	UG Lab-1 (Genetics & Plant Breeding and Plant Physiology)	87.36	40	Teaching for UG Practical	UG
29.	UG Lab-2 (Genetics & Plant Breeding and Plant Physiology)	110.75	40	Teaching for UG Practical	UG
30.	Bio-Tech -1 (Instrumentation Room)	37.08	10	For PG and UG Practical	PG Research and Practical
31.	Bio-Tech-2 (Preparation room)	55.66	10	For PG and UG Practical	PG Research and Practical
32.	Plant Tissue Culture -1 (Media preparation room)	110.83	20	For Tissue-culture Research and Banana	PG Research and Practical

Sr. No.	Name of lab.	Laboratory size (Sq.m.)	Seating capacity	Purpose	UG or PG
				micro-Propagation	
33.	Plant Tissue Culture -2 (Inoculation I)	12.74	2	For Inoculation of explant	PG Research and Practical
34.	Plant Tissue Culture -2 (Inoculation II)	13.80	3	For Inoculation of explant	PG Research and Practical
35.	Plant Tissue Culture -2 (Inoculation III)	35.70	4	For Inoculation of explant	PG Research and Practical
36.	Plant Tissue Culture -2 (Inoculation IV)	22.38	2	For Inoculation of explant	PG Research and Practical
37.	Plant Tissue Culture -2 (Culture Room I)	33.34	---	For Incubation of culture	PG Research and Practical
38.	Plant Tissue Culture -2 (Culture Room II)	81.00	---	For Incubation of culture	PG Research and Practical
39.	Plant Tissue Culture -3 (Autoclave Room cum washing room)	37.08	---	For Autoclaving media and glassware washing	PG Research and Practical
Department of Seed Science and Technology					
40.	Seed Testing Lab	188	25	Practical and research	UG & PG
Department of Biochemistry and Biotechnology					
41.	PG Lab	154.57	35	Practical and research	PG
42.	UG Lab-1	62.82	30	Practical	UG
43.	Lab-2	68.82	30	Practical &Research	UG
Department of Agricultural Engineering					
44.	Agricultural Engineering Lab - ELP	100	30	Practical exposure to agricultural engineering machinery and technologies for students.	UG
Department of Animal Science					
45.	Practical Lab	81	40	UG Practical	UG

FARM FACILITY

The College has a well-developed Instructional Farm equipped with necessary farm implements, tractors, pump-sets, sheds, stores, *etc.* In addition, most of the Departments have their own farms for teaching, research, and training purposes as listed below:

Table 6.5.12: Details of farm area and number of experiments continued at farms

Sr. No.	Name of farm/ cafeteria	Area (ha)	No. of experiments continued	
			Departmental	Students
Department of Agronomy				
1.	Instructional Farm	40.00	8	58
2.	Model Organic Farm	8.75	3	4
3.	Natural farming Model	1.90	2	8
4.	Weed Control Scheme	8.00	4	2
5.	Mechanized Commercial Farm	48.74	1	0
6.	Seed Farm	6.82	0	0
7.	Farming System Research Centre	6.00	2	0
	Sub-Total	120.21	20	72
Department of Agricultural Entomology				
1.	Plot No. A-11	0.500	01	00
2.	Plot No. B-11	0.500	02	00
3.	Plot No. 7	0.135	01	00
	Sub-Total	1.135	05	00
Department of Plant Pathology				
1.	Plot No. A-1	0.15	01	01
2.	Plot No. A-2	0.20	02	02
3.	Plot No. A-3	0.40	03	02
4.	Plot No. A-4	0.12	-	01
	Sub-Total	0.87	6	6
Department of Genetics and Plant Breeding (Conservation and Maintenance of Species)				
1.	Botanical Garden Moti Baugh	12.62	3	RAWE students
5.	Botanical Garden Paritalav	5.16	1	
6.	Botanical Garden Laldhori	12.60	Conservation	
7.	Botanical Garden Dudheshwar	3.40	Conservation	
	Sub-Total	33.78	4	
Department of Seed Science and Technology				
1.	Sagdividi Farm	78.15	2	6
	Gross Total	**234.15**	**71**	**157**

6.5.3.3 STUDENT READY/ INPLANT TRAINING / INTERNSHIP / EXPERIENTIAL LEARNING PROGRAMS

Based on the ICAR Sixth Dean's Committee Report, the college has implemented the student's READY program from 2023-24. This includes orientation, village stay, KVK, Research station phase, Exposure visit, educational tour of 14 days in three states, on campus training, visit and training in agro-industries, project preparation and data compilation, preparation of group/individual project, preparation and report submission examination and other related works.

At present, the students of this college are being given exposure to ELP in their eighth semester (180 days). Under this program, the students are divided into six groups and they are given training under the Department of Agricultural Chemistry and Soil Science, Department of Plant Pathology, Department of Agricultural Entomology and Department of Genetics & Plant Breeding, Department of Horticulture, Department of Seed Science and Technology and Department of Agronomy. They received hands-on-training and skill-oriented exposure in the field of tissue culture, preparation of bio-fertilizers and bio-agents, soil testing laboratory, seed production program, nursery management and greenhouse cultivation during their learning phases *etc*.

Through this phase, students develop the entrepreneurial management capacity, develop their skill and knowledge and build their confidence for handling of the project.

LEARNING OUTCOMES AS PER THE GUIDELINES OF ICAR

Sixth Deans' Committee Recommendations have been implemented since 2023-24. Semester system with external examination system is followed as per guidelines of Fifth Dean's Committee for evaluation and marking system of UG program. Examination and evaluation program have also been implemented in the college as per ICAR guidelines.

STATUS AND PERFORMANCE OF EXPERIENTIAL LEARNING PROGRAMS (ELP)

The college has eight ELP units, wherein, apart from imparting the requisite skillsets, the profit generated at the end of each ELP is equally distributed as per the program's mandate. The ELPs comprise diverse modules covering seed production, bio-inputs, machinery management, nursery management, soil and plant testing, and tissue culture. The students were trained through skill- and production-oriented modules under the guidance of designated nodal officers. Several modules generated substantial revenue and revolving funds, notably soil testing, commercial bio-agent production, and quality seed production programmes. In most modules, 50% of the income was distributed to students, reinforcing hands-on learning, entrepreneurship, and income-sharing as core objectives of ELP.

Besides ELP units, the two other modules—Practical Crop Production I (kharif) and II (rabi)—are distinct from ELP and primarily emphasize hands-on crop production and seed multiplication. Such practical training is essential to bridge the gap between theoretical knowledge and real-world application. It equips students with hands-on skills, problem-solving ability, and technical competence required for professional careers in agriculture. Moreover, it fosters entrepreneurial orientation, confidence, and employability by exposing students to production systems, resource management, and income-generating activities under field conditions.

Table 6.4.13: Status of the Experimental Learning Programs (AY 2024-25)

Sr. No.	Name of ELP modules	Nodal Officer of module their mobile no. & Email	Grant received	No. of students trained under ELP	Product being developed under ELP	Revenue earned (Lakh)	Revolving fund generated	% Share income distributed to students
1.	Quality seed production of field crops	Dr. J. B. Patel Mo. 9979298558 Dr. C. A. Babariya, Mo. 9687564855 megaseed@jau.in	-	58	Seed production of wheat LOK-1(Breeder seed) in 1 ha area in rabi and seed production of Green gram - 10 (Breeder seed) in summer in 1 ha of area: Total 2 ha.	3.16	3.16	50 %
2.	Agriculture Machinery Management Custom Hiring and Mobile Workshop	Dr. Rajvir Yadav Mo. 94264 20561 Yadavryadav@jau.in	-	-	Skill development	0.52**	0.52	-
3.	Production Technology for Bio-Fertilizer and Bio-Agent	Dr. S. V. Lathiya, Dr. J. R. Talaviya and Dr. D. S. Kelaiya	-	58	Production of Bio-Fertilizer (Azotobacter, Rhizobium, PSB, KMB), Bio-Agent (Trichoderma) and Mushroom Spawn	-	4.23	50%

Sr. No.	Name of ELP modules	Nodal Officer of module their mobile no. & Email	Grant received	No. of students trained under ELP	Product being developed under ELP	Revenue earned (Lakh)	Revolving fund generated	% Share income distributed to students
4.	Commercial bio-agent production	Dr. D. M. Jethva Mob: 9427513000 E-mail: entomology@jau.in	-	60	Production of different bioagents of Gir Sawaj brands (Entomopathogenic fungi, NPV, pheromone and fruit fly traps, Trichocards etc.)	5.91	5.91	50%
5.	Nursery management and protected cultivation	Dr. N. D. Polara 94283 47112 horti@jau.in	-	58 (44+14*)	Tomato, Methi and Palak cultivation	0.24	0.22	0.11
6.	Quality seed production in field crops	Dr. S. K. Chhodavadia Mo. 9601906896 E-mail: skchhodavadia24589@jau.in	-	58	Quality seed production for Pigeon pea and wheat crop	1.83	1.00	0.50 (50%)
7.	Soil, Water, Plant and Seed Testing	Dr. L. C. Vekaria 9898125777 lalit@jau.in	-	61	Report to farmer for soil, water and plant analysis	7.83	5.09	2.14

Sr. No.	Name of ELP modules	Nodal Officer of module their mobile no. & Email	Grant received	No. of students trained under ELP	Product being developed under ELP	Revenue earned (Lakh)	Revolving fund generated	% Share income distributed to students
8.	Plant Tissue Culture Technology	Dr. Rajiv Kumar Mo.- 9725974491 e-mail- drrajivkumar@jau.in	31.0 lakh	29 (Jan - March 2025- 1st batch) 29 (April - June 2025 2nd batch	Skill oriented ELP for production of banana tissue culture plantlets. Each batch was divided into four sub batches in group of 5-6 students as under: 1. Media Preparation 2. Inoculation 3. Washing 4. Green house for hardening of plantlets	---	---	50%
9.	Practical crop production - I (kharif crops)		-	132	Seed production for soybean crop	2.475	129920	129920 (50%)
10.	Practical crop production - II (rabi crops)		-	132	Seed production for wheat crop	2.775	277200	175925 (50%)

6.5.3.4. CURRICULA DELIVERY THROUGH IT (SMART CLASSROOMS/ INTERACTIVE BOARD, ETC.)

- Lectures and practicals are conducted using PowerPoint presentations and audio-visual aids. Faculty members also develop their own lecture videos and upload them on YouTube and the University portal (AIMS) to ensure wider academic outreach.
- The College has established a Smart Classroom equipped with an interactive board for teaching and practical sessions. It is air-conditioned and fitted with a smart board, writing pad, smart podium, LCD projector, computer, and internet connectivity through LAN and Wi-Fi.
- Besides, the Department of Biotechnology and Department of Agricultural Statistics have developed smart classrooms with interactive boards which is very important for teaching and PG seminars.
- There are three Digital Classrooms at the College equipped with audio visual aids and video conferencing facility, which is utilized by students and faculties and many lectures are uploaded in ICAR portal.
- In addition, there are 25 digital classrooms in the Departments equipped with all necessary facilities such as white/ green board, writing pad, LCD projectors with computer and internet facility through LAN and Wi-Fi.
- Digital library with computers and internet facility is available and used by the students. Beside these, internet facility is also provided at hostel, which is available for all the time.

6.5.4. STUDENT DEVELOPMENT

The College is committed to the holistic development of students. Along with syllabus-based teaching, faculty members enrich lectures with the latest domain-specific information to broaden students' knowledge. Equal emphasis is placed on character development through motivational talks, often illustrated with anecdotes from the lives of national and international leaders and other achievers. Students are actively exposed to a wide range of extracurricular activities and encouraged to participate in inter-university competitions at the state and national levels. The College further strengthens character building by organizing guest lectures on motivation, personality development, leadership skills, and related attributes.

The soft-skill development among students is emphasized with regular training programmes and workshops. The Student Counselling and Placement Cell (SCPC) of the College aims at career counselling of the students and ensures measures to boost their competitiveness. The students are nurtured about grassroots realities of stakeholders and are trained to shape their response and behavior when it comes to dealing with all stakeholders, including farming community and agri-preneurs.

6.5.4.1. STUDENT INTAKE AND ATTRITION

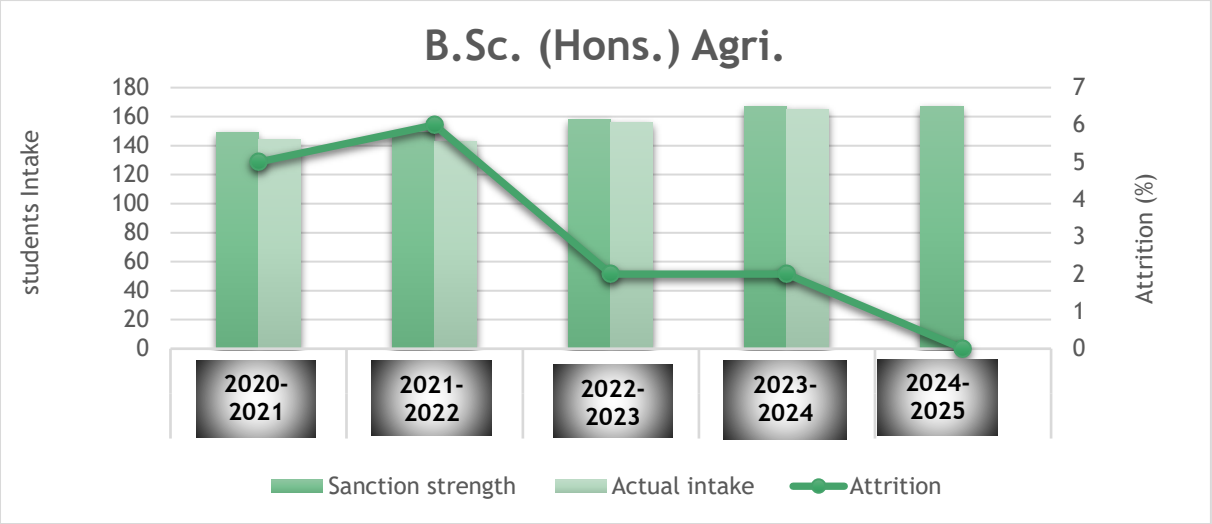
Attrition level is very low among undergraduate students while it is moderate at postgraduate level, especially during 2021-22 to 2023-24, as the students landed up in jobs in line departments, quasi-governmental agencies, plant protection companies, fertilizer

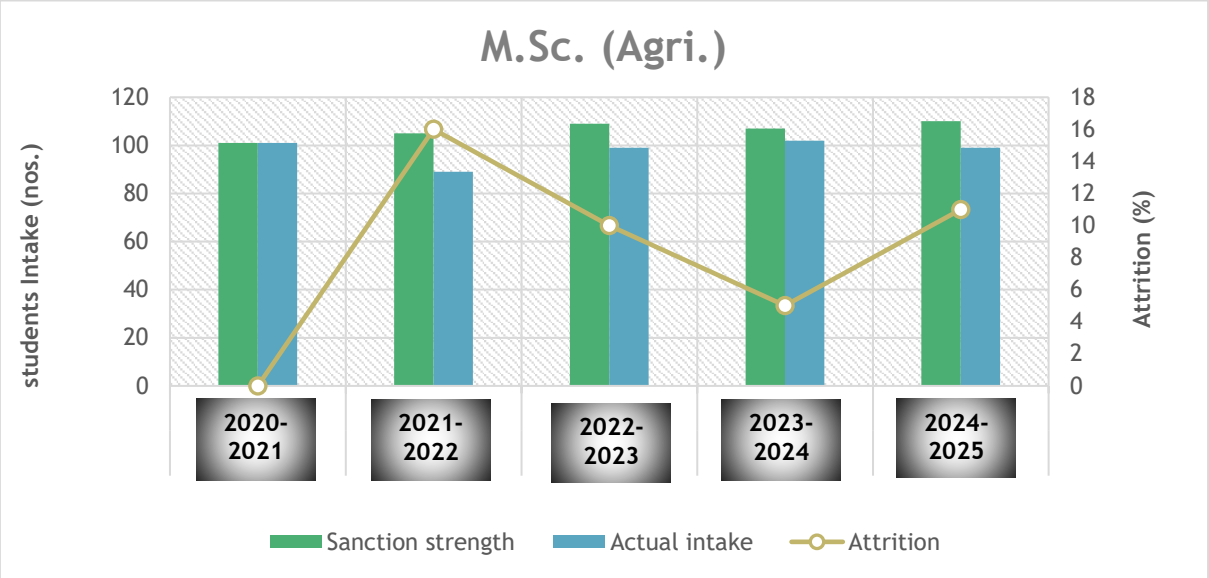
marketing firms, agri-export firms or succeed in securing in other career opportunities like banking or take up family business and become entrepreneurs, even while their degree programme is in progress. For instance, in 2022-23 alone, the Gujarat Panchayat Service Selection Board (GPSSB) conducted a major recruitment drive for Gram Sevak posts, with a total of 1,571 Gram Sevak vacancies. Almost all the PG and PhD students who wrote the examination from the college got selected and while some chose to finish their degree others accepted the offer without completing the semester. Similarly, there were recruitment announcement for Agricultural Assistants, Agricultural Officers, and Seed officers during 2022-23 and 2023-24, which led to the selected candidates to drop out of their degree programs.

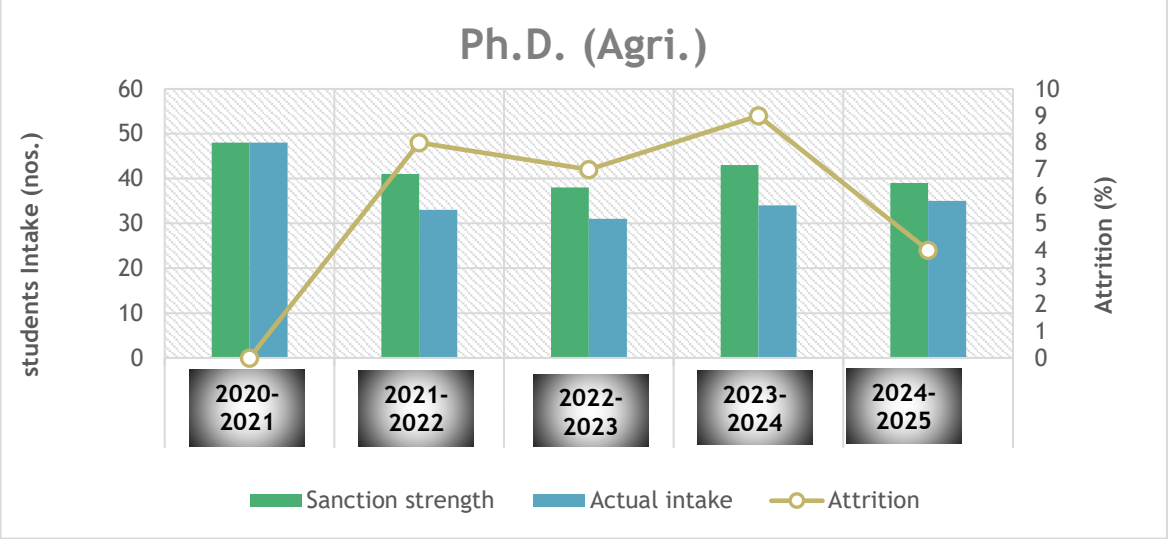
Table 6.5.14: Details of student intake and attrition in the last five years

Name of the degree program	Year	Sanctioned strength	Actual intake*	Attrition	
				No.	%
UG	2020-21	149	144	5	3.35
	2021-22	149	143	6	4.02
	2022-23	158	156	2	1.26
	2023-24	167	165	2	1.19
	2024-25	167	175^	0	0.00
	^8 semester drop students were transferred from 5th Dean's Committee to 6th Dean's Committee after the clearance of their backlogs.				
PG	2020-21	101	101	00	0.00
	2021-22	105	89	16	15.23
	2022-23	109	99	10	9.17
	2023-24	107	102	5	4.67
	2024-25	110	99	11	10.00
Ph.D.	2020-21	48	48	00	0.00
	2021-22	41	33	8	19.51
	2022-23	38	31	7	18.42
	2023-24	43	34	9	20.93
	2024-25	39	35	4	10.25

Note: *Inclusive of in-service / sponsored / foreign candidates in addition to the sanctioned strength


B.Sc. (Hons.) Agri.
students Intake
Attrition (%)
180
160
140
120
100
80
60
40
20
0
7
6
5
4
3
2
1
0
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
Sanction strength
Actual intake
Attrition


M.Sc. (Agri.)
students Intake (nos.)
Attrition (%)
120
100
80
60
40
20
0
18
16
14
12
10
8
6
4
2
0
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
Sanction strength
Actual intake
Attrition


Ph.D. (Agri.)
students Intake (nos.)
Attrition (%)
60
50
40
30
20
10
0
10
9
8
7
6
5
4
3
2
1
0
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
Sanction strength
Actual intake
Attrition

6.5.4.2. AVERAGE NUMBER OF STUDENTS IN THEORY AND PRACTICAL CLASSES

Sr. No.	Name of the degree program	Year	Total intake per year	Batch of students in theory class	Batch of students in practical class
1	UG - B.Sc. (Hons.) Agri.	2020-21	144	2 (Group A & B) each with 57 to 72 students for 1st to 6th semesters	4 batches each with 27 to 36 students from 1st to 6th semesters
		2021-22	143		
		2022-23	156		
		2023-24	165		
		2024-25	175		
		Students' READY programme	RAWE for 7th semester	NA	5 phases with 4 batches for boys with each of 25 to 30 students and 2 batches for girls, each of 20 - 25 students.
			ELP for 8th semester	NA	8 ELPs (each student attending 2 groups)

Table 6.5.15: Details of discipline-wise actual intake in PG programs

Sr. No.	Discipline	Actual intake per year - M.Sc. (Agri.)					Batch of students in theory class	Batch of students in practical class
		2020-21	2021-22	2022-23	2023-24	2024-25		
1.	Agronomy	13	11	11	11	13	01	01
2.	Soil Science & Ag. Chem.	08	05	05	05	04	01	01
3.	Entomology	07	08	10	11	11	01	01
4.	Plant Pathology	08	06	06	07	09	01	01
5.	Ag. Extension	07	07	09	09	08	01	01
6.	Ag. Economics	04	02	07	05	06	01	01
7.	Ag. Statistics	02	01	02	04	03	01	01
8.	Genetics & Plant Breeding	21	19	25	23	21	01	01
9.	Seed Sci. & Tech.	06	06	05	10	09	01	01
10.	Plant Physiology	02	03	02	02	01	01	01
11.	Pl. Mol. Bio. & Biotech.	06	03	06	03	04	01	01
12.	Biochemistry	06	02	02	01	05	01	01
13.	Ag. Meteorology	02	-	-	02	02	01	01
	Total	**92**	**73**	**90**	**93**	**96**	**-**	**-**

Table 6.5.16: Details of discipline-wise actual intake in Ph.D. programs

Sr. No.	Discipline	Total intake per year - Ph.D. in Agri.					Batch of students in theory class	Batch of students in practical class
		2020-21	2021-22	2022-23	2023-24	2024-25		
1.	Agronomy	05	05	02	002	02	01	**01**
2.	Soil Science and Ag. Chem.	05	03	03	01	02	01	**01**
3.	Ag. Entomology	10	06	05	06	04	01	**01**
4.	Plant Pathology	05	02	02	02	03	01	**01**
5.	Ag. Extension	05	02	02	02	03	01	**01**
6.	Ag. Economics	01	01	02	03	03	01	**01**
7.	Ag. Statistics	01	00	00	01	01	01	**01**
8.	Genetics & Plant Breeding	06	07	05	06	09	01	**01**
9.	Seed Sci. & Tech.	03	03	05	05	06	01	**01**
10.	Plant Physiology	0	0	0	0	00	01	**01**
11.	Pl. Mol. Bio. & Biotech.	04	02	0	0	03	01	**01**
12.	Biochemistry	03	01	02	00	02	01	**01**
13.	Ag. Meteorology	00	00	00	00	00	01	**01**
	Total	**48**	**32**	**28**	**28**	**28**	**-**	**-**

Note: *In-service candidates

6.5.4.3. ADMISSION PROCESS

- Common online admission for all four Agricultural Universities of Gujarat, advertisement as well as counseling schedules are being published in the newspapers and on web sites *i.e.*, www.gsauca.inand www.jau.in.
- Admission and degree program details are being provided in prospectus as well as on common admission web site and on www.jau.in.

UNDERGRADUATE PROGRAMME

In UG the state quota is 80% and 20% seats are reserved for ICAR candidates. In 2nd year 10% seats are filled by the Lateral Entry [Diploma (Agriculture) students] over and above the intake capacity. Admissions in the university are made subject to reservation of seats for various social and economic categories as stipulated by the state government from time to time.

The admission process right from inviting application till the allotment of seats is being done by one of State Agricultural University of Gujarat, which is entrusted for the admission process. Accordingly, the admission of students for under graduate degree programmes is made based on GUJCET (entrance test) conducted by the state government and HSCE marks.

POSTGRADUATE AND PH.D. PROGRAMME

In PG & Ph.D. the state quota is 75% and 25% seats are reserved for ICAR candidates. Admission of NRI's / Foreign Nationals shall be through ICAR/ GOI nomination over and above the ICAR quota.

All Sate Agricultural Universities of Gujarat have a common committee wherein all policy matters of the different Universities are discussed and finalized. Accordingly, the admission of students for various post graduate degree programmes is being made through common entrance examination conducted by one of the Agricultural Universities in the state. The admission process right from inviting application till the allotment of seats is being done by the University which is entrusted for the admission process.

Basis for admission to Degree Programs

Particular of examination	**UG [B.Sc. (Hons.) Agri.]**
Qualifying Examination	10+2 pass with Physics, Chemistry, Biology / Agricultural subjects
Entrance Examination	State level common entrance examination namely, GUJCET is being taken. Weight age 40% of GUJCET and 60% of Gujarat Higher Secondary Board Exam result marks used for preparation of merit list.
PG [M.Sc. (Agri.)]	
Qualifying Examination	A candidate for admission to the M.Sc. degree program should possess a bachelor's degree with an OGPA of not less than 6.00 (10 basis) or its equivalent in aggregate as well as in the field of studies in which admission is sought.
Entrance Examination	ICAR JRF or State SAU's entrance test 50% marks and 50% marks of OGPA at UG level
Ph.D. in Agriculture	
Qualifying Examination	For Ph.D. degree program, the candidate should possess a master's degree with an OGPA of not less than 6.50 (10 basis) or its equivalent.
Entrance Examination	ICAR SRF or State SAU's entrance test 50% marks and 50% marks of OGPA at PG level

Table 6.5.17: Details of student reservation (percentage) in AY 2024-25

Category	UG Program	PG/Ph.D. Program
Scheduled Caste	7%	7%
Scheduled Tribe	15%	15%
SEBC	27%	27%
EWS	10%	10%
Physically Handicapped*	5%	5%
Defence Personnel / Ex-servicemen *	1%	-
Parsi Community of Gujarat (Extra)	1 seat	-
Kashmiri Migrant (Extra)	2 seats	-
CBSE	Pro rata basis	-
ICAR (Extra)	20%	30%

Note: * Indicates that the seats are adjusted in respective categories.

FEE PAYMENT MECHANISM

For UG, PG and Ph.D. admission, the fee is collected by the respective admission authorities at the time of admission through online banking. Similarly, the fee is also collected from the students registering for the subsequent semester's fees through online mode by the respective colleges.

Table 6.5.18: College fees and other charges per year per student

Particular	For UG (Rs. /Annum)		For PG (Rs. /Annum)	
	Boys	**Girls**	**Boys**	**Girls**
Tuition fees	7000	0	10000	0
Hostel charges	3000	0	4000	0
Laboratory fees	1000	1000	4000	4000
Others	4750	4750	7000	7000
Total	**15750**	**5750**	**25000**	**11000**
Refundable Deposits	5500	5500	6500	6500

* Girl students are exempted from paying tuition fee and hostel charges.

REGISTRATION PROCESS

The selected candidates shall pay the prescribed fees on or before the notified date and submit the original documents and then register for the relevant courses in person failing which their registration stands cancelled. In subsequent semesters the registration shall be in the first two days of commencement of semester without fine and maximum of seven working days after the commencement of semester with fine. The Registrar notified the schedule of the various UG, PG and Ph.D. programmes in advance for every semester and the same will be followed by all the constituent colleges of the University.

ACADEMIC CALENDAR PUBLICATION

Under the guidance of Principal and Dean and as per the university norms, academic calendar is decided at the common meeting of all four SAUs of Gujarat. The academic branch of the college prepares time table (Theory & Practical) for teaching and arranges internal theory and practical examinations as per academic calendar under the guidance of Academic In-charge of College of Agriculture, Junagadh. RAWE convener makes the schedule of Students' READY program, RAWE program, and educational tour program as per the academic calendar. Similarly, Gymkhana Chairman and Physical Instructor, as per guidelines of Junagadh Agricultural University, prepare sports calendar.

Academic calendar and time table of centralized common semester end examination is common for all the four SAUs of Gujarat state. The College of Agriculture, JAU, Junagadh also prepares annual report, planning for extra-curricular activities, celebration of college's annual day, sports and athletics activities *etc.* every year. The students of the college actively take part in all the activities every year.

6.5.4.4. CONDUCT OF PRACTICAL AND HANDS ON TRAINING

- In the practical sessions, teachers first demonstrate the exercises using charts, models, and live interactive hands-on methods. Thereafter, students perform the practicals themselves following a learning-by-doing approach. Key exercises such as emasculation, hand pollination, preparation of culture media, insect dissection, microscopic slide preparation, stock solutions, titrations, field operations, machinery handling, and surveying and levelling are practiced by the students.
- Students are frequently exposed to farm visits in nearby farmers' field to study crop conditions, soils, agronomic practices followed by farmers, various pest and diseases their damages as well as to collect samples. They also interact with the farmers.
- The Student READY Programme is implemented in two phases: RAWE in the 7th semester and ELP in the 8th semester. The RAWE programme comprises several components, including village stay, industrial visits, cooperative and NGO visits, and exposure to research stations and KVKs. Through these activities, students gain hands-on experience and practical exposure to current trends in agriculture.
- As Experiential Learning Program has been approved by ICAR, students of 8th semester undergo training under the eight different ELPs operated at the College.
- During practical sessions, students are divided into four batches for each course. A two-hour practical class is conducted per week, during which students perform various experiments and acquire essential skills and practical know-how.
- Under ELP program, students are engaged in various activities like production of *Trichoderma* and *Beauveria* bio-agents, biofertilizers, value added products like Jam, Jelly, Nectar *etc.*, raised nursery of vegetable crops. Besides, exposure to students is also given on soil and water sample analysis, seed production, greenhouse cultivation, plant tissue culture in banana, *etc.*
- Students receive hands-on training during practical sessions, enabling them to apply theoretical knowledge and hone essential technical skills.

6.5.4.5. EXAMINATION AND EVALUATION PROCESS

FOR UNDERGRADUATE PROGRAMME

Fifth Deans' Committee deliberated on the examination and evaluation system being followed by different universities. The Committee recommends Uniform Grading system to be followed with uniform OGPA requirements for award of degrees at all levels and uniform conversion formulae to be followed for declaration of I, II and III divisions, distinctions, *etc.*

UG examination (As per VI Deans' Committee)

Examination	For courses having theory and practical		For courses having theory only	For courses having practical only
	Theory	Practical		
Internal (per cent)	30	15+5*	40+10*	100
External (per cent)	50	00	50	00

*Indicates assignment

UG EVALUATION

Internal: Paper-setting for mid-term exams and internal practical is drawn by respective course teachers covering 80% of the syllabus. Evaluation of both internal exams is also done by the concerned course teacher.

External: Paper setting for theory external exam covering entire syllabus is done by a committee consisting of course teachers one each from the four SAUs of Gujarat. Out of which, one senior course teacher acts as a convener and others are members. As per the academic calendar, there is common date for paper setting, exam schedule as well as paper evaluation. After completion of semester-end exams, the same committee is to assemble at any one of the SAUs on rotational basis for one week and evaluate the answer sheets and prepare the results. The grading system followed as per the V Deans' Committee recommendations is asunder:

Degree	Percentage of Marks Obtained	Conversion into Points
B. Sc. (Hons.) Agri.	100	10 Points
	90 to <100	9 to < 10
	80 to <90	8 to < 9
	70 to <80	7 to < 8
	60 to <70	6 to < 7
	50 to <60	5 to < 6

	<50 (Fail)	< 5
	E.g. 80.76	8.076
	43.60	4.360

Award of division

After completion of the degree program, the students are awarded the following divisions:

OGPA	Division
5.000 - 5.999	Pass
6.000 - 6.999	II division
7.000 - 7.999	I division
8.000 and above	I division with distinction

GPA = Total points scored / Total credits (for 1 semester)

CGPA = ∑ Total points scored / Course credits

OGPA = ∑ Total points scored (after excluding failure points)/ Course credits

% of Marks = OGPA x 100/10

FOR PG AND PH.D. PROGRAMS

Fourth Deans' Committee recommendations on the examination and evaluation system are being strictly adhered by the University for PG and Ph.D. programs. The Committee recommended Uniform Grading system is being followed with uniform OGPA requirements for award of degrees at all levels and uniform conversion formulae is followed for declaration of I, II and III classes, distinctions, *etc.*

PG and Ph.D. examination (as per BSMA guidelines)

Examination	For courses having theory and practical		For courses having theory only	For courses having practical only
	Theory	Practical		
Self-study (Assignment & Presentation) marks	20	00	20	00
Internal marks	30	40	30	40
External marks	50	60	50	60

PG and Ph.D. examination (as per BSMA Guidelines)

Examination	The courses with theory and practical	The courses with theory only	The courses with practical only
Internal test (1)	20	40	---
Assignment	10	10	---
Practical	20	---	100
Semester end	50	50	---
Total marks	100	100	100

PG AND PH.D. EVALUATION

Internal: Paper-setting for internal theory exam (first and second one-hour tests) and internal practical is done by concerned course teachers. Evaluation of both internal exams is also done by the concerned course teacher.

External: Paper setting for theory and practical semester end exam covering entire syllabus is done by respective course teachers in consultation with HODs. As per the academic calendar, there is common date for paper setting, exam schedule as well as paper evaluation. After completion of semester-end exams, the concerned course teacher evaluates the answer sheets and prepare the results. The grading system followed as per the BSMA Committee recommendations is hereunder:

Degree	Percentage of Marks Obtained	Conversion into Points
M.Sc. (Agri.) & Ph.D.	100	10 Points
	90 to <100	9 to < 10
	80 to <90	8 to < 9
	70 to <80	7 to < 8
	60 to <70	6 to < 7
	50 to <60	5 to < 6
	<50 (Fail)	< 5
	E.g. 80.7	8.07
	43.6	4.36

CREDIT SEMINAR

For M.Sc. program, one credit seminar has to be presented by the student in major field under due consultation of the major guide, whereas for PhD program the student has to present two credit seminars – one in major field and the other in minor field – in consultation with the major and minor guides, respectively. The seminar is to be presented in group in the presence of seminar convener, advisory committee, faculty members of the respective and related disciplines and all PG/PhD students. The seminar is evaluated by the committee.

QUALIFYING EXAM

A post-graduate student shall have to pass the prelim (qualifying) examination with a minimum of 60% in written exam in both major and minor fields to be eligible for Viva-voce and the overall score should be minimum of 60%. The Viva-voce is conducted by the advisory committee for M.Sc. program while an external examiner is appointed by the Director of Research and Dean PG studies for Ph.D. programme.

THESIS EVALUATION

The thesis prepared by a student, in accordance of the synopsis approved by the Dean (PG studies), under the guidance of advisory committee is first presented in the Department in presence of advisory committee, faculty members, and PG students. After incorporation of all suggestions, the *kachha* bound thesis is sent for evaluation to an external examiner in case of M.Sc. and two external examiners in case of Ph.D. The final Viva-voce will be conducted by the committee comprising major and minor guides and an external member for M.Sc. and with one additional external member out of two external examiners who evaluated the thesis in case of Ph.D. After final thesis viva-voce exam, the suggestions are incorporated by the student followed by *pucca* bound thesis submission.

AWARD OF CLASSES

The award of a class to a PG/Ph.D. student is based on OGPA (Overall Grade Point Average) obtained by him/her and is indicated in the notification, transcript, and degree certificate. The basis of the award of class is given as follows:

Overall Grade Point Average	Class
8.00 and above	First Class with Distinction
7.00 to 7.99	First Class
6.50 to 6.99	Second Class

GRADE NOMENCLATURE FOR UG/PG/PH.D. PROGRAMS

The following grades are mentioned by the teachers/examiners/University in the students' performance evaluation, which is common for UG, PG and Ph.D. programs.

Grade	Significance	Value
Ab	Absent	For those students who do not appear in Internal/External Examination without giving any reason.
W	Withdrawal	For those students who do not appear at semester end examination due to unforeseen circumstances as certified by the Dean/Principal (in very exceptional cases only.)
I	Incomplete	Candidates not permitted to appear at the semester-end examination. As per Rule-35.5 and Rule-40.11
F	Fail	For those who appear but fail to score 50% in a particular course
R	Repeat	To be shown by university in evaluation report and transcript in case of course repeated and cleared.
S	Satisfactory	For NCC, NSS, Physical education, In-plant training/ study tour/ RAWE/ELP(Experiential Learning Programme)
US	Unsatisfactory	Training, all non-credit courses and study tour.
Note: Grade "S" or "US" shall have no significance in calculating GPA/CGPA/OGPA.		

STUDENTS ATTENDANCE

In all UG, PG and Ph.D. programs, it is necessary for students to attend the classes regularly. A student should have at least 75% attendance in each course separately. In case of medical emergency and other request of a student is evaluated by the Students' Attendance Committee and on its recommendation 5% relaxation may be given by the Principal and in very extraordinary case Honourable Vice Chancellor may allow additional 5% attendance. The student whose attendance is less than the requirement is debarred from attending the semester end examination and awarded incomplete (I) grade which he /she has to clear as and when the course is offered. The Students' Attendance Committee of the College is given below:

Table 6.5.19: Students' Attendance Committee

Name	Designation and Department	Remarks
Dr. P. D. Kumawat	Principal and Dean	Convener
Dr. D.V. Patel	Professor	Member
Dr. P. J. Gohil	Head Rector	Member
Dr. L. J. Rawal	Professor	Member
Dr. A. S. Jadeja	Academic In-charge (PG)	Member

6.5.4.6. NCC/NSS/RVC UNITS

NCC UNIT

- The College of Agriculture, Junagadh Agricultural University, Junagadh, formed its NCC Unit in 2023-2024, under 8 Gujarat Battalion NCC, Junagadh with one company of 160 cadets (SD/SW).
- Initially, 74 students of the college were enrolled for NCC, dedicating themselves to the ideals of character, discipline, and selfless service.
- During AY 2024–25, 16 cadets participated in the Combined Annual Training Camp (CATC), and two cadets attended the Pre-Thal Sainik Camp (Pre-TSC).
- In the academic year 2025–26, five cadets represented the institution in the Ek Bharat Shreshtha Bharat (EBSB) Camp, while fie cadets participated in the trekking camp.
- Marking a significant achievement in the inaugural year, Cadet Corporal Ajay Chandrapal, the student from CoA, JAU, Junagadh, was awarded the Best Cadet Medal of the 8 Gujarat Battalion, Junagadh, in 2024-25 bringing laurels to the college.

NSS UNIT

- National Service Scheme is an important extra-curricular activity implemented in the college for overall personality development and building social responsibilities among students.
- There is a full-fledged NSS unit at the College for undergraduate students being operated under the guidance of the Office of the Directorate of Students' Welfare, Junagadh Agricultural University, Junagadh.
- At present three NSS units, with a maximum size of 50 students per unit, are operated in the College with one faculty assigned as a Programme Officer. NSS is offered as a non-credit compulsory course during each semester first and second year of the degree programme.
- The Unit has regular activities and special camps. A village is adopted for it's over all development involving NSS volunteers.
- NSS units are active in creating awareness about social issues, importance of national events, special days of cause and various activities are carried out in the campus as well as outside the campus.

Table 6.5.20: Year-wise NSS activities during the accreditation cycle

Sr. No.	Year	No. of NSS activities	No. of NSS Volunteers participated
1.	2020-21	08	214
2.	2021-22	18	1796
3.	2022-23	18	1448
4.	2023-24	14	1348
5.	2024-25	15	1925
Total		**73**	**6731**

Table 6.5.21: Details of NSS activities along with students' participation

Sr. No.	Activity	Date	No. of Volunteers	Event / Activity / Remarks
2020-21				
1.	Fit India Freedom Run	08/09/2020	40	"Fit India Freedom Run" under FIT INDIA Dept. of Agril. Extn and COA, JAU, Junagadh. Scientists/Officers Participated in this Program under NSS
2.	Webinar	27/10/2020	05	Webinar on "Cultural Action Program under Ek Bharat Shreshtha Bharat" (EBSB 2020).
3.	Celebration of Constitution Day	26/11/2020	08	Celebration of Constitution day
4.	Swachata Abhiyan	26/11/2020	08	Scientists/Officers of dept. of Agril. Extn COA, J.A.U., Junagadh were Participated in this activity under NSS
5.	Webinar	03/12/2020	05	Webinar on "Language Learning" under Ek Bharat Shreshtha Bharat" (EBSB 2020). NSS Volunteers and program officer on date 03.12.2020 during time 3:30 to 5:30 PM participated in this webinar. Ministry of youth Affairs and sports, Govt. of India organized this webinar. (Gujarat and Chhattisgarh state's NSS volunteers and program officer were participated this webinar)

Sr. No.	Activity	Date	No. of Volunteers	Event / Activity / Remarks
6.	Webinar	03/12/2020	32	Webinar on "Jobs and Career Opportunities for Agricultural Graduates in Private and Government Sector in India" under celebration of Agriculture Education day on 3rd December.
7.	Webinar	04/12/2020	100	Webinar on "Awareness and use of Voter Portal and NVSP Portal" Webinar jointly organized by Junagadh Agricultural University, Junagadh and Collector office, Junagadh. NSS volunteers and program officer were participated this webinar.
8.	Aazadi ka Amrut Mahotsav	12/03/2021	16	Program on "Aazadi ka Amrut Mahotsav" NSS Volunteers and program officer on date 12.03.2021 participated in this program. This program is organized by District sport authority, Junagadh.
		Total	214	
2021-22				
1.	31/05/2021	No Tobacco Day	75	Online Programme on "Vyasan ae vinas" or "No Tobacco Day" was celebrated by Programme officer and NSS Volunteers was organized by Dept. of Agricultural Extension and DSW office, J.A.U., Junagadh.
2.	05/06/2021	World Environment Day	32	Programme organized on "World Environment Day" was attended by Programme officer and university scientists.
3.	21/06/2021	International Yoga Day	57	Students were celebrated the "International Day of Yoga" by doing a different yoga postures at their own premises due to covid-19 situation.
4.	06/08/2021	Rojgar Divas	30	Programme on "Rojgar Divas" under "Aazadi ka Amrut Mahotsav" was celebrated by NSS Volunteers and Programme officer was organized by Labour and Employment Department, Gandhinagar.
5.	24/08/2021	National Poet	03	Programme on "National Poet" (Poem reading competition written by Jhaverchand Meghani) was celebrated under "Aazadi ka Amrut Mahotsav".

Sr. No.	Activity	Date	No. of Volunteers	Event / Activity / Remarks
6.	06/09/2021	Teacher's Day	150 (Students)	Students were celebrated the "Teacher's Day" by performing the role of teachers and different teaching activites. Dr. S. G. savalia, Principal & Dean, COA, JAU, Junagadh and Dr. N. B. Jadav, Professor & Head, Dept. of Agricultural Extension, COA, JAU, Junagadh were also present in this programme for encourage the students.
7.	18/09/2021	Fit India Freedom Run 2	65	Programme on "Fit India Freedom Run 2" under "Aazadi ka Amrut Mahotsav" was organized by DSW office, JAU, Junagadh and Nehru Yuva Kendra, Junagadh.
8.	22-24/09/ 2021	NSS Day-2021	12	The state level celebration of NSS Day-2021 was organized by Krantiguru Shyamjikrushna Verma Kachchh University, Bhuj, Dist.: Kachchh. In this volunteers were participated in different activities like Slogan writing, Photography, Group dance, Garba, Solo song, Group singing, Musical competition, Traditional dress competition, Rangoli competition, Poster painting etc. Our participants got 2nd prize in Essay writing and Garba while 3rd prize in Solo song and Mono acting.
9.	23-28/09/ 2021	Bharatiya Chhatra Sansad	01	Ministry of Youth Affairs and Sports, Department of Youth Affairs, Government of India was organized the 11th Bharatiya Chhatra Sansad (Indian Student's Parliament). NSS Volunteer Miss. Bhalodiya Jeel Jaysukhlal, 5th sem. online Participated in this chhatra sansad.
10.	01/10/2021	Mahatma Gandhi Janm Jayanti	215	Mr. Kanubhai Karkar gave a lecture on "Yuvanoma vyaktitav vikasma Gandhi vicharono falo" on Mahatma Gandhi Janm Jayanti celebration under the "Aazadi ka Amrut Mahotsav". This programme was organized by DSW office, JAU, Junagadh.

Sr. No.	Activity	Date	No. of Volunteers	Event / Activity / Remarks
11.	01-31/12/ 2021	Nadi Ko Jano	100	"Nadi Ko Jano" programme was organized by Research for Resurgence foundation, Nagpur. Volunteers were collected the data related with river near by their village or town, i.e., history, place, entry of river and current situation of river *etc*.
12.	03/12/2021	Agriculture Education Day & Blood Donation Camp	295	Programme on "Agriculture Education Day & Blood Donation Camp" under "Aazadi ka Amrut Mahotsav" was organized by DSW office and College of Agriculture, JAU, Junagadh.
13.	04/12/2021	Swachchhata Abhiyan	138	Department of Agricultural Extension, COA, JAU Junagadh was arranged a one-day camp on "Swachchhata Abhiyan" under "Aazadi ka Amrut Mahotsav".
14.	25/12/2021	Covid-19 Rapid/RT-PCR test and vaccination awareness	57	"Covid-19 Rapid/RT-PCR test and vaccination awareness" Programme was organized at health centre, JAU, Junagadh under "Aazadi ka Amrut Mahotsav" by DSW office, JAU, Junagadh and Health Branch of Municipal Corporation of Junagadh.
15.	04/01/2022	Tree Plantation	27	The DSW office, JAU, Junagadh was arranged a "Tree Plantation" Programme under "Aazadi ka Amrut Mahotsav".
16.	12/01/2022	National Youth Day	57	Programme on "National Youth Day" for celebration of Swami Vivekanand Janm Jaynti under "Aazadi ka Amrut Mahotsav" was organized by College of Agriculture, JAU, Junagadh.
17.	21/02/2022	Thalassemia prevention camp	343	Programme on "Thalassemia prevention camp" was arranged by Junagadh Agricultural University, Junagadh and Indian Red Cross Society, State Branch, Ahmedabad.
18.	23/03/2022	Shaheed Divas	139	Programme on "Shaheed Diwas" was jointly organised by Department of Agricultural Extension, NSS, College of Agriculture, JAU, Junagadh and Nehru Yuva Kendra, Junagadh.
		Total	**1796**	

Sr. No.	Activity	Date	No. of Volunteers	Event / Activity / Remarks
2022-23				
1.	05.04.2022	T. B. Awareness	146	For the programme on "TB Awareness" NSS Volunteers and Programme Officer participated on 05.04.2022. Dr. Swayamprkash Pande, City TB officer, JMC, Junagadh delivered his speech giving information regarding TB awareness and elimination. Dr. S. G. Savaliya, Principal & Dean, CoA, JAU, Junagadh and Dr. V. R. Malam, DSW, JAU, Junagadh were also present in this programme encouraging the students to help the community availed.
2.	11.05.2022	National Technology Day-2022	197	In the Programme on "National technology day-2022" NSS Volunteers and Programme Officer on 11.05.2022 participated. Dr. Narendra Kumar Gontia, Hon'ble, VC, JAU, Junagadh, Dr. S. G. Savaliya, Principal & Dean, CoA, JAU, Junagadh, Dr. V. R. Malam, DSW, JAU, Junagadh and Kiranbhai Kathiria, founder of Bhoomi Agro Industries, Rajkot were also present in this programme.
3.	31.05.2022	Aayurvedik Camp	37	Programme on "Aayurvedik Camp" was organized on 31.05.2022. In association with Rapid Health Care, Surat, at University Health Center, J.A.U., Junagadh benefitting students and faculties.
4.	03.06.2022	World Cycle Day	55	Programme on "World Cycle Day" under Aazadi ka Amrut Mahotsav, in Fit India 2. was organized in collaboration with Nehru Yuva Kendra, Junagadh.
5.	05.06.2022	World Environment Day	87	Programme on "World Environment Day" under Aazadi ka Amrut Mahotsav was organized on 05.06.2022 with the participation of NSS Volunteers and Programme Officer.
6.	21.06.2022	International Yoga Day-2022	64	NSS Volunteers were participated in this programme jointly organized by DSW, JAU, Junagadh and the Sports, Youth and Cultural Activities Department, Gandhinagar.

Sr. No.	Activity	Date	No. of Volunteers	Event / Activity / Remarks
7.	05.09.2022	Teacher's Day	167	Students participated in this programme and many students performed the role of teacher on this day in different teaching activities. Dr. S. G. Savaliya, Principal & Dean, CoA, JAU, Junagadh and Dr. D. R. Mehta, Director of Research, JAU, Junagadh remained present and encouraged the students.
8.	27.09.2022	Essay writing competition	26	Essay writing competition was held as a part of Climate Change Youth Outreach Fortnight Programme, Department of Climate Change, Govt. of Gujarat. NSS Volunteers of 3rd and 5th semesters participated in this programme.
9.	27.09.2022	Elocution competition	10	Elocution competition was organized as a part of Climate Change Youth Outreach Fortnight Programme, Department of Climate Change, Govt. of Gujarat. NSS Volunteers of 3rd and 5th semesters participated in this programme.
10.	28.09.2022	Group discussion competition	21	Group discussion competition was held as a part of Climate Change Youth Outreach Fortnight Programme, Dept. of Climate Change, Govt. of Gujarat. NSS Volunteers of 3rd and 5th semesters (Total 7 groups and each group with 3 students) participated in this programme.
11.	28.09.2022	Slogan competition	06	Slogan competition was organized as a part of Climate Change Youth Outreach Fortnight Programme, Department of Climate Change, Govt. of Gujarat. NSS Volunteers of 3rd and 5th semesters participated in this programme.
12.	29.09.2022	Innovative ideas for combating climate change	60	Programme on "Innovative ideas for combating Climate Change" as a part of Climate Change Youth Outreach Fortnight Programme, Department of climate change, Govt. of Gujarat. NSS Volunteers of 3rd and 5th semesters participated in this programme.

Sr. No.	Activity	Date	No. of Volunteers	Event / Activity / Remarks
13.	08.10.2022	Fit India Freedom Run 3.0	87	"Fit India Freedom Run 3.0" was held under Aazadi ka Amrut Mahotsav". NSS Volunteers and programme officer participated in this programme. This programme was organized by Dept. of Agril. Extn., CoA, JAU, Junagadh.
14.	21.11.2022	Voter awareness	102	NSS Volunteers and Programme Officer on 21.11.2022 participated in this programme. This programme was organized by Dept. of Agril. Extn., CoA, JAU, Junagadh
15.	17.12.2022	Shram Yagn	127	NSS Volunteers and Programme officer on 17.12.2022 participated in this programme. This programme was organized by Dept. of Agril. Extn., CoA, JAU, Junagadh
16.	11.01.2023	Paryavaran svasta ane jal sanchay	57	NSS Volunteers and Programme Officer participated in this one day camp organized by Dept. of Agril. Extn., CoA, JAU, Junagadh at Bhalsar village.
17.	03.02.2023	Thalassemia prevention camp	138	Programme on "Thalassemia prevention camp" organized by JAU, Junagadh and Indian Red Cross Society, State Branch, Ahmedabad. NSS Volunteers and programme officer participated in this programme.
18.	21.02.2023	Mother Language Day	61	Mother language day was celebrated on 21.02.2023. Students participated in this event and highlighted the "Importance of mother language in our life". NSS Volunteers and Programme Officer also participated in this programme.
		Total	**1448**	
2023-24				
1.	31.05.2023	No Tobacco day	50	Program on **"No Tobacco day"** NSS Volunteers and Program officer on dated 31.05.2023 participated in this Program. This Program is organized by College of Agriculture, J.A.U., Junagadh.

Sr. No.	Activity	Date	No. of Volunteers	Event / Activity / Remarks
2.	05.06.2023	World Environment Day-2023	220	Program on **Celebration of World Environment Day-2023**. Special lecture and Poster, slogan competition was organized. NSS Volunteers and program officer on dated 05.06.2023 participated. Program was organized by College of Agriculture. NSS volunteer Komal Goswami, Kikani Parul and Kanara Krishna got rank in the competetion
3.	17.06.2023	World Yoga day pre practice	70	Program on **"World Yoga day"** was organized. NSS Volunteers and program officer on dated 17.06.2023 participated in this Program. This Program is organized by College of Agriculture, J.A.U., Junagadh.
4.	21.06.2023	International Yoga Day-2023	80	Celebration of **"International Yoga Day-2023"**. In this yoga day, NSS Volunteers were participate this Program. This Program is organized by sports, youth and cultural activities department, Gandhinagar and Junagadh Agricultural University, Junagadh.
5.	04.07.2023	Elocution , essay writing and drawing competition	15	Different competitions organized *viz.*, Elocuation, essay writing and drawing competition at college level. Heet, Shayam and Dhaval got rank in the competition. This Program is organized by College of Agriculture, J.A.U., Junagadh.
6.	11.07.2023	Meri Mati Mera Desh campaign	55	**'Meri Mati Mera Desh'** campaign during the Amrit Mahotsav celebration. Campaign giving true value to it is tagline `Mitti ko naman, veeron ka vandan.' Takti inauguration was done under this program. Program was organized by College of Agriculture, JAU, Junagadh. NSS volunteer, staff member were participated in this event.
7.	12.07.2023	Tree plantation	18	Tree plantation program was organized under **'Meri Mati Mera Desh'** campaign during the Amrit Mahotsav celebration. Program was organized by College of Agriculture, JAU, Junagadh. NSS volunteer, staff member were participated in this event.

Sr. No.	Activity	Date	No. of Volunteers	Event / Activity / Remarks
8.	30.09.2023	Swachhata Abhiyan	52	Program on Swachhata Abhiyan under Swacchata Pakhawada was organized in College of Agriculture premises. NSS volunteer and program officer participate in this event. Program was organized by College of Agriculture, JAU, Junagadh.
9.	27.10.2023	Swachhata Abhiyan	45	Program on **Swachhata Abhiyan** was organized in College of Agriculture premises. NSS volunteer and program officer participate in this event. Program was organized by College of Agriculture, JAU, Junagadh.
10.	30.10.2023	National Unity Day	130	Program on Unity pledge was organized under celebration of **National Unity Day** by College of Agriculture. The Unity Pledge taken by National Service Scheme (NSS) volunteers on National Unity Day is a significant commitment to promoting unity, integrity, and harmony within society. Program was organized by College of Agriculture, JAU, Junagadh.
11.	02.12.2023	NSS orientation program	160	**NSS orientation program** was organized by College of Agriculture, JAU, Junagadh. NSS volunteer and program officer participated in this program. Program officer explained about the events and activities carried out under NSS to the NSS volunteer of first year.
12.	09.12.2023	Thalassemia prevention camp and Blood donation camp	143	Program on **'Thalassemia prevention camp'** and 'Blood donation camp' organ-ized by Junagadh Agricultural University, Junagadh and Indian Red Cross Society, State Branch, Ahmedabad. NSS Volunteers and Program officer on dated 09.12.2023 participated in this Program.
13.	25.01.2024	National Voter's Day 2024	160	Program on **'Voting awareness'** was organized by College of Agriculture, JAU, Junagadh on National Voter's Day 2024. NSS Volunteers and Program officer participated in this program

Sr. No.	Activity	Date	No. of Volunteers	Event / Activity / Remarks
14.	16.03.2024	Swachhata abhiyan and health awareness	150	Program on **Swachhata abhiyan and health awareness** was organized at Sports complex of Junagadh Agricultural University. Program was organized by College of Agriculture, JAU, Junagadh. NSS volunteers and program officer participated in this program.
		Total	**1348**	
2024-25				
1.	08.05.2024	Swachhata abhiyan	300	Swachhata abhiyan and classroom decoration at College campus, playground and hostel by NSS volunteers. This Program is organized by College of Agriculture, J.A.U., Junagadh.
2.	31.05.2024	No Tobacco day	55	Program on "No Tobacco day" NSS Volunteers and Program officer on dated 31.05.2024participated in this Program. This Program is organized by College of Agriculture, J.A.U., Junagadh.
3.	05.06.2024	World Environment Day-2024	40	Program onCELEBRATION OF WORLD ENVIRONMENT DAY-2024. In this program tree plantation was done at college farm. This program was organized by College of Agriculture, JAU, Junagadh
4.	14.08.2024	Tirangayatra	158	Students participatedin tiranga yatra organized on 14.08.2024.
5.	17.08.2024	Parthenium awareness workshop	80	Parthenium weed awareness program in collaboration with Department of Agronomy was organized. In this event volunteers and staff member participated.
6.	13.09.2024	NSS orientation program	175	NSS orientation program was organized by College of Agriculture, JAU, Junagadh. NSS volunteer and program officer participated in this program. Program officer explained about the events and activities carried out under NSS to the NSS volunteer of first year.

Sr. No.	Activity	Date	No. of Volunteers	Event / Activity / Remarks
7.	20.09.2024	One use plastic free swachhata camp	140	Plastic free campaign was organized under Swachhta abhiyan. Program was organized by College of Agriculture, JAU, Junagadh. NSS volunteer, staff member were participated in this event.
8.	25.09.2024	One day seminar on Importance of Nutrition	160	Seminar on "Importance of Nutrition" organized in hybrid mode by National Service Scheme, Collage of Agriculture, JAU, Junagadh under Poshan Maah on September 25, 2024. MS Shweta Sabharwal, Nutritionist & Clinical Dietitian, Chandigarh served as a resource person and joined virtually to deliver her lecture. Dr. Pinki S. Sharma, Assistant Extension Educationist and Station Incharge, DEE, JAU, Junagadh, also served as resource person. The programme was organized by College of Agriculture, JAU, Junagadh
9.	01.10.2024	Blood donation pledge	155	Program on Blood donation pledge was organized in College of Agriculture premises. NSS volunteer and program officer participate in this event. Program was organized by College of Agriculture, JAU, Junagadh
10.	22.11.2024	Thalassemia prevention camp and Blood donation camp	163	Program on 'Thalassemia prevention camp' and 'Blood donation camp' organized by Junagadh Agricultural University, Junagadh and Indian Red Cross Society, State Branch, Ahmedabad. NSS Volunteers and Program officer on dated 22.11.2024 participated in this Program.
11.	11.01.2025	Swami Vivekananda Jayanti	40	Swami Vivekananda Janma Jayanti was celebrated. Program was organized by College of Agriculture, JAU, Junagadh.

Sr. No.	Activity	Date	No. of Volunteers	Event / Activity / Remarks
12.	18.03.2025	One day workshop on disaster preparedness	14	Program on 'One day workshop on disaster preparedness was organized by Office of the Relief Commissioner, Revenue Department Gandhinagar and District management authority of Junagadh. Program officer and volunteers participated in this program
13	20.03.2025	World sparrow day	150	Sparrow nest distribution program was organized on World sparrow day by College of Agriculture, JAU, Junagadh in collaboration with humanity first NGO. NSS volunteers and program officer participated in this program.
14	22.03.2025	World water day celebration	155	Program on 'Importance of water was organized by College of Agriculture, JAU, Junagadh on World water day. NSS Volunteers and Program officer participated in this program.
15.	26.03.2025	Swachhata sarvekshan abhiyan	140	Program on Swachhata sarvekshan abhiyan was organized by College of Agriculture, JAU, Junagadh. NSS volunteers and program officer participated in this program.
		Total	**1925**	

6.5.4.7. LANGUAGE LABORATORY

The College is equipped with a state-of-the-art multimedia language laboratory based on the LSRW (Listening, Speaking, Reading, and Writing) approach to strengthen students' communication competence. The laboratory supports the development of presentation skills, interview techniques, group discussions, public speaking, and overall professional and soft communication skills through structured activities, exercises, home assignments, and audio-visual learning modules. It is extensively used by UG, PG, and PhD students for preparing for competitive language proficiency tests such as IELTS and TOEFL, as well as for enhancing workplace communication skills. In addition, the College regularly organizes soft-skill and personality development programmes in line with JAU's emphasis on holistic student development and employability.

The language laboratory has played a significant role in enhancing students' employability and competitive communication skills. Through systematic training in LSRW skills, mock interviews, group discussions, and presentation practices, students were better prepared for campus placements and external recruitment processes, resulting in improved confidence and performance during interviews. In addition, the lab has also contributed to students' success in elocution, debate, and public speaking competitions at inter-collegiate and inter-university levels.

6.5.4.8. CULTURAL CENTER

The University provides excellent cultural infrastructure, including the well-furnished Sardar Patel Sabhagruh Auditorium, Community Hall, Centre for Welfare Activities, and several halls across different units, which together offer vibrant platforms for cultural expression and interaction. These facilities enable students to explore, celebrate, and promote awareness of cultural diversity within the campus community. Students of the College actively participate in inter-college cultural programmes at the university level as well as the annual social gathering organized at the college level. A wide range of cultural competitions, *viz.*, drama, fancy dress, folk dance, singing, and song composition, are organized, with winners recognized through certificates and prizes. The auditorium is also used for organizing guest lectures on culture and tradition, in addition to hosting numerous cultural events throughout the year. To ensure systematic planning and active student engagement, the College has constituted a Cultural Committee and a Debate/Extempore Committee that oversee event organization, including rehearsals. Furthermore, national and international commemorative days and birth anniversaries of eminent personalities are regularly observed by the college.

The college celebrated **"Krushi Sangam" - Annual Day Celebration 2025** with great enthusiasm on April 24-25, 2025. The event provided a vibrant platform for students to showcase their cultural, literary, and creative talents while fostering a spirit of unity and celebration within the campus community. The two-day programme featured a wide array of cultural performances, competitions, and presentations reflecting India's rich traditions and agricultural heritage. Faculty members, students, and staff actively participated, making the celebration a memorable occasion.

YEAR-WISE CULTURAL EVENTS/SPORTS TOURNAMENTS ORGANIZED

Table 6.5.22: Participation and performance of the students in cultural/literary activities and sports tournaments during the accreditation cycle

(A) Inter College Cultural Competitions

Sr. No.	Year	Event	Date	Result
1.	2020-21	Essay	-	Third Position (PG)
2.		Debate (Favour)	30/03/2021	First Position
3.		Debate (Against)	30/03/2021	First & Third Position
4.		Elocution	30/03/2021	First & Third Position
1.	2021-22	Folk Dance	02/03/2022	First
2.		Drama	02/03/2022	-
3.		Mime	02/03/2022	-
4.		Mono-Acting	02/03/2022	First & Third
5.		Debate (Favour)	22/11/2021	Second
6.		Essay (UG)	22/11/2021	First
7.		Extempore	22/11/2021	Third
1.	2022-23	Folk Dance	24/11/2022	Second
2.		Drama	24/11/2022	--
3.		Mono-Acting	24/11/2022	Second
4.		Mime	24/11/2022	--
5.		Debate (Favour)	17/11/2022	Second
6.		Essay (PG)	17/11/2022	First & Second
7.		Extempore	17/11/2022	Third
1.	2023-24	Folk Dance	20/10/2023	First
2.		Mime	20/10/2023	First
3.		Mono-Acting	20/10/2023	First
4.		Drama	20/10/2023	Second
5.		Debate (Against)	18/10/2023	First
6.		Debate (Favor)	18/10/2023	Second
7.		Essay (PG)	18/10/2023	First and Second
8.		Essay (UG)	18/10/2023	-
1.	2024-25	Folk Dance	25/09/2024	First
2.		Mime	25/09/2024	First
3.		Drama	25/09/2024	First
4.		Mono-Acting	25/09/2024	-
5.		Elocution / Extempore	13/09/2024	Second
6.		Essay (UG)	13/09/2024	Second
7.		Essay (PG)	13/09/2024	Second

(B) State Agricultural Universities' Tournaments

Sr. No.	Years	Name of Tournament	Place of Event Held	No. of players participated from college	Result / Rank
1.	2020-21	State Agricultural Universities' Tournaments were not organised during the year due to COVID-19 Pendemic.			
2.	2021-22	Competition of Volleyball, Basketball, TT	JAU	15	Champion in Table Tanis
3.	2022-23	Cultural / Literary Competition	SDAU	02	First position in Debate
4.	2023-24	Cultural / Literary Competition ICAR	AAU	21	Second position in Debate
5.	2024-25	Cultural / Literary Competition	JAU	29	First rank in Mime

(C) All India Inter Agricultural University Competitions

Sr. No.	Years	Name of Tournament	Place of Event Held	No. of Players	Rank
1.	2020-21	All India Inter Agricultural University Competitions were not organised during the year due to COVID-19 Pandemic.			
2.	2021-22	Due to COVID-19 pandemic, the All India ICAR Sports and Games meet was not organized.			
3.	2022-23	All India Agri-Uni Sports and Games meet	Hisar (Hariyana)	17	-
		All India Agri-Unifest	Bangalore	01	
4.	2023-24	The All India ICAR Sports and Games meet and All India Agri-Unifest were not organized during this year by the ICAR.			
5.	2024-25	All India Agri-Uni Sports Meet	Kumarganj, Ayodhya (U.P.)	21	-

6.5.4.9. PERSONALITY DEVELOPMENT

- Experts from diverse fields are invited to deliver guest lectures on topics related to personality development, leadership, and career readiness.
- Students' soft skill sets are strengthened through structured training programmes aimed at enhancing communication, confidence, and overall employability.
- The College annually organizes the 'Campus-to-Corporate (C-2-C)' programme, a flagship initiative designed to train students in bio-data preparation, interview techniques, and professional workplace etiquette.
- Students actively participate in various self-development and capacity-building programmes organized by the Directorate of Students' Welfare, JAU, Junagadh.
- Faculty members mentor students for state- and national-level competitive examinations and conduct mock tests, group discussions, and mock interviews to improve verbal, analytical, and expressive skills.
- The Student Counselling and Placement Cell (SCPC) of the college plays a pivotal role in coordinating training activities, career guidance, placement support, and industry interaction to facilitate students' smooth transition from campus to professional careers.

Photographs of the one-day virtual sensitization workshop on 'Entrepreneurship Development in Agriculture' organized by CoA, JAU, Junagadh, in collaboration with ICAR-NAARM, Hyderabad, on September 17, 2024

6.5.5. PHYSICAL FACILITIES

6.5.5.1. HOSTELS

Table 6.5.23: Details of hostels and facilities available at hostels

Hostel type	Name of hostel	Intake capacity	No. of students residing	Mess facility (Yes/No)	RO and cool drinking water facility (Yes/No)	Indoor games (Yes/No)	Cleaning of hostel premises (Yes/No)	Transport facility (Yes/No)	Emergency medical facility (Yes/No)	Wi-Fi facility (Yes/No)
Boys Hostels (UG)	Vidhya	104	83	Yes	Yes	No	Yes	Yes	Yes	Yes
	Vinay	104	76	Yes	Yes	No	Yes	Yes	Yes	Yes
	Vijay	104	62	Yes	Yes	No	Yes	Yes	Yes	Yes
	Vikas	180	158	Yes	Yes	No	Yes	Yes	Yes	Yes
	Maht. Gandhi	156	156	Yes	Yes	No	Yes	Yes	Yes	Yes
Boys Hostels (PG)	Virat	60	36	Yes	Yes	No	Yes	Yes	Yes	Yes
	Vinayak	92	60	Yes	Yes	No	Yes	Yes	Yes	Yes
Girls Hostels (UG)	Nivedita new	147	132	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Riddhi	204	204	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Girls Hostel (PG)	Siddhi	138	138	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Depending upon the size of rooms, 2 to 3 students reside in UG hostels, whereas single seated rooms are allotted in the hostels for PG and Ph. D. students

6.5.5.2. EXAMINATION HALL

At present, the college has an examination hall with a seating capacity for 150 students at a time which is also used at the time of students' admission, campus placement online tests and for other student related activities.

6.5.5.3. SPORTS AND RECREATION FACILITIES

Students of first and second years voluntarily join the physical education course (non-credit). They learn the fundamental principles of physical education and various skills in major indoor and outdoor games. They also taught about awareness of physical fitness and importance of health education. Besides this, students are also voluntary participated in NSS activity and *Swatch Bharat Abhiyan*. Further, the campus has excellent indoor stadium which is utilised by the students of the University for different games. Apart from these, campus has well maintained ground for running track, athletes and various outdoor games.

Table 6.5.24: Sports facilities available for UG, PG and Ph.D. students

Sr. No.	Games and sports	Equipment and infrastructure available	Adequate / inadequate
Indoor Sports facilities:			
1.	Badminton	Four Court in indoor sports complex Standard racket & shuttle New synthetic badminton carpet	Adequate
2.	Table tennis hall	Four courts in indoor sports complex Standard table with racket & ball New synthetic table tennis carpet	Adequate
3.	Gymnasium	Total body fitness instruments	Adequate
4.	Kabaddi	interlocking Kabaddi synthetic mats	Adequate
Outdoor sports facilities:			
1.	Volleyball court	Two court with light & adj. pole	Adequate
2.	Basketball	Adj. Hydraulic pole with acrylic board	Adequate
3.	Athletics	400 mt. Running track, jumping pitch and throwing sectors with standard equipment	Adequate
4.	Cricket	Standard mud pitch	Adequate
5.	Kabaddi	Ground having national standard	Adequate
6.	Kho-Kho	Ground having national standard	Adequate

6.5.5.4. AUDITORIUM

The college utilizers a one well-furnished University auditorium of 901.39 sq. m. with 500 seating capacity and equipped with AC, audio visual aids, focus lights etc. for conducting cultural programs, seminars, workshops, events, *etc.* The University auditorium is frequently utilised for various functions organised by different colleges of the University.

6.5.5.5. EXHIBITION HALL/MUSEUM

To provide agricultural information to all the UG and PG students as well as visiting farmers, scientists of National level and VIP's, an informative educational museum is established in the campus opposite to University Library. Besides this, the college has various museums available in some department, *viz.*, insect museum in Entomology; disease museum in plant pathology; dry flower museum in Horticulture and seed science museum in Department of Seed Science & Technology, *etc.*

6.5.6 RESEARCH FACILITIES

6.5.6.1. POSTGRADUATE LABORATORIES AND EQUIPMENT

Table 6.5.25: Details of laboratories available for postgraduate students

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	PG /Ph.D. /Research
Department of Agronomy					
1.	Lab-1	63.33	15	Research	PG and Ph.D.
2.	Museum	63.33	30	Exhibition	PG and Ph.D.
Department of Soil Science and Agricultural Chemistry					
3.	MSS Research lab	60	15	Sample preparation and Analysis	For Research Scheme
4.	Micronutrients research lab	60	15	Sample preparation and Analysis	For Research Scheme
5.	G-1 Research lab	60	15	Sample preparation and Analysis	For Research Scheme
6.	Soil Water analysis lab	120	10	Sample preparation and Analysis	For Research Scheme
7.	STCR lab	62	10	Sample preparation and Analysis	For Research Scheme

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	PG /Ph.D. /Research
8.	Soil survey lab	41	10	Sample preparation and Analysis	For Research Scheme
9.	LTFE lab	41	10	Sample preparation and Analysis	For Research Scheme
Department of Agricultural Entomology					
10.	PG research laboratory-1	132.60	10	Practical work, research work	PG and Ph.D.
11.	Storage research laboratory	38.43	05	Practical work, research work	PG and Ph.D.
12.	Biocontrol research laboratory	1300	40	Experiential Learning Program related activity, Mass production of bioagents	PG and Ph.D.
Department of Plant Pathology					
13.	Lab.1	37.088	15	Teaching & PG Research work	PG and Ph.D.
14.	Lab.2	85.192	15	Teaching & PG Research	PG and Ph.D.
15.	Lab Part-1	35.469	10	Department Research work	Departmental Research Lab
Department of Agricultural Extension Education					
16.	Audio- visual Lab.	34.84	25	Teaching	PG and Ph.D.
Department of Agricultural Statistics					
17.	PG Computer Laboratory	35	20	Statistical Analysis Work	PG and Ph.D.
Department of Genetics and Plant Breeding					
18.	Bio-Tech -1 (Instrumentation Room)	37.08	10	For PG and UG Practical	PG and Ph.D.

Sr. No.	Name of Lab.	Laboratory Size (Sq.m.)	Seating Capacity	Purpose	PG /Ph.D. /Research
19.	Bio-Tech-2 (Preparation room)	55.66	10	For PG and UG Practical	PG and Ph.D.
Department of Seed Science and Technology					
20.	Seed Testing Laboratory	568	25	PG students practical and research experiment	PG and Ph.D.
Department of Biochemistry and Biotechnology					
21.	PG Laboratory	154.57	35	PG Practical and Research	PG and Ph.D.
22.	PG Laboratory	62.82	40	PG Practical	PG and Ph.D.
Food Testing Laboratory				PG Research, Departmental Research and Commercial Sample Analysis	PG Research and Samples
23.	Biotech Cell	10 x 8	10		
24.	Genomic Cell	10 x 8	5		
25.	Bioinformatics Cell	10 x 8	5		
26.	Proteomic Cell	10 x 8	10		
27.	Microbial Cell	10 x 8	10		
28.	MS/MS Cell	10 x 8	5		
29.	GFQA Cell	10 x 8	10		
30.	Separation Cell	10 x 8	10		
31.	Elemental Cell	10 x 8	10		
Department of Agricultural Engineering					
32.	Audio- visual Lab.	34.84	25	Teaching	PG and Ph.D.
33.	Audio- visual Lab.	34.84	25	Teaching	PG and Ph.D.
34.	Renewable Energy and Protected cultivation & secondary Agriculture	40	40	Practical & Teaching	PG and Ph.D.

Table 6.5.26: List of most important equipment available in various departments of the college

Sr. No.	Name of laboratory	Name of equipment / instrument	No. of equipment / instrument	Purchase price (Rs. in lakh)
Department of Agronomy				
1.	Laboratory-1	Electronic Balance	1	1.46
2.	Laboraotry-1	SPAD Meter	1	2.36
3.	Laboraotry-1	Infrared Thermometer	1	2.95
4.	Agmet lab	Meteorological instruments	17	1.30
Department of Soil Science and Agricultural Chemistry				
5.	PG Lab	UV Visible Spectro Photometer	1	5.15
6.	PG Lab	Atomic Absorption Spectrophotometer	1	8.95
7.	PG Lab	Pressure Plate Apparatus	1	14.97
8.	PG Lab	Gerhardt Turbo therm Digestion Unit	1	20.00
9.	PG Lab	Atomic Absorption Spectrophotometer, (AAS) with graphite Furness	1	24.90
10.	PG Lab	Agilent technologies 4200 MP-AES	1	36.58
11.	PG Lab	Robotic clay fraction Analyzer	1	40.91
12.	UG Lab	Citizen Mettles Balance	1	1.00
13.	UG Lab	Water Purification System	1	4.96
14.	UG Lab	Refrigerated Centrifuge	1	1.39
15.	UG Lab	UV Spectrophotometer	1	4.50
16.	UG Lab	Analytical balance	1	1.80
Department of Agricultural Entomology				
17.	UG class room	Casio LCD projector (XJA-146) with accessories	1	0.99
18.	PG class room/ Seminar Hall	Hitachi LCD projector (CPX-4-417)	1	1.12
19.	Bio-control Research Laboratory	Research centrifuge	1	0.99
20.		Horizontal Laminar Airflow	1	1.79
21.		LCD 445 Microscope	1	2.48
22.		Nova Digital Hot Oven	1	1.00

Sr. No.	Name of laboratory	Name of equipment / instrument	No. of equipment / instrument	Purchase price (Rs. in lakh)
23.		Leica Microscope (E-24 D) with magnification 8x to 35x	1	3.75
24.		Research Centrifuge	1	0.99
25.		Laminar Air flow (6x2x2)	1	1.71
26.		Fermenter system (10 lit.) steam generator chiller compressor	1	12.51
27.		Centrifuge (S.A-26)	1	7.20
28.		Lyophilizer with accessories	1	5.24
29.		Shaking Water bath	1	2.95
30.		Deep freezer	1	4.78
31.		Leica trinocular microscope	1	4.40
32.		Sewing machine	1	1.74
33.		Screw convener straight	1	1.57
34.		Screw feeder with hopper	2	3.79
35.		Fume hood	1	3.57
36.		Autoclave (180 lit.)	1	2.68
37.		Table top winder machine	1	1.80
38.		Pouch packing machine, 3 sized sealing conveyor type, tube piece packing with batch printing ink type	1	2.93
39.		Mixer machine of 25 kg capacity with stand	1	1.14
40.		Barcode and batch mark printing machine	1	2.53
41.	Bio-control Research Laboratory	Screw Conveyor auger machine	1	2.75
42.		Powder filling machine (Semi-automatic 1 head auger filling machine)	1	4.10
43.		Honey processing machine	2	3.64
44.		Honey extraction machine	1	3.64
45.		IKA RV 10 Digital Rotary Evaporator	1	2.99
46.		View Sonic IFP 7530 4K Interactive display	1	4.89

Sr. No.	Name of laboratory	Name of equipment / instrument	No. of equipment / instrument	Purchase price (Rs. in lakh)
47.		Two door upright Showcase cooler	1	1.38
48.		Hitachi LCD projector	1	0.96
49.		Sony LCD projector	1	1.36
50.		Powder mixing machine (50 kg)	1	1.07
Department of Plant Pathology				
51.	U.G. Laboratory	Leica trinocular microscope (Leica DM)	1	8.09
52.		Binocular Stereo zoom Microscopecat scope	1	2.25
53.		Fully automatic autoclave: SLEFA (7451): 210 liter	2	5.55
54.		Portable generator	1	1.91
55.	P.G. Laboratory	Leica binoocular microscope, Phase contrast (Leica DM750)	1	3.10
56.		Portable generator	1	1.73
57.		Sony Led Bravia TV (KDL55W800D)	1	1.24
58.	Bio-control Laboratory	Pouch Packing Machine	1	4.83
59.		Auger filler screw conveyor	1	2.99
60.		RT-PCR	1	12.50
61.		Multi Gel Documentation system	1	7.46
62.		Leica binocular microscope (Leica DM 750)	1	2.80
63.		Portable generator	1	1.91
64.		Lyophilizer/freeze dryer, bench top	1	4.63
65.		B.O.D. incubator: 200 liter	1	1.65
66.		B.O.D. incubator: 400 liter	2	5.10
67.		Fully automatic autoclave: SLEFA (7441): 135 liter	2	4.59
68.		Fully automatic autoclave: 180 liter	2	5.37
69.		Table top refrigerator centrifuge (CT - 15RE)	1	4.25
70.		Online bulk centrifuge (CF 16 RXII)	1	6.00
71.		Tubular centrifuge (SA-26)	1	7.67

Sr. No.	Name of laboratory	Name of equipment / instrument	No. of equipment / instrument	Purchase price (Rs. in lakh)
72.	Bio-control Laboratory	Fermenter with accessories: 14 liter	1	12.45
73.		Fermenter with accessories: 200 liter	1	19.95
74.		Fermenter with accessories: 50 liter (along with hp pavilion laptop)	1	15.74
75.		Spectrophotometer	1	4.25
76.		Nano drop spectrophotometer	1	8.46
77.		Water purification system	1	2.00
78.		Electrophoresis power pack	1	1.70
79.		Pouch packing machine	1	4.83
80.		3.0MP Microscope Eyepiece (CC300EF Catcam)	1	1.25
81.		pH meter (PH1300-S)	1	1.05
82.		Soxhlet automatic extraction system with accessories	1	9.98
83.		Chilled Water Circulator Refrigerated	1	1.32
84.		Vacuum Pump variable -2 mbar/20 LPM	1	2.64
Department of Agricultural Statistics				
85.	Hardware & Network Laboratory	Diesel Generator 15 KVA	1	3.85
86.		Online UPS 10 KVA	1	1.60
Department of Genetics and Plant Breeding				
87.	Bio-Tech-1	EZ-lyzer (Tissue- Lyzer)	1	4.49
88.		UPS with Battery rack	1	1.03
89.		Leaf area meter	1	12.85
90.		Ulter Deep Freezer GEL Germany make chest Freezer model-6384	1	7.48
91.		Centrifuge Incl Rotor 5418000.017	1 unit	1.08
92.		Nono-Drop (spectrophotometer)	1	4.30
93.	Bio-Tech-1	Water purification System	1	3.46
94.		Maxi -2-D system (electrophoresis unit	1 unit	1.09
95.		Gel Document System	1	4.04
96.		Master cycler EP Gradient manual (PCR)	1	4.49

Sr. No.	Name of laboratory	Name of equipment / instrument	No. of equipment / instrument	Purchase price (Rs. in lakh)
97.		Master Cycler TRO-S	1	4.97
98.		Electrical analytical balance	1	1.05
99.		Genetic Analyzer	1	8.75
100.		Chlorophyll /SPADMETER	1	1.89
101.		Gel Document system	1	4.00
102.	Bio-Tech-1	Refrigerated Centrifuge	1	6.00
103.		Orbital Shaker incubator	1	1.10
104.		Spectrophoto meter Model:UV1800	1	3.88
105.		Refrigerated Laboratory Centrifuge Model-MPW-65	1	2.20
106.		Table Top High Speed Colling centrifuge Model-C-24-BL	1 unit	1.07
107.		Plant Growth Chamber	1	2.02
108.		Maxisubmarin system with power supply	1 unit	1.37
109.		UPS with Battery rack	1 unit	1.03
110.		Hybri dilation Incubator	1	5.45
111.		Seed Germinator	1	1.20
112.	UG Lab-2	Teaching Olympus microscope	15	1.36
113.		Binocular microscope	3	1.83
114.		Seed germinator	1	1.49
115.	Plant Tissue-Culture -1	Tissue culture rack with timer	3	2.04
116.		Water purification System	1	5.80
117.		Water purification System	1	6.03
118.		Telescopic Binocular	1	0.62
119.		Laminar Flow unit (Horizontal)	2	1.32/-
120.		Electronic balance	1	1.17
121.		Environmental shaker	1	1.12
122.		Peristaltic pump	1	2.72
123.		Laminar Flow unit (Horizontal)	2	1.10
124.		Generator (Harison 62.5 KVA, Three phase	1	4.97

Sr. No.	Name of laboratory	Name of equipment / instrument	No. of equipment / instrument	Purchase price (Rs. in lakh)
125.	Plant Tissue-Culture -2	Tissue culture rack	15	7.54
126.		Laminar Flow unit (Horizontal)	2	1.53
127.	Plant Tissue-Culture -3 (Autoclave Room)	Horizontal Cylindrical Steam Sterilizer (Autoclave)	1	12.59
128.		Autoclave self-top loading	1	1.68
129.		Autoclave vertical	2	2.70
130.	Green house	Generator set	1	2.45
Department of Seed Science and Technology				
131.	Seed Testing Laboratory	Imagine Microscope	1	1.75
132.		Nicolas piramal Alisa reader with washer	1	3.96
133.		Double bim spectrophotometer	1	2.55
134.		Refrigerated centrifuge	1	1.85
135.		Plant growth chamber	1	8.96
136.	Seed Testing Laboratory	Dehumidifier	1	1.08
137.		Laboratory Autoclave	1	1.41
138.		Double door seed germinator	1	1.60
139.		Seed analyzer software with hardware	1	1.42
140.		Vacuum seed sealing machine	1	2.59
141.		Moisture meter	1	2.11
Department of Biochemistry and Biotechnology				
142.	PG Laboratory	Water Purification system	1	3.74
143.		PCR with Accessories	1	17.72
144.		Ultra-high-speed Refrigerated centrifuge (Plastocraft)	1	3.86
145.		Capillary electrophoresis	1	25.00
146.		DE -Auto clave	1	1.24
147.		U.V. 220 Volt Spectrophotometer with Accessories (PC)	1	4.75
148.		Sartorius German Make Micro Balance	1	5.14
149.		Gel Documentation System GDS 8000 with Accessories	1	3.06

Sr. No.	Name of laboratory	Name of equipment / instrument	No. of equipment / instrument	Purchase price (Rs. in lakh)
150.	PG /UG / FLT Laboratory	Freeze vertical -25 C	4	1.48
151.		Various Capacity Balance	7	10.00
152.		Pico drop Spectrophotometer	2	5.70
153.	UG FLT Laboratory	Alico U.V. Spectrophoto.	2	2.28
154.		Veriti-96 Thermal cycler PCR machine	2	3.60
155.	Food Testing Laboratory	Inverted Microscope	1	14.29
156.		Express Grinder	1	1.87
157.		Gene sequencer	1	98.52
158.		Micro Manipulator	1	31.02
159.		Varioscan flash top/bottom	1	25.72
160.		Snap ID	2	1.08
161.		Fully Automatic nucleic acid extraction system	1	21.03
162.		Gel Documentation system	1	30.00
163.		High Through Sequencer system	1	284.76
164.		Blotting Device system	1	9.95
165.		Bioinformatics setup system	1	149.00
166.		Deep fridge with Accessories	1	4.67
167.		Concentrator System	1	6.70
168.		Refrigerator Shaking Incubator	1	4.93
169.	Food Testing Laboratory	Bio care Autoclave Fermented	1	20.35
170.		Laminar Air Floor	1	3.64
171.		Lovibond BOD	1	1.36
172.		BOD Incubator	1	1.43
173.		Microbiological Blender	1	5.50
174.		Photobio Reactors with Accessories	1	9.13
175.		Media Preparator with system	2	9.48
176.		Microscope	1	24.96
177.		Flowcyto meter	1	35.00
178.		HPLC Model LC 10-A with Accessories	1	7.11

Sr. No.	Name of laboratory	Name of equipment / instrument	No. of equipment / instrument	Purchase price (Rs. in lakh)
179.		Lyophilizer with accessories	1	3.71
180.		Gerhardt soxhtherm	1	8.49
181.		Altra Centrifuge Max (Backman Culter)	1	44.10
182.		Ingns rotary flash evaporator	1	4.62
183.		Pre requisite ASE-300	1	4.25
184.		Solvent extraction dinox	1	31.67
185.		Sapbox	1	132.46
186.		IKA Digital Block Heater	1	1.52
187.		FTIR with Accessories	1	11.25
188.		HPLC system with Accessories	1	27.98
189.		Elan-9000 Mass Spectrophotometer (ICPMS)	1	55.31
190.		836-tietrendo with aces.	1	12.56
191.		797-voltramatic system	1	11.09
192.		GCMS QP-2010 Plus	1	72.96
193.		IR moisture balance	1	3.00
194.		Nitrogen Gas Generator (HPLC)	1	5.70
195.		LN-2 Safety Cooling System	1	1.35
196.		Spectrofloro photometer	1	9.69
197.		"JASCO" Infrared spectrophotometer	1	6.75
198.		LCMS Accessories	1	3.46
199.		Microtrac Particle Size Analyzer	1	31.60
200.		T.Q.D. Aquity UPLC	1	93.00
201.		Acquity UPLC system	1	52.00
202.		Automatic Fiber Extraction System (Gerhardt)	1	9.21
203.		Rio meter	1	4.47
204.	Food Testing Laboratory	Ion Mater	1	3.54
205.		Rotary Evaporator	1	1.55
206.		Pan analytical with Accessories	1	5.74
207.		XRF Spectro. with Accessories	1	29.46

Sr. No.	Name of laboratory	Name of equipment / instrument	No. of equipment / instrument	Purchase price (Rs. in lakh)
208.		Gerhardt turbotherm	1	19.08
209.		Gluten Analyzer (LCGC)	1	8.50
210.		C.H.N. Analyzer	1	16.36
211.		Atomic Absorption Spectrophotometer (MP-AES)	1	26.00
212.		Heating Mental 2 litre Capacity	1	0.01
213.		Stud cell-25mm	1	5.15
214.		Multi skin vacu.minifold	1	2.99
215.		K F coulometer	1	4.00
216.		Protein Fractionators System	1	19.90
217.		Spot Spicker& Digestor System	1	46.41
218.		Protein Analysis Scanner	1	54.43
219.		Surface Plasma Resonance System (SPR)	1	115.93
220.		2 D Gel Electrophoresis	1	29.90
221.		PCR mycycler System	1	3.40

6.5.6.2. RESEARCH CONTINGENCY

There is a provision of research contingency at the college level as well as in all the departments of this college. During the last five years (from AY 2020-21 to 2024-25), Rs. 11929.71_lakh is allotted to college, from which research contingency is being utilized as per the mandate.

Table 6.5.27: Details of research contingency for college during 2020-21 to 2024-25

Year	Research Grant (Plan, Non Plan, ICAR dev. and other) (Rs. in lakh)
2020-21	2318.70
2021-22	2785.47
2022-23	2686.79
2023-24	1961.19
2024-25	2177.56
Total	**11929.71**

6.5.7. OUTCOME/OUTPUT

6.5.7.1. STUDENT PERFORMANCE IN NATIONAL EXAMINATIONS

Table 6.5.28: Student performance in National Examinations (2020-21 to 2024-25)

Exams	No. of students qualified				
	2020-21	2021-22	2022-23	2023-24	2024-25
ICAR-JRF	4	8	7	8	15
ICAR-SRF	1	2	4	5	4
ASRB-NET	Not conducted	35	36	Not conducted	Not conducted
ARS	Not conducted	2	0	Not conducted	Not conducted
UGC/GSET	2	3	3	5	8

6.5.7.2. PLACEMENT PROFILE OF UG AND PG STUDENTS

Table 6.5.29: Placement details of students (AY 2020-21 to 2024-25)

Years	2020-21	2021-22	2022-23	2023-24	2024-25
a) Government services Preparation (GPSC, SAUs, UPSC *etc.*)	65	77	71	60	45
b) Self employed	3	4	5	10	17
c) Higher education	87	96	91	69	96
d) On-Campus, Off-Campus Placements (Banks, agro-input and other private firms & govt. institutions/depts.)	85	107	78	122	68

6.5.7.3. FACULTY AWARDS/RECOGNITIONS/CERTIFICATES (DURING THE YEAR 2020-21 TO 2024-25)

Table 6.5.30: Faculty awards/recognitions/certificates (2020-21 to 2024-25)

Department	Awards / recognition of faculties
Agronomy	07
Horticulture	01
Soil Science and Agricultural Chemistry	19
Agricultural Entomology	15
Plant Pathology	23
Agricultural Extension	10
Agricultural Economics	08
Agricultural Statistics	01
Genetics and Plant Breeding	14
Seed Science and Technology	09
Biochemistry and Biotechnology	12
Animal Science	12
Total	**130**

TABLE 6.5.31: Department-wise awards received by faculties (2020-21 to 2024-25)

Sr. No.	Name of faculty	Name of award	Authority	Year
Department of Agronomy				
1.	Dr. R. K. Mathukia	International Scientist Life Time Achievement Award	VDGOOD Professional Association, Villupuram	2020
2.	Dr. B. S. Gohil	GAAS Best Ph.D. Thesis Award	GAAS, Ahmedabad	2020
3.	Dr. B. S. Gohil	GAAS Best Presentation Award	GAAS, Ahmedabad	2020
4.	Dr. P. J. Gohil	GAAS Award	GAAS, Ahmedabad	2023
5.	Dr. B. S. Gohil	ISWS Young Weed Scientist Award	ISWS, Jabalpur	2024

Sr. No.	Name of faculty	Name of award	Authority	Year
6.	Dr. B. S. Gohil	Young Scientist Award	SARSD, New Delhi	2024
7.	Dr. B. S. Gohil	Young Agronomist Award	GNFSU, Halol	2024
Department of Horticulture				
8.	Dr. S. K. Bhuva	Best Thesis Award	GAAS, Ahmedabad	2020-21
Department of Soil Science and Agricultural Chemistry				
9.	Dr. A. V. Rajani	Golden Achievers Award	Council for Academic Performance & Appraisal (Regd.), Delhi	2022-23
10.	Dr. S. G. Savalia	Member	ASRB, NET and JRF paper setting	2022-23
11.	Dr. S. G. Savalia	Member	ICAR Accreditation committee	2022-23
12.	Dr. S.G. Savalia	GAAS award for best extention work	GAAS, Ahmedabad	2023-24
13.	Dr. S. G. Savalia	Member	ASRB, NET and JRF paper satting	2023-24
14.	Dr. S. G. Savalia	Member	ICAR acreditation peer revie team	2023-24
15.	Dr. A. S. Jadeja	GAAS award for best extention work	GAAS, Ahmedabad	2023-24
16.	Dr. J.J.Vaghani	BEST AICRP (OILSEEDS)	ICAR- Indian Istitute of Oilseed Research, Rajendranagar, Hyderabad	2023-24
17.	Dr. A. S. Jadeja	Best thesis presentation	AAU, Anand	2024-25
18.	Dr. A. S. Jadeja	Best oral presentation	Conference, JAU, Junagadh	2024-25
19.	Dr. K. P. Bhuriya	Young research award	Hindustan Agricultural welfare Research Society, Agra (U. P)	2024-25
20.	Mr. K. P. Bhuriya	Editor	Agriculture E-News letter Magazin	2024-25

Sr. No.	Name of faculty	Name of award	Authority	Year
21.	Dr. H. L Sakarvadiya	Reviewer	International Journal of Agriculture Sciences	2024-25
22.	Dr. L. C. Vekariya	Reviewer	International Research Journal of Pure and Applied Chemistry	2024-25
23.	Dr. L. C. Vekariya	Reviewer	Trends in bioscience	2024-25
24.	Dr. K.B. Parmar	Reviewer	An Asian Journal of Agriculture Sciences	2024-25
25.	Dr. A. S. Jadeja	Reviewer	International Journal of Agriculture Sciences	2024-25
26.	Dr. A. S. Jadeja	Reviewer	The Pharma Innovation	2024-25
27.	Pro. P. I. Jetapara	Young Women Scientist Award	Agri meet foundation, Bharat, UGC-MMTTC JNVU Jodhpur.	2025-26
Department of Agricultural Entomology				
28.	Dr. D. M. Jethva	Best Teacher Award in Agril. Higher Education	Junagadh Agricultural University, Junagadh	2020
29.	Dr. D. M. Jethva	Dr. APJ Abdul Kalam Award for scientific excellence	Marina Labs Research and Development, Chennai	2022
30.	Dr. D. M. Jethva	Dr. H. S. Pruthi Award	SGT University, Gurugram and Just Agriculture-the magazine	2023
31.	Dr. D. M. Jethva	Best Agriculture extension work	The Gujarat Association for Agricultural Science (GAAS)	2023
32.	Dr. D. M. Jethva	Contribution in Research work in biopesticide	Plant Protection Association of Gujarat (PPAG)	2023
33.	Dr. D. M. Jethva	Best Associate Scientist Award	Plant Protection Association of Gujarat (PPAG)	2024
34.	Dr. K. D. Shah	Young Scientist Aw ard	Plant Protection Association of Gujarat (PPAG)	2022
35.	Dr. K. D. Shah	Best Oral Presentation Award	National Symposium on Plant Health Management held at NAU, Bharuch	2022

Sr. No.	Name of faculty	Name of award	Authority	Year
36.	Dr. K. D. Shah	Best Oral Presentation Award	International Conference on Systems and Technologies for Smart Agriculture (ICSTA 2023) organized at Kolkata, India during 2023	2023
37.	Dr. K. D. Shah	Agriculture Extension Work Award	Gujarat Association for Agricultural Sciences (GAAS)	2023
38.	Dr. K. D. Shah	Technology Developed	AI-DISC (Artificial Intelligence-based Disease Identification System for Crops)" under technology No. ICAR-AED-IASRI-Technology-2023-04, published on 16/07/2023 by the Indian Council of Agricultural Research, New Delhi	2023
39.	Dr. K. D. Shah	Best Teacher Award in Agriculture Higher Education by JAU, Junagadh & ICAR, New Delhi	JAU, Junagadh & ICAR	2023
40.	Dr. S. R. Patel	Best Entomologist Award	International Conference on "Innovation to Transform Agriculture, Horticulture and Allied Science" at Malla Reddy University, Hydrabad	2023
41.	Dr. S. R. Patel	Young Entomologist Award	International Conference on "Current innovations and Technological Advances in Agriculture and Allied Science" organized at Noida	2024
42.	Dr. S. R. Patel	Best Poster Presentation Award	International Conference on "Trailblazing Trends in Sustainable Climate-Resilient Precision Agriculture Through Artificial Intelligence and Remote Sensing" organized by RTTC, Junagadh Agricultural University, Junagadh	2025

Sr. No.	Name of faculty	Name of award	Authority	Year
Department of Plant Pathology				
43.	Dr. K. K. Kanzaria	Scientist Associate Award	Agro Environmental Development Society (AEDS), Rampur, Uttar Pradesh	2021-22
44.	Dr. S. V. Lathiya	Young Scientist Award	Agro Environmental Development Society (AEDS), Rampur, Uttar Pradesh	2021-22
45.	Prof. J. C. Dhingani	Young Scientist Award	Society for scientific Devp. in Agri. & Tech., Meerut (U.P.)	2021-22
46.	Dr. J. R. Talaviya	Best Poster Presentation Award	Maharaja Krishnakumarsinhji Bhavnagar University, Bhanagar	2021-22
47.	Dr. C. M. Bhaliya	Best Oral Paper Presented Award	Indian Phytopathological Society-ICAR New Delhi	2021-22
48.	Dr. C. M. Bhaliya	Best Vernacular Article Award	Anand Agricultural University, Anand	2022-23
49.	Dr. J. R. Talaviya	Best Oral Presentation	PKM, Junagadh	2022-23
50.	Dr. J. R. Talaviya	B. B. Mundkar Award	Mally Reddy University, Hyderabad & ISAHRD, Chandigarh	2022-23
51.	Dr. S. V. Lathiya	Best Oral Presentation	BKNMU, Junagadh	2022-23
52.	Dr. J. R. Talaviya	National Best Teacher Award	Avishakar foundation	2022-23
53.	Dr. J. R. Talaviya	Best Poster Presentation Award	Society of Zoologist, Gujarat and MK University, Bhavnagar	2022-23
54.	H. A. Shekhda, Dr. D. S. Kelaiya, Dr. C. M. Bhaliya	Best Vernacular Article Award	Anand Agricultural University, Anand	2022-23
55.	Dr. K. K. Kanzaria	Scientist of the year award	RVSKYV Gwalior M.P. & Agri Meet Foundation U.P.	2023-24
56.	Dr. D. S. Kelaiya	Best Oral Presentation Award (First Rank)	Indian Society of Mycology & Plant Pathology-Udaipur & SDAU, S. K. Nagar	2023-24

Sr. No.	Name of faculty	Name of award	Authority	Year
57.	Dr. C. M. Bhaliya, Dr. H. J. Kapadiya, Dr. D. S. Kelaiya, Dr. L. F. Akbari	Best Oral Presentation Award	Indian Society of Mycology & Plant Pathology-Udaipur & SDAU, S. K. Nagar	2023-24
58.	Dr. C. M. Bhaliya	PP Singhal Memorial PI Industries Award & Cash Prize (Rs. 25000/-)	Indian Society of Mycology & Plant Pathology-Udaipur	2023-24
59.	Dr. C. M. Bhaliya	Best Oral Presentation Award	Indian Society of Mycology & Plant Pathology-Udaipur & SDAU, S. K. Nagar	2023-24
60.	Dr. C. M. Bhaliya	Best Article Award published in Krushi-Go -Vidhya Monthly magazine	Anand Agricultural University, Anand	2023-24
61.	Dr. C. M. Bhaliya	Best Oral Presentation Award	Indian Society of Mycology & Plant Pathology-Udaipur & AAU, Anand	2023-24
62.	Dr. S. V. Lathiya	Best Oral Presentation Award	Indian Society of Mycology & Plant Pathology-Udaipur & AAU, Anand	2023-24
63.	Dr. C. M. Bhaliya	Best Oral Presentation Award	Indian Society of Mycology & Plant Pathology-Udaipur & AAU, Anand	2023-24
64.	Dr. J. R. Talaviya, Dr. S. V. Lathiya and Dr. D. S. Kelaiya	Best Vernacular Article Award	Anand Agricultural University, Anand	2023-24
65.	Dr. C. M. Bhaliya	Late Dr. R. C. Patel Best Thesis Award - 2023	PPAG, SDAU, S. K. Nagar	2024-25
Department of Agricultural Extension Education				
66.	Dr. B. N. Kalsariya	Best Extension Scientist Award, Year-2025	Society of Extension Education, Gujarat	2024
67.	Dr. B. N. Kalsariya	Best Lead Paper Presentation Award	Society of Extension Education, Gujarat	2024

Sr. No.	Name of faculty	Name of award	Authority	Year
68.	Dr. B. N. Kalsariya	Certificate of Appreciation for Oral paper presentation	ASM Foundation, New Delhi and Junagadh Agricultural University, Junagadh	2024
69.	Dr. B. N. Kalsariya	Best Oral Paper Presentation Award, 2024	Society of Extension Education, Gujarat	2024
70.	Dr. B. N. Kalsariya	Best Oral Paper Presentation Award, 2025	JAU, Junagadh	2025
71.	Dr. B. N. Kalsariya	Best Oral Presentation Award	CAET and JAU, Junagadh	2025
72.	Dr. S. J. Parmar	Best Young Scientist Award	Society of Extension Education, Gujarat	2022
73.	Dr. S. J. Parmar	Young Scientist Award	Agri Meet Foundation, Bharat	2024
74.	Dr. J. V. Chovatiya	Best Thesis GAAS Award	Gujarat Association for Agricultural Science, Ahmedabad	2020
75.	Dr. S. J. Parmar	Young Scientist Award	Society of Extension Education, Agra	2023
Department of Agricultural Economics				
76.	Dr. N. J. Ardeshna	Dvitiy Uttam Lekh Award	Krushi govidya	2021
77.	Dr. B. Swaminathan	Second prize in BAU AGRI-HACKATHON Competition	Bihar Agricultural University, Sabour	2021
78.	Dr. B. Swaminathan	Young Achiever Award-2022	The Society for Advancement of Human and Nature (SADHNA), Dr YS Parmar University of Horticulture and Forestry, Solan, Himachal Pradesh	2022
79.	Dr. B. Swaminathan	Outstanding Academician National Award 2023	Kamarajar Institute of Education and Research, Tamil Nadu, India, conferred in May 2023	2023

Sr. No.	Name of faculty	Name of award	Authority	Year
80.	Dr. B. Swaminathan	Best Speaker Award	India Stata Conference 2023 organized by SYSTECH, Mumbai on November 30, 2023	2023
81.	Dr. N. J. Ardeshna	Best poster presentation	25th National Conference on "Innovations and entrepreneurship for rural prosperity : an agricultural perspective", MPKV, Rahuri	2025
82.	Dr. B. Swaminathan	Best oral presentation	25th National Conference on "Innovations and entrepreneurship for rural prosperity : an agricultural perspective", MPKV, Rahuri	2025
83.	Dr. B. Swaminathan	Best poster presentation	25th National Conference on "Innovations and entrepreneurship for rural prosperity : an agricultural perspective", MPKV, Rahuri	2025
Department of Agricultural Statistics				
84.	A.P. Prajapati, Dr. D.V. Patel & Dr. M.S. Shitap	Patent on "A System and Method for Agricultural Research Data Analysis"	The Office of the Controller General of Patents, Designs & Trade Marks (CGPDTM), Kolkata (Patent Application No. 202521066495 has been filed on 11/07/2025 and published in "The Patent Office Journal N0.31, Dated 01/08/2025 Page: 74118, No. of Pages-27)	2025
Department of Genetics and Plant Breeding				
85.	Dr. D. R. Mehta	Reviewer Excellence Award	Journal of Experimental Agricultural International	2020-21
86.	Dr. R. J. Patel	Thesis Award	Gujarat Society of Genetics and Plant Breeding, SDAU, Sardarkrushinagar	2021-22
87.	Dr. L. J. Raval	Bharat Shiksha Gaurav Purashkar	KTK Outstanding Achievers and Education Foundation	2022-23

Sr. No.	Name of faculty	Name of award	Authority	Year
88.	Dr. H. B. Limbani	Thesis Award	Society for Scientific Development in Agriculture and Technology	2022-23
89.	Dr. H. B. Limbani	Best Poster Presentation	Aastha Foundation, Meerut	2022-23
90.	Dr. D. R. Mehta	Reviewer Excellence Award	Indian Journal of Agricultural Research	2023-24
91.	Dr. D. R. Mehta	Reviewer Excellence Award	International Journal of Agricultural Science	2023-24
92.	Dr. D. R. Mehta	Certificate of contribution	Content Creator Unit-III (Principles of Quantitative Genetics)	2023-24
93.	Dr. D. R. Mehta	Certificate of contribution	Content Creator Unit-IV (Principles of Quantitative Genetics)	2023-24
94.	Dr. D. R. Mehta	Certificate of contribution	Unit Reviewer (Unit-III) Principles of Cytogenetics	2023-24
95.	Dr. D. R. Mehta	Certificate of contribution	Course Reviewer (Intellectual Property Rights)	2023-24
96.	Dr. D. R. Mehta	Certificate of contribution	Unit Reviewer (Unit-II) Principles of Quantitative Genetics	2023-24
97.	Dr. K. V. Rathava	Thesis Award	Society for Scientific Development in Agriculture and Technology	2023-24
98.	Dr. T. H. Borkhatariya	Best Oral Presentation	ICTPAIR (International Conference, JAU, Junagadh)	2024-25
Department of Seed Science and Technology				
99.	Dr. J. B. Patel	Dr. A. P. J. Abdul Kalam Scientist Award - 2020	The Society of Tropical Agriculture, New Delhi	2020
100.	Dr. J. B. Patel	Best Teacher Award - 2021	Agro Environmental Development Society	2021
101.	Dr. J. B. Patel	Global Eminent Teacher Award	Vij Trust, Thirunindravur, Tamil Nadu	2022
102.	Dr. J. B. Patel	Best Seed Scientist Award	Agri Meet Foundation, India	2022

Sr. No.	Name of faculty	Name of award	Authority	Year
103.	Dr. J. B. Patel, Dr. C. A. Babariya, Dr. J. R. Sondarva and D. V. Savaliya	Best Performing Groundnut Seed Hub Centre Award	ICAR - DGR, Junagadh	2023
104.	Dr. Jyoti R. Sondarva	Best Poster Presentation	Indian Society of Seed Technology	2023
105.	Dr. J. B. Patel, Dr. C. A. Babariya, Dr. J. R. Sondarva and D. V. Savaliya	Best Poster Award	National Conference on Paradigm and Dynamics of Digital Horticulture for Food, Nutrition and Entrepreneurship held at JAU, Junagadh from 28-31 May, 2024 organized jointly by ASM foundation and JAU, Junagadh	2024
106.	Dr. J. B. Patel, Dr. C. A. Babariya, Dr. J. R. Sondarva and D. V. Savaliya	Best Performing Groundnut Seed Hub Centre Award	Annual Groundnut Meeting on Groundnut held at Rajasthan College of Agriculture, Maharana Pratap University of Agriculture and Technology, Udaipur during 18-20 March, 2025	2025
Department of Biochemistry and Biotechnology				
107.	Dr. M. V. Parakhia	Young Microbiologist Award	Agro Environmental Development Society (AEDS), Majhara Ghat, Rampur, U. P., India.	2020-21
108.	Dr. A. G. Vala	Academic excellence award	The International Multidisciplinary Research Foundation, Bangalore.	2020
109.	Dr. R. S. Tomar	Fellow of SHRD	Society of Horticultural Research and Development, New Delhi	2022
110.	Dr. A. G. Vala	Young Scientist Awards	Asia-Pacific: SCIFAX	2022
111.	Dr. A. G. Vala	Young Scientist Awards	Science Father	2022

Sr. No.	Name of faculty	Name of award	Authority	Year
112.	Dr. S. B. Bhatt	Senior Scientist Award -Gujarat State	Microbiology Society of India	2022-23
113.	Dr. G. V. Marviya	Appreciation Certificate for act as a Senior Scientist & Head for K. V. K., Targhadia Centre during 'Certificate Course on Pesticide Management for Insecticides Dealers' organized by Junagadh Agricultural University, Junagadh during the year 2021 and 2022.	Junagadh Agricultural University	2023
114.	Dr. M. V. Parakhia	Excellence in research award	1st international conference organized by GNFSU, IIMTU, Meerut and HARWS	2023
115.	Dr. S. B. Bhatt	Distinguished scientist award	Gujarat Natural Farming and Science University, Anand, India.	2023
116.	Dr. S. B. Bhatt	Senior scientist award	Microbiology Society India	2023
117.	Dr. S. B. Bhatt	Best popular article award	The Science world International Magazine	2024
118.	Dr. A. G. Vala	Young researcher award	Institutional Research	2023-24
Department of Animal Science				
119.	Dr. N. K. Ribadiya	Young Scientist Award	VG Good Professional Association	2021

Sr. No.	Name of faculty	Name of award	Authority	Year
120.	Dr. N. K. Ribadiya	Best Oral Paper Presentation Award	National conference on "Coordinated Nutrition, Health and Extension Approach for Sustainable Livestock Production" Nanaji Deshmukh Veterinary Science Uni., Jabalpur, M.P.	2022
121.	Dr. N. K. Ribadiya	Best Paper Presentation Award	National seminar on "Recent Biotechno-logical Advances in Health and Manage-ment Practices to Augment Production of Livestock and Poultry" TANUVAS, Tirunelveli, Tamil Nadu	2022
122.	Dr. N. K. Ribadiya	Young Scientist Award		2022
123.	Dr. N. K. Ribadiya	Best Teacher Award	International Organi-zation for Academic and Scientific Develop-ment (IOASD)	2024
124.	Dr. N. K. Ribadiya	Best Oral Presentation (First)	National symposium of society for buffalo development (ISBD-2024) on "Innovative Approaches for Boosting Buffalo Productivity", COVSAH, Anand, Kamdhenu University, Gujarat	2024
125.	Dr. N. K. Ribadiya	Best Poster Presentation (Third)	National symposium of society for buffalo development (ISBD-2024) on "Innovative Approaches for Boosting Buffalo Productivity" COVSAH, Anand, Kamdhenu University, Gujarat	2024

Sr. No.	Name of faculty	Name of award	Authority	Year
126.	Dr. N. K. Ribadiya	Best Poster Award (First)	World animal nutrition conference (WANACON - 2025) on "Newer Vistas to Animal Nutrition Research Towards Climate Resilient Animal Production for Livelihood, Food and Nutritional Security" Nagpur Veterinary College, MAFSU, Nagpur	2025
127.	Dr. N. K. Ribadiya	Best Poster Award (Third)	World animal nutrition conference (WANACON - 2025) on "Newer Vistas to Animal Nutrition Research Towards Climate Resilient Animal Production for Livelihood, Food and Nutritional Security" Nagpur Veterinary College, MAFSU, Nagpur	2025
128.	Dr. N. K. Ribadiya	Best Ph.D. Thesis Award	9th International conference on "Agrinext: Future Trends in Agriculture" (ICANFTA - 2025) Brainware University, Kolkata	2025
129.	Dr. N. K. Ribadiya	Best Ph.D. Thesis Award	International agriculture conference on "Navigating Unique Trends in Agricultural Research, Innovation, Engineering, Nutrition and Technology" (Nutrient - 2025), IKG Punjab Technical University, Kapurthala	2025
130.	Dr. N. K. Ribadiya	Distinguished Scientist Award	International agriculture conference on "Navigating Unique Trends in Agricultural Research, Innovation, Engineering, Nutrition and Technology" (Nutrient - 2025), IKG Punjab Technical University, Kapurthala	2025

Table 6.5.32: Awards received by PG/Ph.D. students (2020-21 to 2024-25)

Department	Number of awards / recognitions received
Agronomy	06
Soil Science and Agricultural Chemistry	06
Agricultural Entomology	00
Plant Pathology	01
Agricultural Extension	12
Agricultural Economics	05
Genetics and Plant Breeding	07
Biochemistry and Biotechnology	13
Total	**53 + 1 (Accolade for UG students from RBI)**

AWARDS RECEIVED BY STUDENTS (FROM AY 2020-21 TO AY 2024-25)

Table 6.5.33: Department-wise award recipient list of students (2020-21 to 2024-25)

Sr. No.	Name of Student (Awardee)	Name of Award	Awarded by	Year
Department of Agronomy				
1.	Ms. S. R. Lalani	Best Oral poster in International webinar	NAHEP, NAU, Navsari	2020
2.	Ms. S. R. Lalani	Best Oral Presentation in International e-symposium	Research and education society, Meerut	2020
3.	Ms. S. R. Lalani	Best article award	Agriculture and Food e-newsletter	2020
4.	Mr. V.V. Rupareliya	Chancellor Gold Medal for the best over overall performance in Doctoral Degree	JAU, Junagadh	2021
5.	Hirapara Kevalkumar V.	Chancellor's Gold Medal in M.Sc. Degree	JAU, Junagadh	2022
6.	Hirapara Kevalkumar V.	Merit Gold plated Silver Medal	JAU, Junagadh	2022
7.	Muchhadiya Ravindra Merambhai	Best Oral Presentation Award in National level science symposium	PKM, GSBTM, DST & BKNMU, Junagadh.	2023

Sr. No.	Name of Student (Awardee)	Name of Award	Awarded by	Year
8.	Muchhadiya Ravindra Merambhai	Best Poster Presentation Award in Two Days National Workshop on 'The Growing Role of Artificial Intelligence in Agriculture	CAET-JAU and IIT-Ropar at JAU, Junagadh	2023
9.	Muchhadiya Ravindra Merambhai	Best M. Sc. Thesis Award	Abhilashi University, Mandi (H. P.) & SAAHAS	2024
10.	Muchhadiya Ravindra Merambhai	Best Ph. D. Thesis Award	ICAR, CIAO, Sardar Patel University, Balaghat (M. P.)	2025
Department of Soil Science & Ag. Chem.				
11.	Dalsaniya Hetal M.	Highest OGPA in M.Sc. (Agri) Soil Science, JAU, Junagadh	JAU, Junagadh	2022
12.	Vasoya Mansi	Best poster award on World Soil day, AAU, Anand	JAU, Junagadh	2023
13.	Vadaliya Parita	Highest OGPA in M.Sc. (Agri) Soil Science, JAU, Junagadh	JAU, Junagadh	2024
14.	Vadaliya Parita	Highest OGPA in M.Sc. (Agri) Soil Science & Agronomy, JAU, Junagadh	JAU, Junagadh	2024
15.	Vasoya Mansi	Inter college competition, COA, JAU, Junagadh	JAU, Junagadh	2024
Department of Plant Pathology				
16.	Kotadiya Urvashi S.	Best M. Sc. Thesis for outstanding work in plant pathology	AEDS, Majhra Ghat, Rampur, UP	2022
Department of Agril. Extension				
17.	Zala Prashant H.	Best post Graduate Researcher Award	(SBER), Tripura, India	2020
18.	Jay V. Chovatoya	Best Thesis GAAS Award	GAAS, Ahmedabad	2020

Sr. No.	Name of Student (Awardee)	Name of Award	Awarded by	Year
19.	Diksha Sharma	Best Thesis Award on "Training Need of Farm Women About Improved Animal Husbandry Practices in Saurashtra Region"	Hindustan Agricultural research Welfare Society, Ministry of MSME, Govt. of India	2021
20.	P. B. Raviya	Best Ph. D Thesis Award	Samagra vikas Welfare Society, Lucknow	2021
21.	P. B. Raviya	International Researcher Award 2020-21	International Institute of Organized Research	2021
22.	Radhika Bani	Best undergraduate award student in subject of Agricultural Extension Education	Society of Extension Education, Gujarat	2023
23.	P. B. Raviya	Best Research Paper Award	GNFC University, Hindustan Agricultural Research Welfare Society an IIMTU, Meerut	2023
24.	Khushbuba M. Jadeja	Best Thesis Award	Indian Society of Agriculture Science & Technology Research, Noida	2024
25.	Padaliya Darshana Arvindbhai	Dr. T. L. Dholariya Best Postgraduate Student Award	Society of Extension Education, Gujarat	2024
26.	Padaliya Darshana Arvindbhai	Second Rank in Oral Presentation Award	Society of Extension Education, Gujarat	2024

Sr. No.	Name of Student (Awardee)	Name of Award	Awarded by	Year
27.	Rathod Rajshinh B.	Oral Presentation Award	SDAU, Sardarkrushinagar & SEEG, Annad	2024
28.	Zala Prashant H.	Best Thesis GAAS Award	Gujarat Association for Agricultural Science, Ahmedabad	2024
Department of Agril. Economics				
29.	Ms. Sneha S Ketali	Best Master's Thesis Award	Agriculture Letters, Raichur	2021
30.	Makwana Rutvika	Best poster presentation	Maharashtra Society of Agricultural Economics, Mumbai	2025
31.	Vora Krishna	Best poster presentation		2025
32.	S. R. Lavanya	Best poster presentation		2025
33.	Sneha Murugesan	Best Oral Presentation		2025
Department of Genetics and Plant Breeding				
34.	Mr. G. P. Karthikeya Reddy	Dr. Ramniklal Manilal Shah Memorial Gold Plated Silver Medal	JAU, Junagadh	2021
35.	Miss Oza Hely Navinchandra	Dr. Ramniklal Manilal Shah Memorial Gold Plated Silver Medal	JAU, Junagadh	2022
36.	Mr. Kansagara Jay Rameshbhai	Chancellor's Gold Medal in M. Sc. (Agri.)	JAU, Junagadh	2023
37.	Miss. Urvi Jakasania	Dr. Ramniklal Manilal Shah Memorial Gold Plated Silver Medal	JAU, Junagadh	2024
38.	Mr. Chirag Savjibhai Radadiya	Chancellor's Gold Medal in M. Sc. (Agri.)	JAU, Junagadh	2025
39.	Mr. Chirag Savjibhai Radadiya	Dr. Ramniklal Manilal Shah Memorial Gold Plated Silver Medal	JAU, Junagadh	2025
Department of Biochemistry and Biotechnology				
40.	Patoliya Hinal	Prime minister Fellowship from A PPP Initiative of Science & Engineering Research Board	Department of Science & Technology, Government of India and Confederation of Indian Industry (CII)	2023

Sr. No.	Name of Student (Awardee)	Name of Award	Awarded by	Year
41.	Timbadiya Priyanka	Women Scientist Award, Gold Medallist Award, Best Ph. D. Thesis Award and Excellence in Research Award	International Agriculture Conference on "natural Vs. Organic farming: in context to Bharatiya Agriculture"	2024
42.	Chovatita Nirbhay C.	Best M. Sc. thesis Award in 1st International Agriculture Conference on natural Vs. Organic farming: in context to Bharatiya Agriculture	Gujarat Natural Farming and Science University, Anand and Hindustan Agriculture Research Welfare Society and IIMTU, Meerut	2024
43.	Trivedi Sandhya Kiritbhai	Best Ph. D. thesis award	The Gujarat Association for Agricultural Sciences (GAAS)	2025
44.	Hirpara Darshna G.	ICAR National Award Jawaharlal Nehru Award for Outstanding Doctoral Thesis Research in Agricultural and Allied Sciences	ICAR	2021
45.	Likhindra Reang	Best Poster presentation 1st Rank in National Conference entitled	Saurashtra University, Rajkot	2021
46.	Savani Khyati R	Late Dr. Diwakar M. Patel Gold medal	Best research work in M. Sc. from Anand Agriculture University, Anand	2021

Sr. No.	Name of Student (Awardee)	Name of Award	Awarded by	Year
47.	Bhadani Rushita V.	Dr. A. V. Barad´s Late Parents Smt. Amarba& Shri Virsangbhai barad Memorial Gold Plated Silver medal	JAU, Junagadh	2022
48.	Savani Khyati R	2nd position for oral presentation for research paper	Conference on Biotechnological Initiative for climate resilient Agriculture at RPCAU, PUSA, Bihar	2022
49.	Hirpara Darshna G.	Commendable Thesis work for Ph. D. Degree from	The Gujarat Association for Agricultural Sciences (GAAS), Ahmedabad	2023
50.	Hirpara Darshna G.	Shri Chaitanya Mehta Award-2020 with cash prize of 11000/-	GAAS, Ahmedabad	2023
51.	Hirpara Darshna G.	Best oral presentation – first prize	in National Conference at Atmiya University	2023
52.	Ashwini M. N.	ICAR SRF from Indian Council of Agricultural Research	ICAR, New Delhi	2023
53.	Lakhani Komal	Prime minister Fellowship	Government of India and Confederation of Indian Industry (CII)	2024
54.	Dodiya Drashti and Mr. Dodiya Rohan (UG students)	RBI@90 National Quiz – selected for state-level round	Reserve Bank of India, Mumbai	2025

6.5.7.4. EMPLOYABILITY OF STUDENTS

It is essential for students to not only be academically proficient but also to possess personal attributes, skills, and the right understanding that will enable them to become valuable employees in reputed organizations and effective contributors to their own institutions in the future. In this context, the college arranges soft skill-oriented programmes from time to time to foster and develop these qualities among students.

Under the banner of NSS, the college organizes camps in which students go to village and try to address ground level agricultural problems of the farmers and at the same time develop real time communication skills with farmers and work for awareness in different aspects of village as a unit. Furthermore, the NCC Battalion of the college tries to imbibe the students with the values of dignity and national integrity, which shall go a long way in making them employable.

Vocational training was organized by CoA, JAU, Junagadh, during 2021-22 under the Institutional Development Plan (IDP). Fifty of our students participated in this training program and they have successfully completed the training on "Introduction to Drones and their Application in Agriculture" at College of Agriculture, JAU, Junagadh. This will help students in becoming specialized in said technology and keep them up to date with modern technological development in the field of agriculture. This gives students large perspective and vision, extending their present perception and motivate them to apply new innovative ideas. The College organizes different entrepreneurship development and soft skills development training and lecture series. Toeing this line, a five day-training on ‘Mushroom Production Technology’ was organized on March 7-11, 2022 by the Department of Plant Pathology, College of Agriculture, JAU, Junagadh.

All the UG and PG students of the graduated batches for AY 2020-21 to 2024-25 are already gainfully employed in public and private sector or have started their own enterprises, joined family business or took up farming as a vocation. Many undergraduates have established agri-clinics in their own villages as well. Several PG students graduating in this accreditation cycle have cleared IBPS to become bank personnel or GPSC examinations to become agricultural officers or agricultural assistants. A high number of students have become Gram Sewaks and work in the interior villages. Many of them have become Assistant Professors as well in the SAUs of Gujarat besides Gujarat Natural Farming University. Bringing further laurels to the college, eight students in the accreditation cycle cracked CAT examination and joined prestigious institutions like IIM-Ahmedabad, IIM-Lucknow, ICAR-MANAGE, Hyderabad, IRMA, Anand and IIFM, Bhopal.

6.5.8. SSR OF THE COLLEGE FOR ALL DEGREE PROGRAMES

The College of Agriculture, JAU, Junagadh, is to submit the SSR report for accreditation for B.Sc. (Hons.) Agriculture, thirteen M.Sc. programmes in Agriculture as well as thirteen Ph.D. degree programmes in Agriculture in various disciplines for the period 2020-21 to 2024-25.

SPECIAL REMARKS:

STUDENTS ACTIVITIES UNDER NAHEP-IDP UNIT OF COA, JAU, JUNAGADH FUNDED BY WORLD BANK THROUGH ICAR

Junagadh Agricultural University, Junagadh was one of the seven SAUs to have been selected for NAHEP-IDP in the first call. The project was operated in the university from 2017-18 to 2023-24 for the benefit of UG students. Altogether, forty-three different types of programs have been organized by CoA, JAU, Junagadh under the aegis of NAHEP-IDP. NAHEP has been formulated by ICAR with a total cost of US$ 165 million (Rupees 1100 cores at the exchange rate of Rs. 66.75 = 1US$). The project is proposed on 50:50 cost-sharing basis between the World Bank and the Government of India, implemented at the Education Division, ICAR, New Delhi. Overall, the project aims to develop resources and mechanism for supporting infrastructure, faculty and student advancement, and providing means for better governance and management of agricultural universities, so that a holistic model can be developed to raise the standard of current agricultural education system that provides more jobs and is entrepreneurship oriented and on par with the global agriculture education standards.

Organogram of NAHEP-IDP unit at CoA, JAU, Junagadh

Name	Designation
Dr. V. P. Chovatia, Hon. Vice Chancellor	IDP Leader (Full time)
Director of Research & Dean P.G. Studies	IDP Principal Investigator
Principal & Dean, College of Agriculture	IDP Co-Principal Investigator
Associate Director of Research	Nodal Officer of ICAR
Dr. K. C. Patel, Director, Information Technology	Procurement Officer (IDP)
Director, Students' Welfare	Grievance Redressal Mechanism (GRM) Nodal Officer
Mr. S. K. Jethani, Comptroller	Comptroller
Mr. J. S. Parasana, Asstt. Prof., CoA, Junagadh	Convener
Dr. B. Swaminathan, Asstt. Prof., CoA, Junagadh	Co-Convener

The list of important events organized by the NAHEP-IDP unit of the college is furnished in Table 6.5.34.

LIST OF EVENTS UNDER NAHEP-IDP ORGANIZED AT COLLEGE

TABLE 6.5.34: Important activities organized under NAHEP-IDP

Sr. No	Event Name	Event Date	No. of Beneficiaries	Organized By
1.	An online guest lecture on "Breaking Silos: Transforming Food Systems in Asia and Africa"	14/07/2021	167	IDP Cell, CoA, JAU, Junagadh
2.	A Three-day Online Digital Marketing training for our undergraduate students	09 -11/08/ 2021	100	IDP Cell, CoA, JAU, Junagadh
3.	A Three week online national certificate course on "Weather based agromet advisory services through ICT"	02-22/08/ 2021	17	IDP Cell, CoA, JAU, Junagadh
4.	A Training Programme On "Automation In Agriculture: Fundamentals And Practices" Under IDP (NAHEP)	20-21/09/ 2021	50	IDP Cell, CoA, JAU, Junagadh
5.	A Five days vocational training on "Introduction to Drones and their Application in Agriculture"	22-26/09/ 2021	50	IDP Cell, CoA, JAU, Junagadh
6.	Essay Writing Competition on "भारतीय कृषि में डिजिटल प्रौद्योगिकी का दायरा और चुनोतिया" As part of celebration of World Ozone Day under skill development component.	18/09/2020	125	IDP Cell, CoA, JAU, Junagadh
7.	Drawing and poster presentation competition as a part of celebration of world ozone day under skill development component.	18/09/ 2020	100	IDP Cell, CoA, JAU, Junagadh
8.	Certificate Course on Export-Import of Agricultural Commodities	01-05/10/ 2021	50	IDP Cell, CoA, JAU, Junagadh
9.	One Day Online Training Programme on "Application of Microsoft Excel and basic programmes for Descriptive Statistics, Data Analysis and Data Visualization in Agriculture"	08/10/ 2021	100	Dept. of Agricultural Statistics, CoA, JAU, Junagadh
10.	One Day Guest Lecture on "Transgenic crops: A future of plant protection"	14/10/ 2021	100	Dept. of Entomology, CoA, JAU, Junagadh
11.	One Day Training Programme on "Role of ICT in Up-scaling Extension Mechanisms"	25/10/ 2021	100	Dept. of Agricultural Extension, CoA, JAU, Junagadh

Sr. No	Event Name	Event Date	No. of Beneficiaries	Organized By
12.	One Day Guest Lectures on "Protective measures in Pesticidal application (Suraksha hamesha) & Diamide insecticides: A recent approach to combat lepidoperan Pest"	26/10/ 2021	84	Dept. of Entomology, CoA, JAU, Junagadh
13.	Five Days Vocational Training on "Commercial Plant Tissue Culture as Business Entrepreneurship"	26-30/10/ 2021	50	Dept. of Genetics and Plant Breeding, CoA, JAU, Junagadh
14.	One Day Online National Quiz on "World Soil Day"	05/12/ 2021	70	Dept. of Soil Science and Agril. Chemistry, CoA, JAU, Junagadh
15.	International Training/Internship of CoA, JAU Students under NAHEP-IDP	Variable date within project period	07	IDP Cell, CoA, JAU, Junagadh
16.	Online Lectures for Preparation for JRF exam under NAHEP-IDP	26/11/ to 31/12/2021	60	Dept. of Horticulture, CoA, JAU, Junagadh
17.	Five days online vocational Training on "Recent Advances in Seed Production Technologies of Field Crops"	07-11/02/ 2022	50	Dept. of Seed Science and Technology, CoA, JAU, Junagadh
18.	Five days Entrepreneurship development Training on "Mushroom Production Technology: A Step towards Entrepreneurship Development"	07-11/03/ 2022	50	Dept. of Plant Pathology, CoA, JAU, Junagadh
19.	A Five Days Entrepreneurship Development Training Programme on "Horticultural entrepreneurship: new paradigm in Indian agriculture"	12-16/09/ 2022	75	IDP Cell, CoA, JAU and College of Horticulture, JAU, Junagadh
20.	Guest lectures on "Career and Entrepreneurial Opportunities for Agricultural Graduates in Commodity Markets"	15/02/2023	50	Dept. of Agril. Economics, College of Agriculture, JAU, Junagadh
21.	A Three days entrepreneurship development training programme on "Endophytes: A Potential Bioagent for Plant Health and Nutrition"	02-04/03/ 2023	50	Dept. of Plant Pathology, CoA, JAU, Junagadh
22.	A Guest lecture on 1) Suraksha Hamesha - Protective mesures in the Pesticidal application and 2) Exponus - A new mode of action of insecticide to control	07/09/2022	75	Dept. of Entomology, College of Agriculture, JAU, Junagadh

Sr. No	Event Name	Event Date	No. of Beneficiaries	Organized By
	Lepidopteran in Pests resistance scenario			
23.	Guest lectures on Commodity Market Analysis	15/02/2023	50	Dept. of Agril. Economics, COA, JAU, Junagadh
24.	Two Days Training on "TIPS and TRICKS to succeed in ICAR AIEEA (PG) for Statistical Sciences"	17-18/03/ 2023	50	Dept. of Agril. Statistics, College of Agriculture, JAU, Junagadh
25.	A Five Days Training Programme on "Combating the diseases of field and horticultural crops: Past and future strategies"	29/08 to 03/09/2022	50	Department of Plant Pathology, CoA, JAU, Junagadh
26.	A Five Days Vocational Training Programme on "Medicinal and Aromatic Plants: Opportunities for New Start-up"	12-16/09/ 2022	50	Department of Genetics and Plant Breeding, CoA, JAU, Junagadh
27.	A Five Days Vocational Training Programme on "Soil Testing lab: As an entrepreneur business opportunity"	19-23/09/ 2022	50	Department of Soil Science and Agricultural Chemistry, CoA, JAU, Junagadh
28.	A Five Days Vocational Training Programme on"Recent Advance in Vegetable Breeding"	20-24/02/ 2023	50	Department of Genetics and Plant Breeding, CoA, JAU, Junagadh
29.	Two Days Hands-on Training on "Drone Technology: A Future Prospects in Plant Protection"	06-07/03/ 2023	100	Dept. of Entomology, College of Agriculture, JAU, Junagadh
30.	International training on "Nutrient and irrigation water management in field and horticultural crops through smart agriculture technologies"	Nov-2022 to Feb-2023	10	AIT, Thailand
31.	Five days entrepreneurship development training programme on Bio fertilizer a key tool for sustainable agriculture	June 26-30, 2023	100	Department of Pl. Pathology, CoA, JAU, Junagadh
32.	Five Days Professional Skill Development training on Application of Next Generation DNA Sequencing Technology in Agriculture	June 26-30, 2023	50	Department of Biotechnology, CoA, JAU, Junagadh
33.	Certificate Course on AI	June, 2023	02	IDP Cell
34.	Certificate course on Digital Marketing	June, 2023	06	IDP Cell
35.	Certificate Course on Mobile App Development	June, 2023	01	IDP Cell

Sr. No	Event Name	Event Date	No. of Beneficiaries	Organized By
36.	Five days vocational training programme on "Hydroponics and Vertical Farming"	June 26-30, 2023	50	Dept. of GPB, CoA, Junagadh
37.	Five days vocational training programme on "Integrated Farming System for sustainable Agriculture"	June 26-30, 2023	50	Department of Agronomy
38.	Celebration of world environment day	June 05, 2023	245	IDP Cell
39.	Lecture Series of Visiting Professors from Australia	September, 2023	50	IDP Cell
40.	Alumni meet 2023 Interactions between entrepreneurs and student	September, 2023	800	IDP Cell
41.	International training at Can Tho University, Vietnam	September, 2023	10	IDP Cell
42.	International training at University of Putra, Malaysia	November, 2023	10	IDP Cell
43.	Two Days National Workshop on Automation in Protected Cultivation	December 6-07, 2023	200	IDP Cell
44.	Five days training on Shaping Horticulture Through Entrepreneurship	December 6-10, 2023	100	IDP Cell

6.5.9. CERTIFICATE

I, Dr. P.D. Kumawat, Dean, Faculty of Agriculture, CoA, JAU, Junagadh, hereby certify that the information contained in the Section 6.5.1 to 6.5.7.4 are furnished as per the records available in the college and degree awarding university.

Date: 31.01.2026
Place: Junagadh

(P. D. Kumawat)
Dean, Faculty of Agriculture
Junagadh Agricultural University

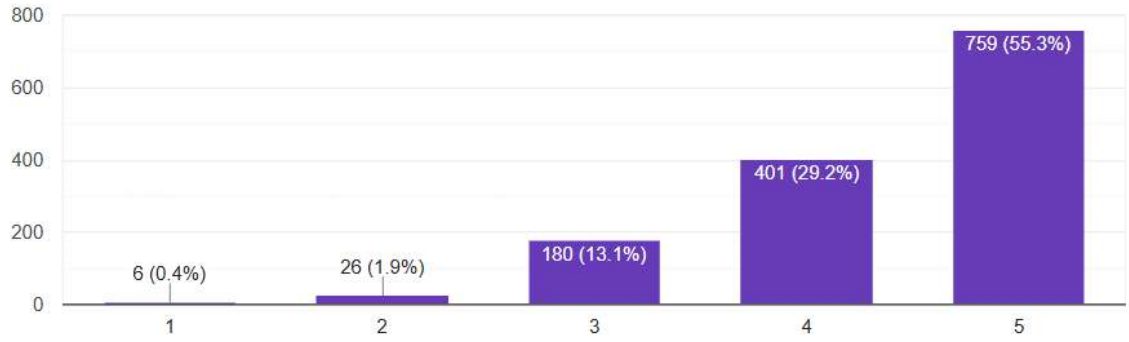
Annexure 6.4.7a: Feedback of stakeholders-Students

FEEDBACK FROM UG/PG STUDENTS ON INFRASTRUCTURE, TEACHING, RESEARCH AND MENTORING FACILITIES AT COA, JAU, JUNAGADH (AY 2020-21 TO 2024-25 BATCHES)

1. Teaching infrastructure:

Copy chart

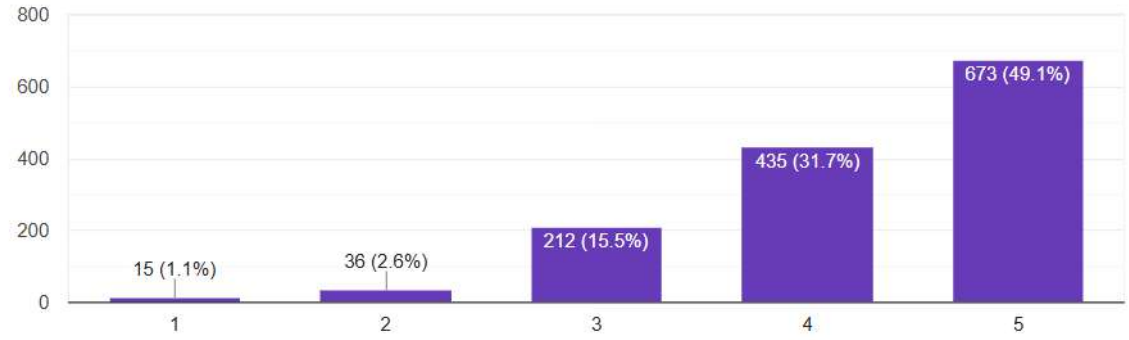
1,372 responses



2. Quality of teaching / learning process and aids:

Copy chart

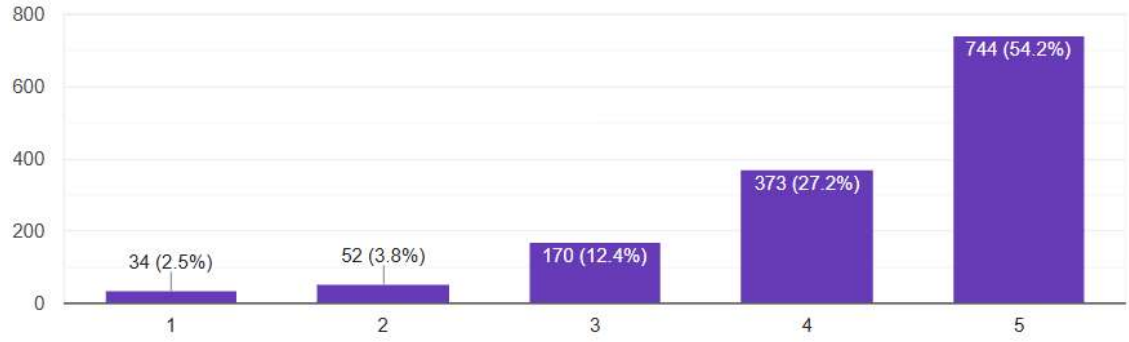
1,371 responses



3. Laboratory / farm facilities:

Copy chart

1,373 responses



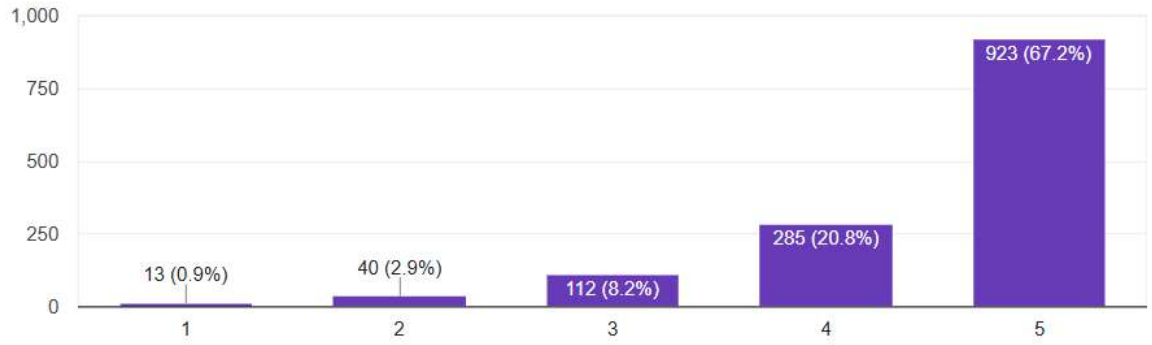
Annexure 6.4.7a: Feedback of stakeholders-Students

FEEDBACK FROM UG/PG STUDENTS ON INFRASTRUCTURE, TEACHING, RESEARCH AND MENTORING FACILITIES AT COA, JAU, JUNAGADH (CONTD.) (AY 2020-21 TO 2024-25 BATCHES)

4. Library facilities:

Copy chart

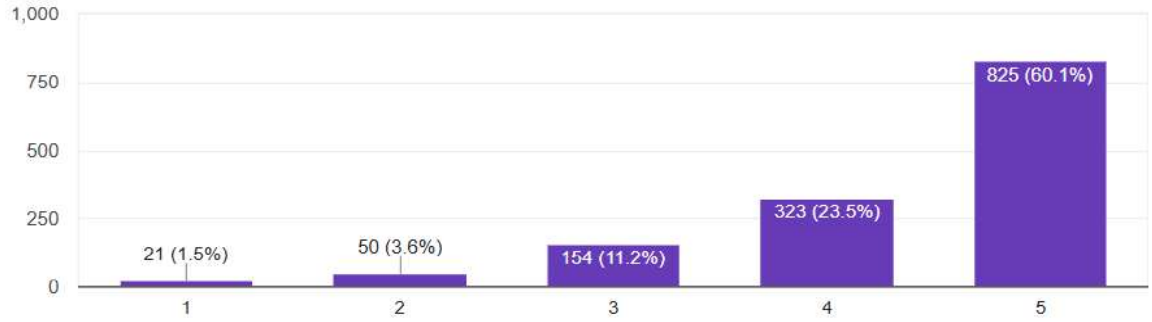
1,373 responses



5. Sports / extra-curricular activities orientation/ facilities:

Copy chart

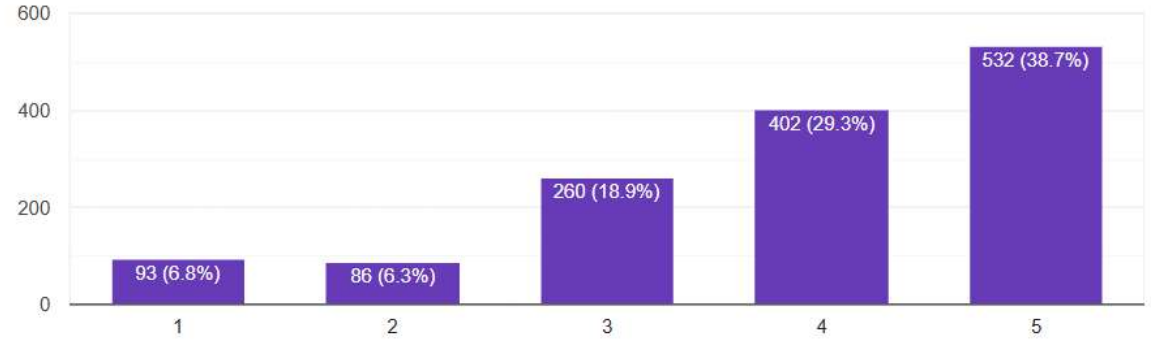
1,373 responses



6. Hostel accommodation/ Wi-Fi/ dining facilities:

Copy chart

1,373 responses



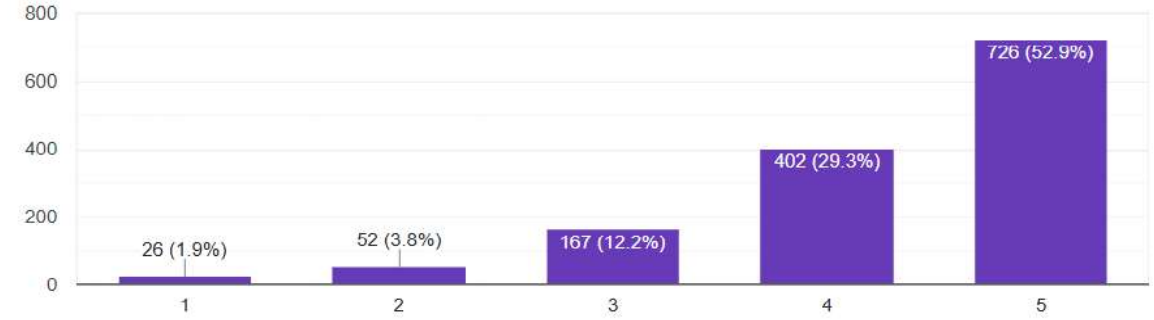
Annexure 6.4.7a: Feedback of stakeholders-Students

FEEDBACK FROM UG/PG STUDENTS ON INFRASTRUCTURE, TEACHING, RESEARCH AND MENTORING FACILITIES AT COA, JAU, JUNAGADH (CONTD.) (AY 2020-21 TO 2024-25 BATCHES)

7. Health centre facilities:

Copy chart

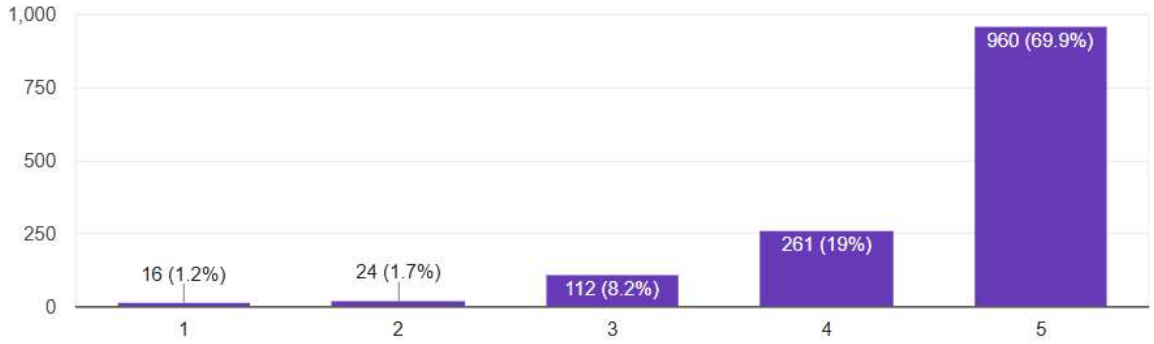
1,373 responses



8. Campus security:

Copy chart

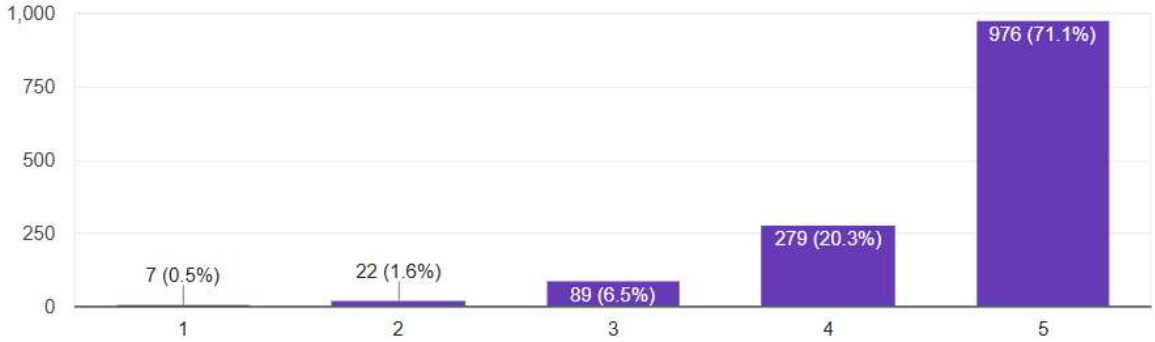
1,373 responses



9. Campus cleanliness:

Copy chart

1,373 responses



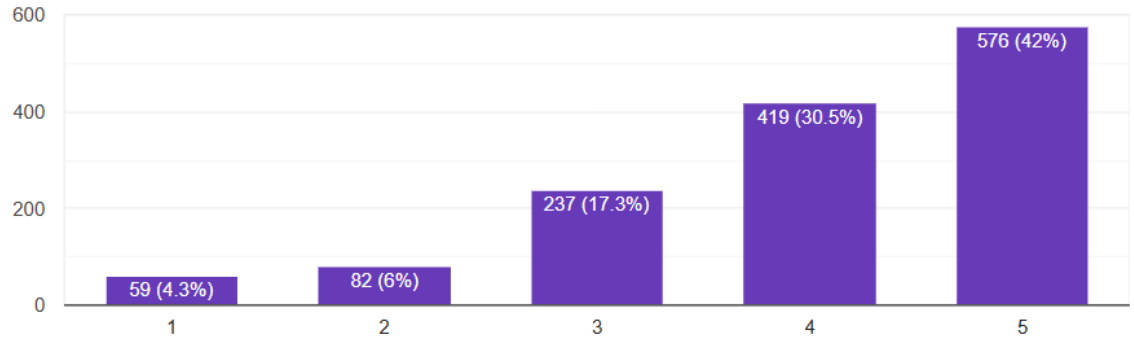
Annexure 6.4.7a: Feedback of stakeholders-Students

FEEDBACK FROM UG/PG STUDENTS ON INFRASTRUCTURE, TEACHING, RESEARCH AND MENTORING FACILITIES AT COA, JAU, JUNAGADH (CONTD.) (AY 2020-21 TO 2024-25 BATCHES)

10. Placement counselling / mentoring and guidance:

Copy chart

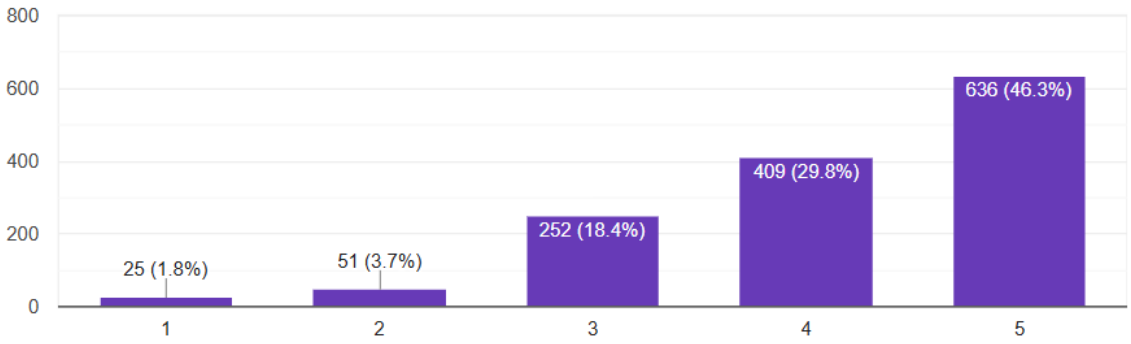
1,373 responses



11. Utilization of ICT (digital/ online) tools in curriculum delivery:

Copy chart

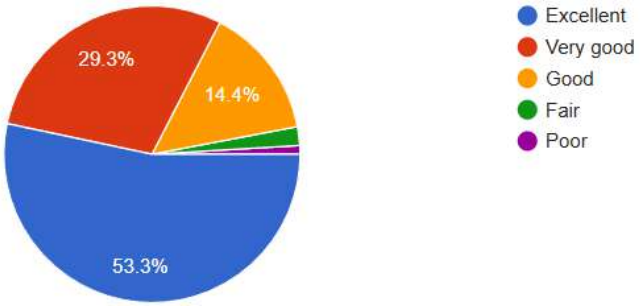
1,373 responses



12. Overall impression about the Department / College:

Copy chart

1,373 responses



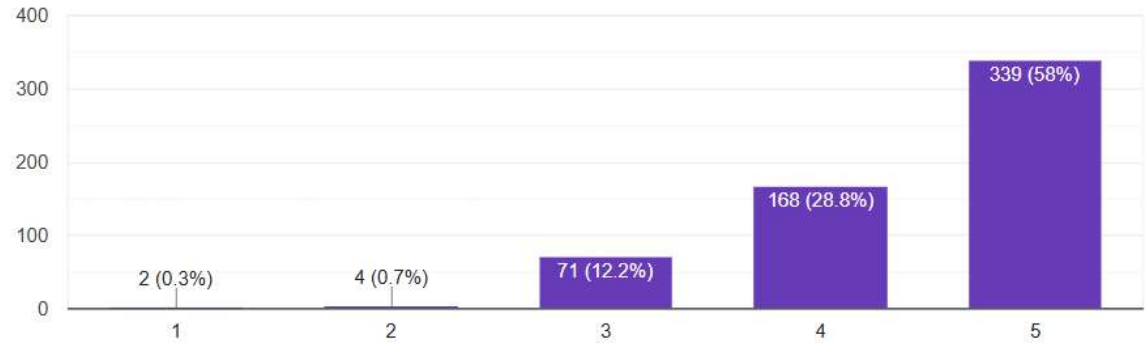
Annexure 6.4.7b: Feedback of stakeholders-Parents

FEEDBACK FROM THE PARENTS OF UG/PG STUDENTS IN TERMS OF THEIR EXPOSURE AND REALIZATION OF THE FACILTIES AT COA, JAU, JUNAGADH (AY 2020-21 TO 2024-25 BATCHES)

1. Teaching infrastructure:

Copy chart

584 responses



2. Quality of teaching / learning process and aids:

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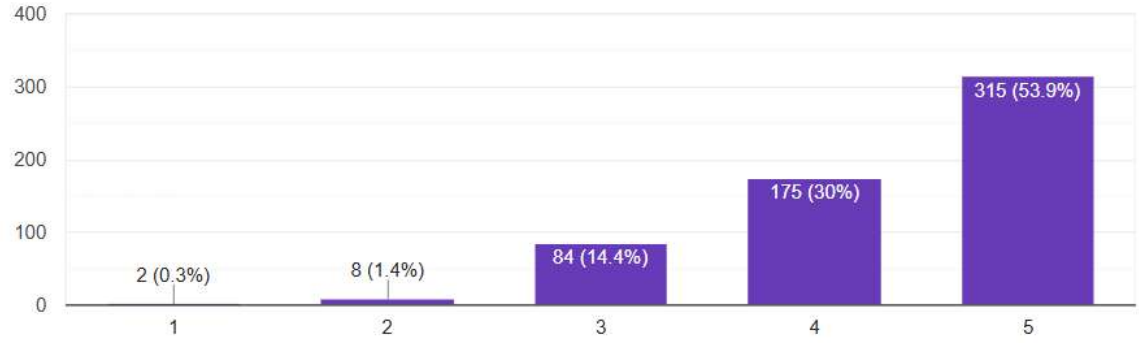
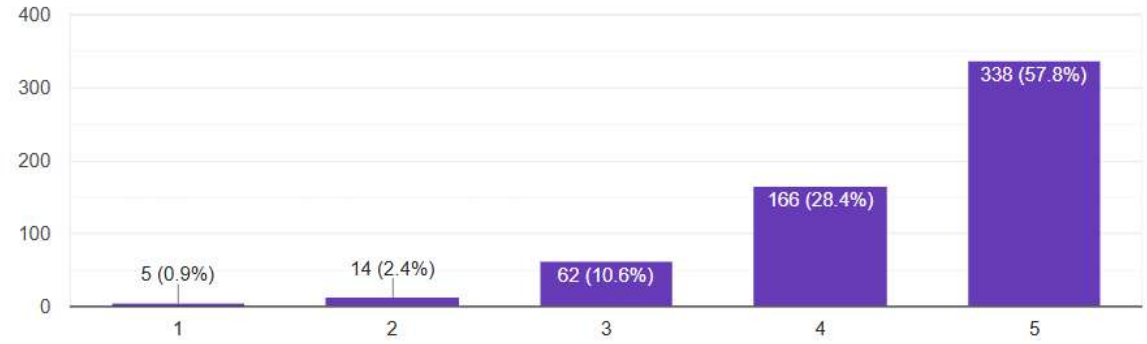
584 responses



3. Laboratory / farm facilities:

Copy chart

585 responses



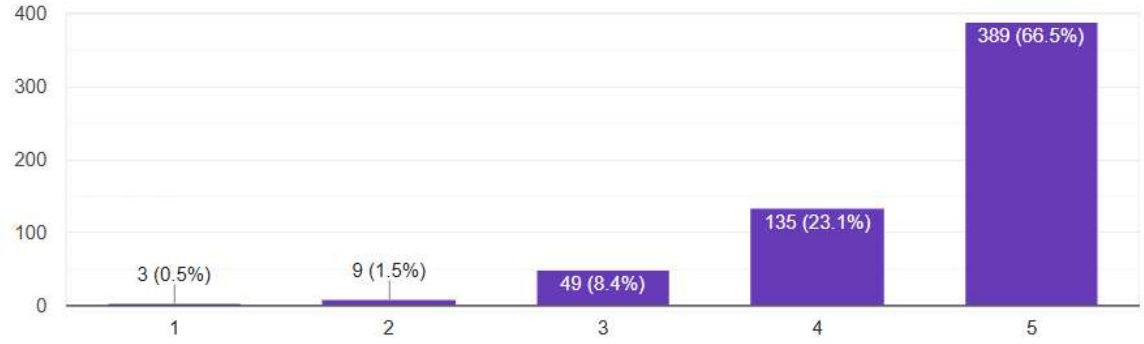
Annexure 6.4.7b: Feedback of stakeholders-Parents

FEEDBACK FROM THE PARENTS OF UG/PG STUDENTS IN TERMS OF THEIR EXPOSURE AND REALIZATION OF THE FACILTIES AT COA, JAU, JUNAGADH (CONTD.) (AY 2020-21 TO 2024-25 BATCHES)

4. Library facilities:

Copy chart

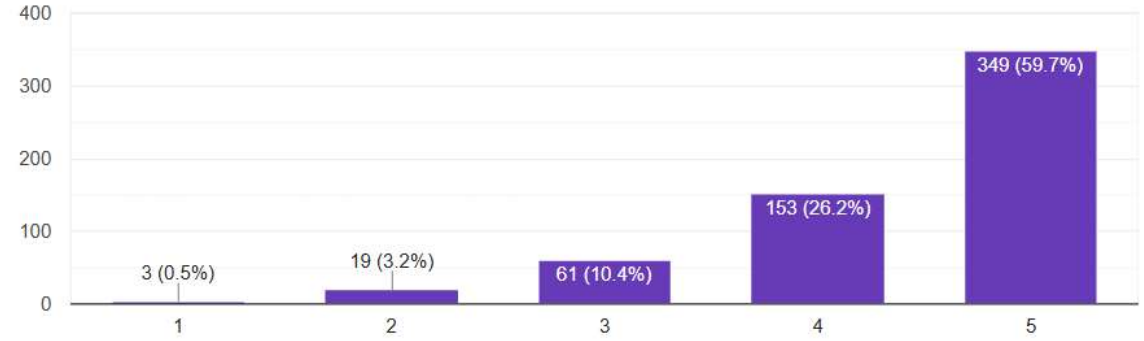
585 responses



5. Sports / extra-curricular activities orientation/ facilities:

Copy chart

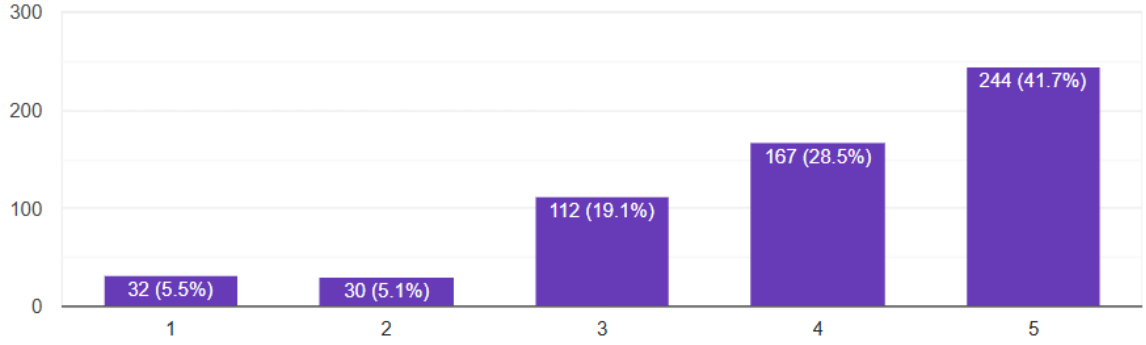
585 responses



6. Hostel accommodation/ Wi-Fi/ dining facilities:

Copy chart

585 responses



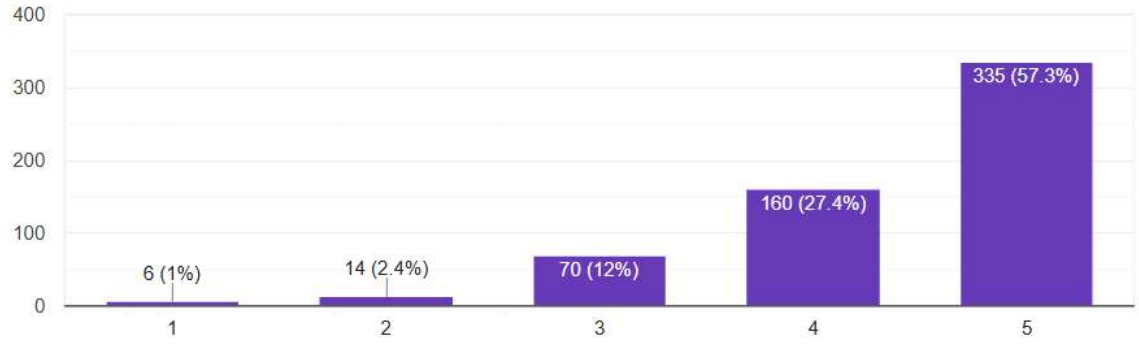
Annexure 6.4.7b: Feedback of stakeholders-Parents

FEEDBACK FROM THE PARENTS OF UG/PG STUDENTS IN TERMS OF THEIR EXPOSURE AND REALIZATION OF THE FACILTIES AT COA, JAU, JUNAGADH (CONTD.) (AY 2020-21 TO 2024-25 BATCHES)

7. Health centre facilities:

Copy chart

585 responses



8. Campus security:

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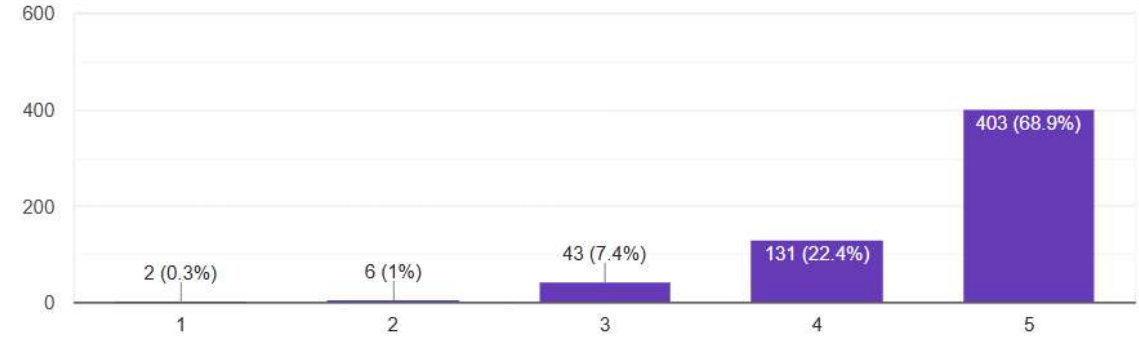
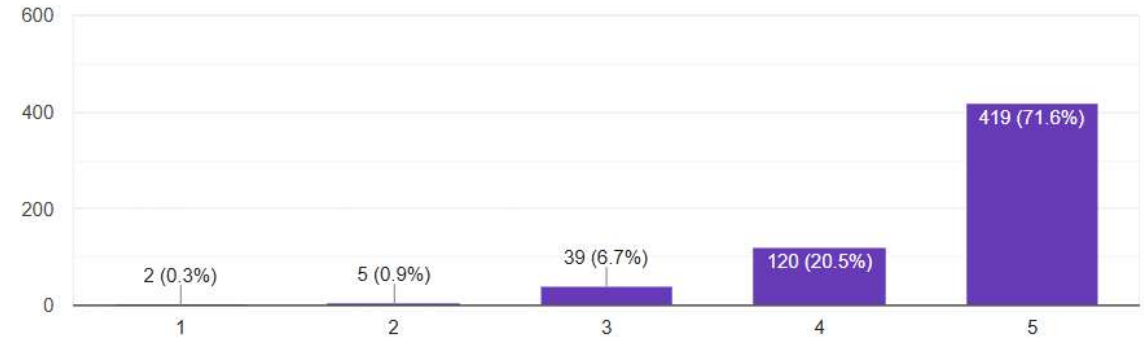
585 responses



9. Campus cleanliness:

Copy chart

585 responses



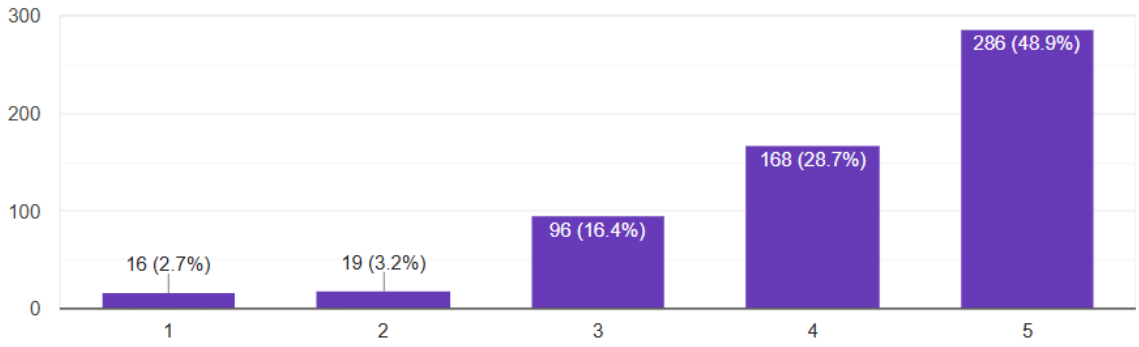
Annexure 6.4.7b: Feedback of stakeholders-Parents

FEEDBACK FROM THE PARENTS OF UG/PG STUDENTS IN TERMS OF THEIR EXPOSURE AND REALIZATION OF THE FACILTIES AT COA, JAU, JUNAGADH (CONTD.) (AY 2020-21 TO 2024-25 BATCHES)

10. Placement counselling / mentoring and guidance:

Copy chart

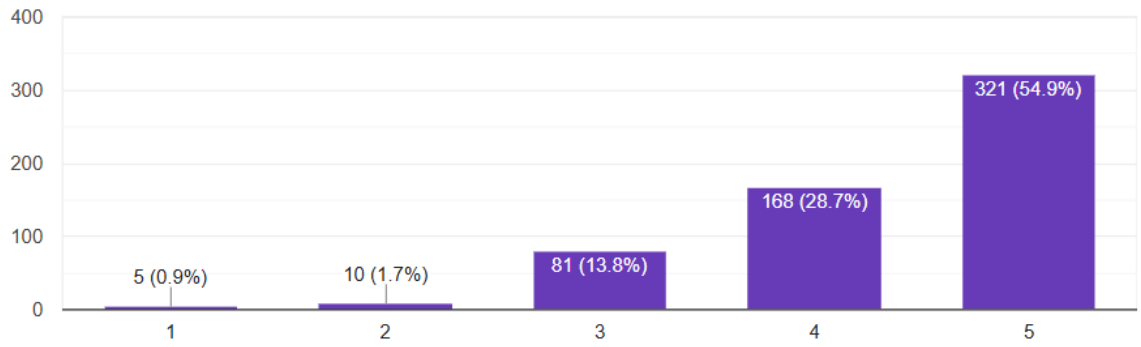
585 responses



11. Utilization of ICT tools in curriculum delivery: (information and communication technology / online / digital educational tools like Google Classroom, WhatsApp, etc.)

Copy chart

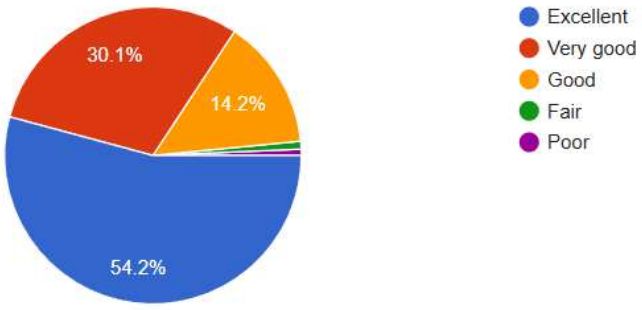
585 responses



12. Overall impression about the Department / College:

Copy chart

585 responses



Annexure 6.5.1a: Anti-Ragging Cell

Read : The Director of Student Welfare, JAU, JND Letter No.JAU/DSW/T.3/ragging/2634-40 (9)
Date : 14/07/2010

–: O F F I C E O R D E R :–

Senior Graduate & Post Graduate students of different colleges and polytechnics under Junagadh Agricultural University are found in the ragging of their junior students. As per the order by the court an **"Anti Ragging Squad"** is formed by College of Agriculture, JAU, Junagadh to stop this nuisance of Ragging. This squad will visit the hostel premises regularly from the every beginning of the First Semester and take due care that no unforeseen incident occurs, and the report of the same is to be submitted to the undersigned. The aforesaid order of the squad remains the same till the new order is issued.

S.N.	Name of Officers	Designatin & Department	Mob.No.
1.	Dr. D.S. Kelaiya (Convenor)	Professor & Head, Dept. of Pl. Pathology	87800 18541
2.	Dr. N.D. Polar (Member)	Rector, Hostel, College of Agriculture	94283 47112
3.	Dr. S.K. Bhuva (Member)	Asstt. Rector, Hostel, College of Agriculture & Asstt. Professor, Dept. of Horticulture	94272 46971
4.	Mr. Ramoliya Manav L (Member)	First Sem., B.Sc. (Hons.) Agri. Student	73832 85732
5.	Ms. Bhatt Krishnaben N (Member)	First Sem., B.Sc. (Hons.) Agri. Student	94093 28083
6.	Mr. Vadar Bhargav D (Member)	Seventh Sem., B.Sc. (Hons.) Agri. Student	93271 27680
7.	Ms. Vala Nistha U. (Member)	Seventh Sem., B.Sc. (Hons.) Agri. Student	99241 04190
8.	Mr. Borkhatariya Tejesh H. (Member)	Fourth Sem., Ph.D. (Agri.) Student	97232 43992
9.	Ms. Barad Bhumi D. (Member)	Fourth Sem., Ph.D. (Agri.) Student	72858 94465

No.JAU/PACJ/C-1-2/Ranging/ 9870-85 /2024
Junagadh, Date : 16.08.2024

Principal & Dean
College of Agriculture
JAU, Junagadh

Copy f.w.cs. to :
1. P.S. to Hon'bleVice Chancellor, Junagadh Agricultural University, Junagadh
2. The Director of Research & Dean PG Studies, Junagadh Agricultural University, Junagadh
3. The Registrar, Junagadh Agricultural University, Junagadh
4. The Director of Students Welfare, Junagadh Agricultural University, Junagadh

Copy to :
1. All the members of above committee. Through : Respective Office
2. Concerned students. Through : The Rector, Hostel, College of Agriculture, Junagadh
3. C-II Table of this office
4. P.A. to Principal... of this office.

Annexure 6.5.1a: Anti-Ragging Cell

Read : The Director of Student Welfare, JAU, JND Letter No.JAU/DSW/T.3/ragging/2634-40, Date : 14/07/2010

-: OFFICE ORDER :-

Senior Graduate and Post Graduate students of different colleges under JAU are found in the ragging of the junior students. To stop this nuisance in the hostel as well as College of Agriculture, JAU, Junagadh an **"Anti Ragging Committee"** is formed as per the instructions by the Supreme Court.

1.	Head of College / Principal	Dr. P.D. Kumawat, Principal & Dean, College of Agriculture	Convenor	74349 88547
2.	Representive of the Police Inspector / Police Sub Inspector	Police Sub Inspector, Gandhigram Police Station, Gandhigram, Junagadh.	Member	98245 78346
3.	Local Media	Shri Sunilbhai Navani, Editor, Kesri News, College Road, Junagadh.	Member	93760 01600
4.	Representive of NGO (Swami Vivekanand Centre, Junagadh)	Dr. D.M. Thakrar, 403, Giriraj Palace, Giriraj Society, Nr. Rameshvar Temple, B/h. Bus Stand, Jungaadh.	Member	94087 78520
5.	Representive of the Parents	Mr. Hirpara Kailashbhai Hardasbhai Block No-32, Thakarshi Nagar-2, Khalilpur Road, Joshipura, Junagadh.	Member	70167 10244
6.	Representive of the Senior Students	Mr. Vadar Bhargav Devdashbhai 7th Sem., B.Sc. (Hons.) Agri. Student	Member	93271 27680
7.	Representive of the Fresh Students	Ramoliya Manav Lalitbhai 1st Sem., B.Sc. (Hons.) Agri. Student	Member	73832 85732
8.	Non Teaching Staff	Shri M.C. Chauhan, Agri. Asstt., CoA, JND	Member	99250 27606
9.	Representive of the Civil Service	Deputy Director of Agriculture, Farming Training Centre, Sardarbaug, Junagadh.	Member	85111 24946
10.	Faculty Member / Professor	Dr. J.B. Patel, Professor & Head, Dept. Seed Science, CoA, JND.	Member	99090 55981

The committee will follow the instructions issued by the Supreme Court to avoid this nuisance of ragging and the Committee will remain the same till the new order is issued.

No.JAU/PACJ/C-1-2/Ranging/ 9886-9901 /2024
Junagadh, Date : 16.08.2024

Principal & Dean
College of Agriculture
JAU, Junagadh

Copy f.w.cs. to :
1. P.S. to Hon'ble Vice Chancellor, Junagadh Agricultural University, Junagadh
2. The Director of Research & Dean PG Studies, Junagadh Agricultural University, Junagadh
3. The Registrar, Junagadh Agricultural University, Junagadh
4. The Director of Students Welfare, Junagadh Agricultural University, Junagadh

Copy to :
1. All the members of above committee
2. The Rector, College of Agriculture Hostel, JAU, Junagadh
3. C-II Table of this office.

Annexure 6.5.1b: Gender Committee for the Prevention of Sexual Harassment of Women at Work Place

વંચાણે લીધા :– ૧. કુલસચિવશ્રી, જુ.કૃ.યુ., જુનાગઢના અંગ્રેજી જાહેરનામાં નં.જેએયુ/આરઈજી/એસીએ-૨/ડોલ.લેવલ/જેન્ડર કોમીટે/૧૮૧૫૬-૨૧૫, તારીખ : ૧૫/૧૦/૧૩

૨. અત્રેની કચેરીના પ.આ.નં.જુકૃયુ/ક્રમવિજુ/સી-૧-૨/શિસ્ત/૧૫૮૩-૯૫, તા.૩૦/૦૪/૨૦૨૪

૩. કુલસચિવશ્રી, જુકૃયુ, જુનાગઢના પત્ર નં.જુકૃયુ/૨૯૭/ઓસીએ-૨/જેન્ડર કમિટી/૪૩૩૮-૩૯, તારીખ : ૧૭/૦૬/૨૦૨૫.

-: ડા ર્યા લ ય આ દે શ :-

અત્રેની કોલેજમાં ફરજ બજાવતાં તમામ મહિલા અધિકારીશ્રીઓ / કર્મચારીશ્રીઓ / સ્નાતક અને અનુસ્નાતક કક્ષાએ અભ્યાસ કરતી વિદ્યાર્થીનીઓની બાતેય રાતામણી વિદ્યાર્થીઓ, શિક્ષકો કે અન્ય કર્મચારીઓ દ્વારા થતી અટકાવવા માટે ઉપરોકત વંચાણે લીધેલ-૧ જાહેરનામાં અન્વયે "જેન્ડર કમિટિ (કોલેજ લેવલ)"ની રચના કરવામાં આવે છે. જેમાં નીચે મુજબના સભ્યોની નિમણુંક કરવામાં આવે છે. સમિતિના સભ્યો પાસે કોઈપણ મહિલા અધિકારી / કર્મચારી કે વિદ્યાર્થીની કે તેમના વાલી તરફથી ઉપરોકત બાબતે રજુઆત થાય તો તાત્કાલિક સબંધિત વિદ્યાર્થી, શિક્ષક કે કર્મચારી સામે સખતમાં સખત પગલાં લેવા અંગે આથી સુચના આપવામાં આવે છે, જેનો ચુસ્તપણે અમલ કરવાનો રહેશે. આ સમિતિની નિમણુંક બીજો આદેશ ન થાય ત્યાં સુધી યથાવત રહેશે.

અ.નં.	અધિકારીનું નામ		હોદ્દો અને વિભાગ
૧.	ડો. પી.ડી. કુમાવત	(કન્વીનર)	આચાર્ય અને ડીનશ્રી, કૃષિ મહાવિદ્યાલય, જુનાગઢ.
૨.	ડો. લતા જે. રાવલ	(સભ્ય)	પ્રાધ્યાપક, જનીન વિદ્યા અને પાક સંવર્ધન વિભાગ, કૃષિ મહાવિદ્યાલય, જુનાગઢ.
૩.	કુ. વસોયા માનસી એચ.	(સભ્ય)	પીએચ.ડી., ચોથુ સેમેસ્ટર, કૃષિ મહાવિદ્યાલય, જુનાગઢ.
૪.	કુ. સ્નેહા એચ. શેખડા	(કો-ઓપ્ટ સભ્ય)	પી.એ., કૃષિ મહાવિદ્યાલય, જુનાગઢ.

જા.નં.જુકૃયુ/ક્રમવિજુ/સી-૧-૨/શિસ્ત/ ૭૬-૯૩-૫૬ /૨૦૨૫
જુનાગઢ, તારીખ : ૨૦/૦૬/૨૦૨૫

આચાર્ય અને ડીન
કૃષિ મહાવિદ્યાલય
જુ.કૃ.યુ., જુનાગઢ

નકલ સાંવેનય રવાના :–

૧. સંશોધન નિયામકશ્રી અને અનુસ્નાતક વિદ્યાશાખાધ્યક્ષશ્રી, જુનાગઢ કૃષિ યુનિવર્સીટી, જુનાગઢ
૨. કુલસચિવશ્રી, જુનાગઢ કૃષિ યુનિવર્સીટી, જુનાગઢ
૩. નિયામકશ્રી, વિદ્યાર્થી કલ્યાણ પ્રવૃતિઓ, જુનાગઢ કૃષિ યુનિવર્સીટી, જુનાગઢ
૪. કુલપતિશ્રીના રહસ્ય સચિવશ્રી, જુનાગઢ કૃષિ યુનિવર્સીટી, જુનાગઢ

નકલ જાણ તેમજ અમલ થવા સારૂ રવાના :–

૧. સબંધિત અધિકારીશ્રીઓ / કર્મચારી / વિદ્યાર્થીની તરફ... મારફત : તેમની કચેરી.
૨. આચાર્યશ્રીના અંગત મદદનીશ તરફ ...
૩. કોલેજ નોટીશ બોર્ડ
૪. હોસ્ટેલ નોટીશ બોર્ડ. મારફત : રેકટરશ્રી, કુ.મ.વિ. હોસ્ટેલ, જુ.કૃ.યુ., જુનાગઢ
૫. ગર્લ્સ હોસ્ટેલ નોટીશ બોર્ડ. મારફત : રેકટરશ્રી, કુ.મ.વિ. હોસ્ટેલ, જુ.કૃ.યુ., જુનાગઢ
૬. સ્નાતક / અનુસ્નાતક કક્ષાના તમામ વિદ્યાર્થીઓ તરફ .... મારફત : પોટસએપ ગ્રુપ

Annexure 6.5.1c: Student Advisory Committee

સ્ટુડન્ટસ એડવાઈઝરી કમિટિની રચના કરવા બાબત....

–: પ રિ પ ત્ર :–

આથી કૃષિ મહાવિદ્યાલય, જુનાગઢ તથા મોરબી (હાલ જુનાગઢ) ખાતે શૈક્ષણિક વર્ષ ૨૦૨૪–૨૫માં પ્રથમ સેમેસ્ટર, બી.એસસી. (ઓનર્સ) એગ્રી.માં પ્રવેશ મેળવેલ વિદ્યાર્થીઓની "સ્ટુડન્ટસ એડવાઈઝર" કમિટિની રચના કરવામાં આવે છે, જે અંતર્ગત દરેક એડવાઈઝર (શિક્ષકશ્રી) નીચે દસ–દસ વિદ્યાર્થીઓની ફાળવણી કરવામાં આવે છે. સબંધિત એડવાઈઝરશ્રીઓએ વિદ્યાર્થીઓની અભ્યાસકિય બાબતો તથા તેને લગતા પ્રશ્નો અંગે જરૂરી સલાહ / માર્ગદર્શન આપવા તથા હોસ્ટેલ ખાતે મુલાકાત લેવા જણાવવામાં આવે છે. આ અંગેનો રીપોર્ટ એડવાઈઝરશ્રીએ પોતાના વિભાગીય વડાશ્રીને રજુ કરવાનો રહેશે, તથા આ પ્રકારના આવેલ રીપોર્ટ વિભાગીય વડાશ્રીએ નીચે સહી કરનારને મોકલી આપી અને તેની નકલ માન. કુલપતિશ્રીના રહસ્ય સચિવશ્રીને પણ મોકલવાની રહેશે. સબંધિત વિદ્યાર્થીઓએ પણ પોતાના એડવાઈઝરશ્રીની નિયમીત મુલાકાત લેવાની રહેશે તથા શિક્ષણને લગતા તથા અન્ય જો કોઈ પ્રશ્નો હોય તો તેઓશ્રીનું માર્ગદર્શન મેળવવાનું રહેશે.

વધુમાં, માન. કુલપતિશ્રી, જૂ.કૃ.યુ., જૂનાગઢના સુચન મુજબ તમામ વિભાગીય વડાશ્રીઓએ પણ સમયાંતરે હોસ્ટેલોની મુલાકાત લેવી તથા વિદ્યાર્થીઓને મળી તેમની સાથે ગોષ્ઠિ યોજી તેમના જો કોઈ પ્રશ્નો હોય તો તેનું નિરાકરણ થઈ શકે તે માટે જરૂરી કાર્યવાહી હાથ ધરવા આથી જણાવવામાં આવે છે.

જા.નં.જુકૃયુ/કૃમવિજુ/સી–૧/સ્ટુ.એડવા./ ૧૪૧૫૯-૧૯૫ /૨૦૨૪
જુનાગઢ, તારીખ : 30/૧૧/૨૦૨૪

આચાર્ય અને ડીન વતી
કૃષિ મહાવિદ્યાલય
જુ.કૃ.યુ., જુનાગઢ

નકલ સવિનય રવાના : જાણ સારૂ :–
૧. માન. કુલપતિશ્રીના રહસ્ય સચિવશ્રી, જુનાગઢ કૃષિ યુનિવર્સિટી, જુનાગઢ.
૨. કુલસચિવશ્રી, જુનાગઢ કૃષિ યુનિવર્સિટી, જુનાગઢ.

નકલ જયભારત રવાના : જાણ સારૂ :–
નિયામકશ્રી, વિદ્યાર્થી કલ્યાણ પ્રવૃત્તિઓ, જુનાગઢ કૃષિ યુનિવર્સિટી, જુનાગઢ.

નકલ રવાના : જાણ તેમજ અમલ થવા સારૂ :–
૧. આ કચેરીની નિયંત્રણ હેઠળના તમામ વિભાગીય વડાશ્રીઓ તરફ.
૨. તમામ સ્ટુડન્ટસ એડવાઈઝરશ્રીઓ તરફ ... મારફત : તેમની કચેરી.
૩. જુનાગઢ તથા મોરબી કોલેજના પ્રથમ સેમેસ્ટર, બી.એસસી. (ઓનર્સ) એગ્રી.ના વિદ્યાર્થીઓ તરફ.
૪. આચાર્યશ્રી, કૃષિ મહાવિદ્યાલય, જુ.કૃ.યુ., મોરબી (હાલ જુનાગઢ)

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FIRST SEMESTER, B.SC. (HONS.) AGRICULTURE, COA, JUNAGADH

S.N.	Name of Students	Name of Advisor, Designation & Dept.
1	AANAND PATEL	Dr. M.H. Sapovadiya Asstt. Professor Dept. of Gene. & Pl. Breeding
2	ABHISHEK RUPALA	
3	AJAY CHANDRAPAL	
4	AMBALIYA KAUSHIK RAMBHAI	
5	AMRUTIYA HET CHANDULAL	
6	ANKIT	
7	ASODARIYA BHARGAVKUMAR VIJAYBHAI	
8	ASWAR NAYNES LAKHUBHAI	
9	BAMANIYA DHAVALKUMAR KARSHANBHAI	
10	BARAIYA MILAN ASHOKBHAI	
11	BERIYA DHARMESHKUMAR JAGMALBHAI	Dr. A.S. Jadeja Asstt. Professor, Dept. of Ag. Chemistry
12	BHAKHAR OMKUMAR VIJAYBHAI	
13	CHAREL MANISHKUMAR LALITBHAI	
14	CHARLA PUNABHAI NAVGHANBHAI	
15	CHARNIYA SOHIL LAKHABHAI	
16	CHARPOT PRINCEKUMAR RAKESHBHAI	
17	CHAUDHARI ARPITBHAI MAHESHBAHI	
18	CHAUDHARI BRIJESH RAMABHAI	
19	CHAUDHARI KARMIT ATULBHAI	
20	CHAUHAN ALPESHBHAI RAMESHBHAI	
21	CHAUHAN HARSHADKUMAR DULABHAI	Dr. P.J. Rathod Asstt. Professor, Dept. of Biotechnology
22	CHAUHAN PRUTHVIRAJ PRAVINBHAI	
23	CHAUHAN SHREYANSH SHAILESHBHAI	
24	CHAVDA RAHUL ARVINDBHAI	
25	DANGAR DHARMESHKUMAR RAVABHAI	
26	DEEPAK PAL	
27	DEEPAK SINGH	
28	DHARMESH HIRABHAI BHOLA	
29	DHRANGU VINITKUMAR RAMBHAI	
30	FUL MAHAVIRSINH SHANKUBHA	
31	GADHAVARA MOH. AZMAL MUSTUFA	Prof. R.L. Chitroda Asstt. Professor, Dept. of Horticulture
32	GAJIPARA JENIL HEMANTBHAI	
33	GONDALIYA DIKSHIT ASHVINBHAI	
34	GONDALIYA TIRTH NAVANITBHAI	
35	GOPAL RAM	
36	HEMANANDA DAS	
37	HUN RAMBHAI HIRABHAI	
38	JADAV TUSHAR LAKHUBHAI	
39	JADEJA SHIVRAJSINH BHAGIRATHSINH	
40	JADEJA VISHVRAJSINH VEERBHADRASINH	
41	JAJADA HARAPALBHAI AMARUBHAI	Dr. M.S. Sitap Asstt. Professor, Dept. of Ag.Statistics
42	KAILA MANAN SANJAYBHAI	
43	KARAMTA SMIT NARAN	
44	KARATHIYA JIGNESH VASHARAMBHAI	
45	KATARA AXAYKUMAR RAJUBHAI	
46	KATARA SANJAY RAMBHAI	
47	KETAN VANSH	
48	KEVINKUMAR JAKASANIYA	
49	KHUNT NEEV DEVENDRABHAI	
50	KISHOR SINGH	

P.T.O.

... 2 ...

S.N.	Name of Students	Name of Advisor, Designation & Dept.
51	LUNAGARIYA HET DILIPBHAI	Prof. A.P. Prajapati Asstt. Professor Dept. of Ag.Statistics
52	MAKWANA DIVYANSHU SUBHASHBHAI	
53	MODHVADIA DEVANG ARJANBHAI	
54	MOVALIYA HARSH GOVINDBHAI	
55	NAVEEN E B	
56	NAVEEN GOSWAMI	
57	ODEDARA BHAGIRATH KESHUBHAI	
58	ODEDARA ROHIT CHHAGANBHAI	
59	PAMPANIYA PRASHANT DEVSIBHAI	
60	PARAJIYA ANAND RAMESHBHAI	
61	PARMAR MOHIT KAUSHIKBHAI	Dr. S.J. Sindhi Asstt. Professor, Dept. of Agronomy
62	PARMAR SUJAL DEVDASBHAI	
63	PATEL SAHILKUMAR JAYESHBHAI	
64	PATEL SHREYANK MANISHBHAI	
65	PRADUM PATEL	
66	RAHUL	
67	RAM DIVYESH JAGMALBHAI	
68	RAM KAUSHAL RAMESHBHAI	
69	RAMOLIYA MANAV LALITBHAI	
70	RATHOD JIGNESHKUMAR VASRAMBHAI	
71	SAKHIYA HARSHIL JAGDISH	Dr. K.K. Kanzaria Asstt. Professor Dept. of Pl. Pathology
72	SANGANI ANS PARSHOTAMBHAI	
73	SHEFATRA MATHUR RAJUBHAI	
74	SINOJIYA JEEL BHAVINBHAI	
75	SOJITRA UTSAV VIPULBHAI	
76	SOLANKI ARYANKUMAR LAKHAMANBHAI	
77	SOLANKI GAURAVBHAI KHODABHAI	
78	SOLANKI SARTHAK VIJAYBHAI	
79	SOSA DARSHAKKUMAR RAMBHAI	
80	TUSHAR TANKDA	
81	VADHER DIVYENKUMAR NARANBHAI	Dr. A.V. Rajani Asstt. Professor, Dept. of Ag. Chemistry
82	VAINSH JALDIPSINH BHARATBHAI	
83	VALA ARYAN KHIMJIBHAI	
84	VALA BHAVDIP VAJUBHAI	
85	VASAVA TIMOTHY SHANKARBHAI	
86	VIKASH SINGLA	
87	VIRADIYA MANTHAN JAYESHBHAI	
88	YOGESH KUMAR	
89	ZALA YUVRAJSINH JESINGBHAI	
90	ZAMPADIYA NITINBHAI RAMESHBHAI	
91	AJAY SINGH	Dr. M.V. Parakhia Asstt. Professor, Dept. of Biotechnology
92	ANUJ	
93	BHAVESH PATEL	
94	DEV BAGHEL	
95	MANOJ SAINI	
96	VISHAL SHARMA	

FIRST SEMESTER, B.SC. (HONS.) AGRICULTURE, COA, MORBI

1	BAMROTIYA DHARMIK BHARATBHAI	Dr. M.V. Parakhia Asstt. Professor, Dept. of Biotechnology
2	BARAD MAYANKKUMAR RAJESHBHAI	
3	BARVADIYA DHRUV SANJAYBHAI	
4	BHAJGOTAR MEHUL JAYSUKHBHAI	

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S.N.	Name of Students	Name of Advisor, Designation & Dept.
5	BUTANI ARYANBHAI UMESHBHAI	Dr. Rajiv Kumar Asstt. Professor, Dept. of Pl. Bre. & Genetics
6	CHAUDHARI SAHILBHAI CHANDRASINHBHAI	
7	CHAUDHARY HARSHILKUMAR RAMESHBHAI	
8	CHOVATIYA PRINCE ASHVINBHAI	
9	DHANJA POOJANKUMAR KAILASHBHAI	
10	DODIYA DHRUVBHAI HARESHBHAI	
11	FAGA ANIRUDDH HALUBHAI	
12	JADEJA MEETRAJSINH	
13	KALSARIYA JAYDIP DHANJIBHAI	
14	KHUNTAD PRITAM BHUPATBHAI	
15	NAKUM HARPIT ANILBHAI	
16	NAKUM YASH MUKESHBHAI	
17	PADHIYAR ARYA MANSINH	Dr. S.B. Chaudhari Asstt. Professor, Dept. of Pl. Bre. & Genetics
18	PARMAR AMITKUMAR PRAVINBHAI	
19	PATEL CHANDRAMANIBHAI VINODBHAI	
20	RAKHOLIA RAXIT VINAYCHANDRA	
21	SARDHARA NIKUNJ RAJINBHAI	
22	SOLANKI MAHENDRABHAI DUDABHAI	
23	TERAIYA HARSH NATVARLAL	
24	VAGHELA VIMAL RAJESHBHAI	
25	ZALA KAVANKUMAR BHUPATBHAI	
26	ZALA MIT KANAKSINHBHAI	

FIRST SEMESTER, B.SC. (HONS.) AGRICULTURE, COA, JUNAGADH

1	ADITI KUMARI	Prof. Shivani R Patel, Asstt. Professor, Dept. of Ag. Entomology
2	AMRITA RANJAN	
3	BALASARA MANSI VASANBHAI	
4	BAMANIYA CHETANABEN KALUBHAI	
5	BARAD AMISHABEN BALUBHAI	
6	BARAD SURBHIBEN PRATAPBHAI	
7	BARIA NAVANSHI ASHOKBHAI	
8	BAVDA RIDDHI RAGHUBHAI	
9	BHATT KRISHNABEN NARESHBHAI	
10	BHAVNA JHA	
11	BHEDA DEVANGIBEN RAMESHBHAI	
12	BHETARIYA SNEHAL KALPESHBHAI	
13	BHOLA SEJALBEN LAKHMANBHAI	Prof. Poonam I Jetpara, Asstt. Professor, Dept. of Ag. Chemistry
14	BORICHA MITALI ARUNBHAI	
15	CHAUHAN MANASVIBEN ASHVINBHAI	
16	DAKI DHARTIBEN KARSHANBHAI	
17	DAVE BANSHIBEN SHAILESHBHAI	
18	DEVAYANI A	
19	DIVARANIYA JASHU JADAVBHAI	
20	DIVRANIYA BHOOMI MOHANBHAI	
21	DODIYA KRISHNABEN SANJAYBHAI	
22	GAMIT PRIYANSHIBEN ASHOKBHAI	
23	GANGURDE SHWETABEN MANHARBHAI	
24	GANVIT TANVIBEN NAGINBHAI	

P.T.O.

... 4 ...

S.N.	Name of Students	Name of Advisor, Designation & Dept.
25	GONDALIYA SUHANI PRAFULBHAI	Prof. Jyoti R Sondrava, Asstt. Professor, Dept. of Seed Science
26	JAKHOTRA BHAVANABEN RAMSHIBHAI	
27	KAMALIYA BHAGVATIBEN RAMASIBHAI	
28	KANANI KRISHNA SANJAYBHAI	
29	KANASAGARA DHARMIBEN ARVINDBHAI	
30	KHANDEKA MANASVI VIJAYBHAI	
31	KHER KRUPA JAGDISHBHAI	
32	KHUNT NIDHI VITTHALBHAI	
33	KOCHARA DHRUVIBEN RUPSINH	
34	MADAM SIDHDHIBEN GOPALBHAI	
35	MAHIDA KIRTIBEN SURESHBHAI	
36	MAKADIYA MONIKABEN ARASHIBHAI	Dr. Sradhha B. Bhatt, Asstt. Professor, Dept. of Biotechnology
37	MAKAVANA RENUKABEN DILIPBHAI	
38	MORI DEVANGIBEN KARANSINHBHAI	
39	MS.DIKSHA KUMARI PATIDAR	
40	MS.KHUSHI YADAV	
41	MS.MANISHA KUMARI	
42	NAKUM JAIMINIBEN ASHOKBHAI	
43	NANDANIYA BRINKALBEN RAJABHAI	
44	NANDANIYA DIVYABEN GOGANBHAI	
45	NISHA	
46	PADARIYA RIYA DILIPBHAI	
47	PAMPANIYA ANJANABEN ASHVINBHAI	Dr. Sujata J Parmar Asstt. Professor Dept. of Ag. Extension
48	PANDYA JEELBEN ARUNBHAI	
49	PARMAR ASTHABEN GIRISHBHAI	
50	PARMAR RUTVABEN RANJITBHAI	
51	PARMAR TANISHABEN MAHIPATBHAI	
52	PATHAR DRASHTI HEMANTBHAI	
53	PAWAR SHREYABEN CHUNILAL	
54	PITHIYA MAHEK JAGMALBHAI	
55	PRACHI KUMARI	
56	PUROHIT VISHITA BIPIN	
57	REENABEN PATHAR	
58	RUBINA AKHTAR	Prof. Puffy I Dave Asstt. Professor Dept. of Ag. Extension
59	SANDRA M E	
60	SAVALIYA TRUSHA VIJAYBHAI	
61	SHILPA KUMARI SAW	
62	SIDPARA HETVI HARESHBHAI	
63	SOLANKI DARSHANA HARSUKHBHAI	
64	SUHANI VAGH	
65	SUVA HAPPY ARVINDBHAI	
66	SUVA JAHAL MALDEBHAI	
67	VADHAVANA NANCY AMRUTLAL	
68	VAGHERA RINKAL KISHORBHAI	

... 5 ...

S.N.	Name of Students	Name of Advisor, Designation & Dept.
69	VANIYA VIBHUTIBEN SHIVDHANBHAI	Dr. Lata J Raval Asso. Professor Dept. of Gene. & Pl. Breeding
70	VARU VISHWA PARBATBHAI	
71	VAZA BHAVIKABEN PUNABHAI	
72	VIRADIYA KRUPALI TUSHARBHAI	

FIRST SEMESTER, B.SC. (HONS.) AGRICULTURE, COA, MORBI

1	BALDHA DISHA KETANKUMAR	Dr. Lata J Raval Asso. Professor Dept. of Gene. & Pl. Breeding
2	CHANDERA NIRALI NARANBHAI	
3	CHAUDHARI ARZUKUMARI RAKESHBHAI	
4	MARU NITISHA DEVAYATBHAI	
5	NANDANIYA DRASHTI MALDEBHAI	
6	PATEL JHANVIKUMARI UMESHBHAI	
7	PATEL RINKALBEN MANABHAI	

Principal & Dean
College of Agriculture
JAU, Junagadh

ACADEMIC ACTIVITIES

Theory Class in Progress for U.G. Students

Harvesting Carried Out by UG students

Mushroom Cultivation by UG students

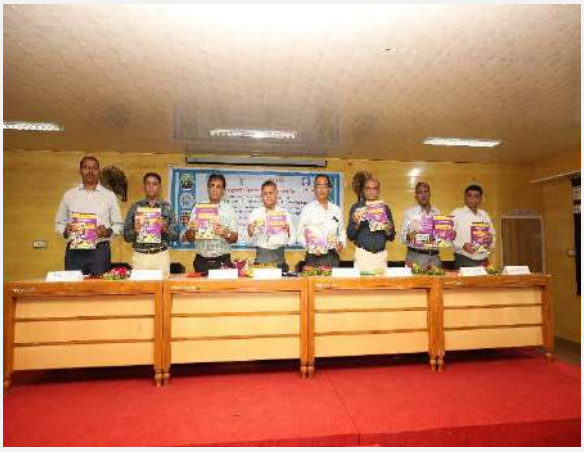
Roughing Activities by UG students in ELP

UG Students Working at Biotechnology lab

Inoculation Process by UG Students in ELP

NAHEP-IDP ACTIVITIES DURING THE ASSESSMENT PERIOD

Training Programme on 'Combating the Disease of Field and Horticultural Crops'



Vocational Training Programme on 'Medicinal and Arometic Plants'

Guest Lectures on 'Career and Entrepreneurial Opportunities for Agricultural Graduates in Commodity Markets'

One of the Succesful International Training Batch of Students of CoA, JAU, Junagadh under IDP-NAHEP

Vocational Training Programme on 'Soil Testing Lab as an Entrepreneurip/ Business Opportunity'

A Leadership Training Programme for UG Students in Progress under NAHEP-IDP

INFRASTRUCTURAL FACILITIES

Smart Classroom

UG Boys' Hostel

UG Girls' Hostel

UG Boys' Hostel

University Library

Indoor Sports Complex

SPORTS & CULTURAL ACTIVITIES

Inter-College Cultural Competition

Gujarat State Inter-Agricultural University Cultural & Literary Competition

Inter-College Kho-Kho Tournament

Inter-College Volleyball Tournament

Inter-College Kabaddi Tournament

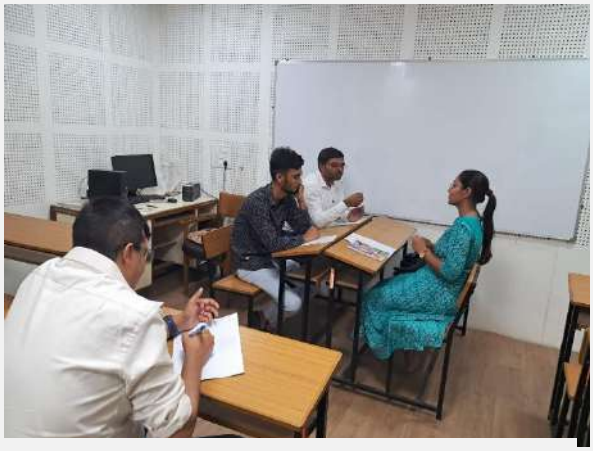
Inter-College Cricket Tournament

STUDENT COUNSELLING AND PLACEMENT CELL (SCPC)

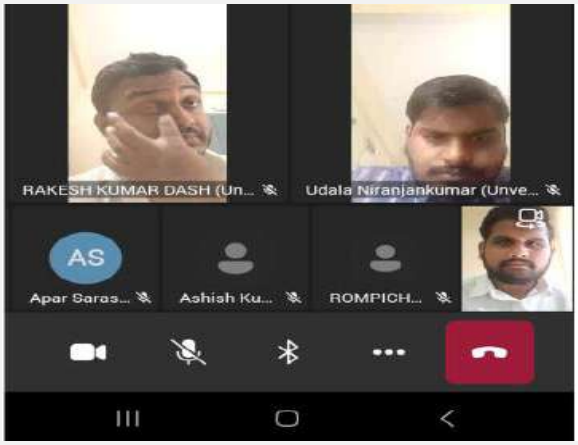
Personal Interview Round of Agro Vikas Pvt. Ltd., Gandhinagar (06/02/2023)

Orientation session of GSFC Agrotech Ltd., Vadodara organized by SCPC, CoA, JAU, Junagadh (13/04/2024)

An interactive session with the Placement Officials from Gharda Chemicals Ltd., Mumbai ((19/04/2022)



Group discussion round of the shortlisted students for Viterra India Pvt. Ltd. Mumbai (31/05/2024)



Online interview session of PI Industries, Gurgaon (18-07-2025)

Online test for executive positions of Pratik Industries, Maharashtra (12-02-2025)

Dignitaries' Visits

Students Involved in Grading of Produce

Farmers' Field Visits

PG Research Supervision

College of Agriculture

Junagadh Agricultural University

Junagadh -362001

Gujarat