HALF YEAR REPORT (2009-10)

1. GENERAL INFORMATION ABOUT THE KVK

1.1. Name and address of KVK with phone, fax and e-mail

Address	Telephone		E mail	Web Address
Krishi Vigyan Kendra, Junagadh Agricultural University, Targhadia, Dist.: Rajkot (Gujarat) - 360 003	Office (0281) 2784170	FAX (0281) 2784170	kvkrajkot@gmail.com	www.jau.in

1.2 .Name and address of host organization with phone, fax and e-mail

Address	Telephone		E mail
	Office	FAX	
Junagadh Agricultural University, Junagadh (Gujarat)	0285-2672080	0285-2672653	dee@jau.in

1.3. Name of the Programme Coordinator with phone & mobile No.

Name	Telephone / Contact		
	Residence	Mobile	Email
Dr. B. B. Kabaria	"Ramdoot" B-17, Aalap Century, Kalawad road, Rajkot – 360 005	09374202518	drkabaria@gmail.com

1.4. Year of sanction: September - 2004

1.5. Staff Position (as on 31st March 2010)

Sr. No.	Sanctioned post	Name of the incumbent	Designation	Discipline	Pay Scale (Rs.)	present basic (Rs.)	Date of joining	Permanent /Temporary	Category (SC/ST/ OBC/ Others)
1	2	3	4	5	6	7	8	9	10
1	Prog. Co.	Dr. B. B. Kabaria	Programme Coordinator	Agril. Ento.	12000-18300 (emp scal) 16400-22400	18650	15-09-06	Permanent	General
2	SMS	Dr. J.B. Kathiriya	SMS (Ani. Sci)	Ani Sci.	8000-13500	8000	19-08-06	Permanent	General
3	SMS	Shri M.G. Khokhani	SMS (Agron)	Agron.	8000-13500 (emp scal) 12000-18300	14940	20-6-09	Permanent	General
4	SMS	Shri D.A.Sardava	SMS (Plant Prot.)	Agril. Ento.	8000-13500	9650	27-6-09	Permanent	General
1	2	3	4	5	6	7	8	9	10

5	SMS	Dr. N.D. Polara	SMS (Horti)	Horti	8000-13500	9925	18-08-06	Permanent	General
6	SMS	Shri. D.P. Sanepara	SMS (Agril. Engg.)	Agri. Eng.	8000-13500	10200	1-6-09	Permanent	General
7	SMS	Mrs.H.H. Padsumbiya	SMS (Home Sci)	Home Sci.	8000-13500	8000	17-08-06	Permanent	General
8	Pro. Ass.	Shri.J.K. Rachhadiya	Programme Assistant (Training)	-	5500-9000	8125	01-06-09	Permanent	General
9	Com. Prog.	Miss. R.T. Padliya	Programme Assistant/ Computer Operator	-	5500-9000	4500 (Fix)	03-1-09	Permanent	General
10	Farm Man.	Vacant	Programme Assistant(Farm Manager)	-	5500-9000	-	-	-	
11	Acc. / Sup.	Shri. J. B. Bhatt	Offi. Sup. Cum A/c. Officer	-	5500-9000 (emp scal) 5000-8000	7250	14-09-06	Permanent	General
12	Stenog	Shri B.J. Lalkiya	Junior Steno	-	4000-6000 (emp scal) 5000-8000	5750	01-05-07	Permanent	General
13	Driver	Shri. B.K. Gondaliya	Jeep Driver-Cum Mechanic	-	3050-4590 (emp scal) 4000-6000	5400	11-09-08	Permanent	OBC
14	Driver	Shri.D.K. Makwana	Jeep Driver-Cum Mechanic	-	3050-4590	4110	01-07-06	Permanent	OBC
15	Supp staff	Smt.U.G.. Zala	Supporting Staff	-	2550-3200	3140	16-09-04	Permanent	General
16	Supp staff	Shri Y.B.Joshi	Supporting Staff	-	2550-3200 (emp scal) 2610-3540	3540	2-6-09	Permanent	General

1.6. Total land with KVK (in ha) :

Sr. No.	Item	Area (ha)
1	Under Buildings	1.00
2.	Under Demonstration Units	3.50
3.	Under Crops	9.00
4.	Orchard/Agro-forestry	6.00
5.	Others	0.50

1.7. Infrastructural Development:

A) Buildings : **-**

Sr. No	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expe-nditure (Rs.)	Starting Date	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	KVK				March-10	550	Construction work is under progress
2.	Farmers Hostel	KVK				March-10	305	
3.	Staff Quarters (6)	KVK				March-10	400	
4.	Poly House	RKVY	31-3-09	320	281602			
5	Net House	RKVY	31-3-09	150	64498			
6.	Farm godown	RKVY	9-2-10	70.61	454500			
7.	Training hall	RKVY	11-2-10	190.99	1395800			
8.	Process plant	RKVY	11-2-10	197.31	1536400			
9.	Implement shed	RKVY	9-2-10	77.33	297800			

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Toyota Qualis	2004	590000	-	Working at junagadh on pooled basis
Tata Sumo	2008	600000	58000	Purchase from MP grant

C) Equipments & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
Generator set	27-3-2002	24900	Working
Color TV (Akai) with Remote	27-3-2002	13850	Working
EPBAX system	27-3-2002	29000	Working
With wiring PVC fitting	27-3-2002	7200	Working
Jelly Cable	27-3-2002	3600	Working
Btel Telephone Skipper	27-3-2002	5625	Working
BPL Telephone	27-3-2002	1300	Working
MDFL Box	27-3-2002	300	Working
Panasonic PT LC 50 LCD Project	28-3-2002	164368	Working
PA Audio Vision System	28-3-2002	20000	Working

1.8. A). Details SAC meeting conducted in the year

Sr. No.	Date	Name and Designation of Participants	Salient Recommendations	Action taken
1	10/09/09	1. Dr.R.L.Savaliya, Director of Extension Education, JAU, Junagadh 2. Dr. A.U. Dhruj, Associate Director of Research ., JAU 3. Dr. B.B. Kabaria, T.O., Targhadia 4. Dr.M.K.Khistariya, ADR (DF),Targhadia 5. Dr. D.B. Gajera, Dist. Agri. Officer, Rajkot 6. Dr.V.S.Ajudia, Assit. Dire.of A.H, Rajkot 7. B. B. Daslaniya, A.I.R.,Rajkot 8. J. R. Patel, Assi. Dir. Horti., Rajkot 9. G.H. Raouji, GLDC, Rajkot 10. Dr. D.S.Kelaiya, Junagadh 11 Dr. K. P. Baraiya, T.O., Jamnagar 12. H. M. Bhuva, SMS, Nana Kandhasar 13. Alpaben Saipariya, Farm woman, Rataiya 14. Hareshbhai Saipariya, Prog. Farmer, Rataiya 15. Damjibhai Vora, Prog. Farmer, Devgam	The photographs of FLDs should be self indicated with banners.	Suggestion accepted & Implemented
			Training must be organized for farmers' on motivation to micro irrigation systems.	Suggestion accepted & Implemented
			To take FLDs on soybeans and also as an inter crop with cotton.	Suggestion accepted & Implemented
			To conduct the training on silent heat in Animals	Suggestion accepted & Implemented

2. DETAILS OF DISTRICT (2009-10)

2.1. Major farming systems/enterprises (based on the analysis made by the KVK)

Sr. No	Farming system/enterprise
1	Groundnut – Wheat/ Cumin, Cotton – Summer Groundnut/ Pulse crop
2	Dairy product
3	Vermi-composting
4	Fruit, Vegetable Preservation
5	Value addition in Groundnut, Til and Bajra

2.2 Description of Agro-climatic Zone & major agro ecological situations (based on soil and topography)

Sr. No	Agro-climatic Zone	Characteristics
1.	North Saurashtra Agro Climatic Zone (VI)	The total geographical area of the North Saurashtra Agro Climatic Zone is 35.2 Lack Ha. Out of total area, 73.40 per cent area falls under arid and semi-arid region. The soils of this zone are shallow to moderately deep. The soils of Rajkot district is medium in their availability of nitrogen while low in phosphorus and high in available potash except the available phosphorus and potash is in medium category in adopted villages. Monsoon commences usually by the middle of June and withdraws by middle of September. Average annual rainfall of districts is 459.5 mm.

Sr. No	Agro ecological situation	Characteristics	Taluka Covered*

1.	Medium Black Soil with 500-600 mm Rainfall (Situation No. 2)	-	Gondal, Jamkandorna
2.	Shallow black soil with 500-600 mm Rainfall (Situation No. 4)	-	Lodhika, Padadhari, Rajkot, Kotada sangani
3.	Residual Sandy Soils with 500-600 mm Rainfall (Situation No. 7)	-	Morbi, Vankaner, Tankara, Maliya
4.	Hilly Soils with 500-600 mm Rainfall (Situation No. 14)	-	Jasdan

- Jetpur, Dhoraji and Upleta Taluka falls under the South Saurashtra (VII) Agro – Climatic Zone

2.3 Soil type/s

Sr. No	Soil type	Characteristics	Area in ('000) ha
1.	Clay to clay loam	Medium black calcareous soil	258
2.	Sandy Clay Loam to Clayey	Well drained soil with rapid permeability	301
3.	Sandy to Sandy 10 cm, Calcareous	Well drained soils	

2.4. Area, Production and Productivity of major crops cultivated in the district (2008-09)

Sr. No	Crop	Area (ha)	Production (MT)	Productivity (Kg. /ha)
***Kharif* Season**				
1.	Groundnut	350560	513189.9	1463.91
2.	Cotton (*Bt.*)	267375	581455.4	2174.68
3.	Cotton (Desi)	31811	35644.5	112.51
4.	Pearl Millet	9831	10626.75	1080.94
5.	Sorghum	50	50.00	1000.00
6.	Sesamum	26318	10080.00	383.01
7.	Castor	12825	36997.90	2884.83
8.	Pegion pea	630	579.73	920.20
9.	Black gram	3523	1066.18	302.63
10.	Green gram	3295	1188.95	360.83
Rabi Season				
1.	Wheat	111021	373429.5	3363.59
2.	Mustard	237	254.14	2072.32
3.	Cumin	34604	20431.90	590.45
4.	Vegetable	6428	30831	4796.36
5.	Onion	9171	267641	29183.4
6.	Garlic	11617	85504.5	7360.29

2.5. Weather data (2009-10)

Month	Rainfall (mm)	Temperature ^{0} C		Relative Humidity (%)
		Maximum	Minimum	
October- 2009	0.0	20.80	35.87	79.75
November-2009	0.0	17.92	33.55	64.00
December-2009	0.0	14.18	30.26	65.40
January – 2010	0.0	12.95	29.62	63.75
February -2010	0.0	14.78	32.28	60.60
March - 2010	0.0	38.1	20.1	60.00

2.6. Production and productivity of livestock, Poultry, Fisheries etc. in the district

Category	Population	Production ('000 tone)	Productivity
1	**2**	**3**	**4**
Cattle			
Crossbred	14866	13.73	
Indigenous	424342	134018	
Buffalo	273953	206.82	
Sheep			
Crossbred			
Indigenous	274546		
Goats	218139	10.61	
Pigs			
Crossbred			
Indigenous	23044		
Rabbits			
1	**2**	**3**	**4**
Poultry			
Hens			
Desi	5930		
Improved	126137		
Ducks	50		
Others			
Horse and Camel	792		

Category	Area	Production	Productivity
Fish			
Marine			
Inland			
Prawn			
Scampi			
Shrimp			

2.6 Details of Operational area / Villages (2009-10)

Sr. No.	Taluka	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1	Rajkot	Cluster I	Ranpur	Groundnut, Cotton, Sesamum, Green gram, Black Gram. Wheat, Cumin, Chickpea, Garlic, Onion. Enterprises are dairy business, vermi composting, preparation of roasted groundnut and chikki from groundnut seed.	Heavy infestation of sucking pest in cotton, Sesamum leaf blight, Stem rot disease in Groundnut, Long inter-calving period in Buffalo, Nutritional deficiency in animal feed and fodder, Less area under Horticultural crops. Low “N” in soil.	*IPM and INM in major crops of this area *Reducing the inter-calving period in Buffalo *Motivate the farmers for arid Horticultural crops. * To create the awareness for grading, processing and marketing (value addition)
			Magharvada			
			Deroi			
			Bedla			
			Khorana			
2	Paddhari	Cluster II	Metoda			
			Sarapdad			
			Kerala			
			Nani Amreli			
			Suvag			
3	Wankaner	Cluster III	Mesariya			
			Ratadiya			
			Samdhiyala			
			Kothi			
			Jalida			

2.7 Priority thrust areas

Crop/Enterprise	Thrust area
Groundnut, Sesamum etc	Increasing the productivity of the major crops by adopting recommended dry farming technologies and to create awareness for value addition.
Water conservation	*In situ* soil moisture conservation and rainwater harvesting.
Cotton	Motivating cotton growers to adopt IPM and INM practices for reducing the cost of production.
Arid Fruits	Promoting the arid horticulture.
Livestock prod.	Enhancing productivity of milch animals by proper feeding and breeding management.
women empowerment	Providing self employment through skill oriented income generating activities
Agriculture	Developing interest among youth for agriculture as a profession.
Horticulture	Value addition in agriculture produces through proper grading, processing, marketing and information technology.
PHT	Minimizing the post harvest losses and to create the awareness for proper storage.
Income generating activities	Self employment among tribal youth and skill oriented income generating activities.
Nutrition management	Care and importance of nutrition in children & pregnant women.

3. TECHNICAL ACHIEVEMENTS

3.A. Details of target and achievements of mandatory activities by KVK during 2009-10

OFT				FLD			
1				2			
Number of OFTs		Number of Farmers		Number of FLDs (Area in ha.)		Number of Farmers	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
8	7	54	44	14	18.8	35	47

Training (including sponsored, vocational and other trainings carried under Rainwater Harvesting Unit)					Extension Activities			
3					4			
Number of Courses			Number of Participants		Number of activities		Number of Participants	
Clientele	Targets	Achievement	T	A	T	A	T	A
Farmers	39	34	1950	929		114		14758
Rural youth	-	-						
Extn. Functionaries	3	3	75	75				
Total	**42**	**37**	**2025**	**1004**		**114**		**14758**

Seed Production (Qtl.)		Planting material (Nos.)	
5		6	
Target	Achievement	Target	Achievement
	24.10	-	-

3.B. Abstract of interventions undertaken

S. N.	Thrust area	Crop/ Enter-prise	Identified Problem	Interventions					
				Title of OFT if any	Title of FLD if any	Title of Training if any	Title of training for ext. personnel if any	Extension activities	Supply of seeds, planting materials etc.
1	2	3	4	5	6	7	8	9	10
1	Increase the productivity of buffalo	Live stock	Long Inter calving period in buffalo	Reduction of Inter – Calving Period in Buffalo	-	Training for reduction Inter calving period in buffalo	-	Group meeting	Medicine
2	Increase the productivity of cotton	Cash crop	Imbalance fertilization in cotton	Low yield of cotton	-	Balance fertilization in cotton	-	Field day/ Kishan gosti	Fertilizer
3	Increase the productivity of sesamum	Oil seeds	incidence of leaf roller in sesamum	Managemen t of leaf roller in sesamum	-	IPM in major kharif crops	-	Field day	Pesticide
1	2	3	4	5	6	7	8	9	10

4	Increase the productivity of cotton	Oil seeds	incidence of sucking pest in cotton	Management of sucking pests in cotton	-	IPM in cotton	-	Field day	Pesticide
5	Increase the productivity of groundnut	Oil seeds	Stem rot disease in groundnut	Application methods of Trichoderma against stem rot disease in groundnut	-	IDM in groundnut	-	Field day	*Trichoderma*
6	Increase the productivity of groundnut	Oil seeds	Low moisture content due to rain fed farming	Low yield of Groundnut due to proper tillage practice	-	Soil moisture conservation	-	Field day	Recommended practices
7	Increase the productivity of groundnut	Oil seeds	Low moisture content	Low yield of Groundnut due to loss of moisture during summer	-	Soil moisture conservation	-	Field day	Plastic mulch

3.1 Achievements on technologies assessed and refined

A. DETAILS OF EACH ON FARM TRIAL (OFT)

Technology assessment /Refinement

OFT - 1

1) Title of technology assessed/Refined : Reduction of Inter – Calving Period in Buffalo
2) Problem definition : Long inter calving period in zafarabadi buffaloes
3) Details of technologies selected for assessment/refinement:
   - ✓ One group of Dairy Animals be fed with Mineral Mixture + Panacure + Bio-Heat tablets.
   - ✓ Second group of Animals is fed with Panacure + Bio-Heat tablets..
   - ✓ Third group of Dairy Animals under control (Farmers Practice)
4) Source of technology: JAU, Junagadh
5) Production system and thematic area : Livestock enterprise and Production and management
6) Thematic area : Production and management

7) Performance of the technology with performance indicators:

Farmer No	Name of the farmer	Name of the Village	Data on the performance indicators of the technology assessed/refined								
			Technology option 1			Technology option 2			Technology option 3		
			Indicator 1 in mth	Indicator 2 in mth	Indicator 3 in mth	Indicator 1 in mth	Indicator 2 in mth	Indicator 3 in mth	Indicator 1 in mth	Indicator 2 in mth	Indicator 3 in mth
1	D.V.Fachara	Ravki	12-15	1.5-2.0							
2	D.T.Vora	Devgam									
3	B.M.Bhut	Devgam									
4	K.B.Bhut	Devgam									
5	B.N.Bhut	Devgam									
6	D.U.Somaiya	Makhavad									
7	V.V.Fachara	Ravki				15-18	2.0-2.4				
8	S.T.Sangani	Devgam									
9	V.H.Sangani	Devgam									
10	K.B.Khunt	Devgam									
11	K.N.Gajipara	Devgam									
12	N.C.Gajipara	Devgam									
13	N.T.Bhut	Devgam							18-24	2.4 - 3.4	
14	S.M.Raddiya	Devgam									
15	V.J.Nasit	Devgam									
16	B.M.Vasoiya	Devgam									
17	V.N.Ramani	Nagarpipliya									
18	J.D.Somaiya	Makhavad									

Indicator 1 : Inter-calving period in month
Indicator 2 : Average No. of Heats required for conception

8) Final recommendation for micro level situation : Dairy Animals be fed with Mineral Mixture + Panacure tablets + Bio-Heat tablets.
9) Constrains identified and feedback for research :

- ✓ Imbalance feeding
- ✓ Anestrous
- ✓ Poor management

10) Process of farmers participation and their reaction: Farmer aware about feeding of Mineral Mixture + Panacure tablets + Bio-Heat tablets.

11) Results of on farm trials

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No of trials	Technology assessed	Parameters of assessment
1	2	3	4	5	6	7
Livestock	Rainfed farming	Long Inter calving period in buffalo	Reduction of Inter Calving Period in Buffalo	3	Reduction of Inter – Calving Period in Buffalo	• Days of inter calving period • Animal conceived in no. of heat

Data on the	Results of	Feedback from	Technology	*Production per

parameter	assessments	the farmers	assessed/refined	unit
8	9	10	11	12
Acc. to parameter 7	1. One group of Animals is fed with Panacure + Bio-Heat tablets. 2. Second group of Dairy Animals be fed with Mineral Mixture.	- - - - - - -	Third group of Dairy Animals be fed with Mineral Mixture + Panacure + Bio-Heat tablets.	

Net return (Profit) in Rs/Unit	BC Ratio
13	**14**
-	-

OFT – 2

1) Title of technology assessed/Refined: Low yield of cotton

2) Problem definition : low yield of cotton due to Imbalance fertilization in cotton

3) Details of technologies selected for assessment/refinement :
   - ✓ T1. Farmer's practices (125 kg DAP & 125 kg Urea /ha
   - ✓ T2. Recommended dose of fertilizer (160-0-0 NPK kg / ha) in four split in which second split in form of Ammonium Sulphate
   - ✓ T3. T2 + 50 kg P_2O_5 ha-1 through DAP + 50 kg K_2O ha-1 through MOP as a basal dose
   - ✓ T4. T3 + and 25 kg $MgSO_4$ ha-1 + 10 kg $ZnSO_4$ as a basal dose.

4) Source of technology : GAU

5) Production system and thematic area : Balance fertilization in cotton

6) Performance of the technology with performance indicators :

Farmer No	**Name of the farmer**	**Name of the Village**	**Yield (kg/ha)**				
			T-1	T-2	T-3	T-4 *	Average
1	D.N.Dholariya	Deroi	3100	3000	3600	4100	3450
2	R. P. Bodar	Bedla	3300	3400	3700	4200	3650
3	B.R.Topiya	Magharvada	3220	3300	3600	4020	3530
4	H. R. Parmar	Zalida	2900	3000	3400	3800	3270
5	P. B. Rathod	Mesariya	3180	3200	3650	4080	3530
Average			**3140**	**3180**	**3590**	**4040**	

*Comparatively less reddening was observed in treatment no.-4

7) Final Recommendation for micro level situation: Recommended dose of fertilizer (160-0-0) in four split in which second split in form of Ammonium Sulphate+ 50 kg P_2O_5 ha-1 through DAP + 50 kg K_2O ha-1 through MOP as a basal dose.+ 25 kg $MgSO_4$ ha-1 + 10 kg $ZnSO_4$ as a basal dose.

8) Constrains identified and feedback for research :

- ✓ Unbalance fertilization
- ✓ Problems of sucking pest
- ✓ Lack of knowledge of fertilization
- ✓ Less use of organic manures in soil

9) Process of farmers participation and their reaction : Good

11) Results of on farm trials

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No of trials	Technology assessed	Parameters of assessment
1	2	3	4	5	6	7
Cotton	Irrigated	low yield of cotton due to Imbalance fertilization in cotton	Low yield of cotton	5	Balance fertilization	Yield

Data on the parameter	Results of assessments	Feedback from the farmers	Technology assessed/refined	Production per unit
8	**9**	**10**	**11**	**12**
Acc. to parameter 7	T1 Farmers practices T2. Recommended dose of fertilizer (160-0-0 NPK kg / ha) in four split in which second split in form of Ammonium Sulphate T3. T2 + 50 kg P2O5 ha-1 through DAP + 50 kg K2O ha-1 through MOP as a basal dose	--	Recommended dose of fertilizer (160-0-0) in four split in which second split in form of Ammonium Sulphate+ 50 kg P2O5 ha-1 through DAP + 50 kg K2O ha-1 through MOP as a basal dose.+ 25 kg MgSO4 ha-1 + 10 kg ZnSO4 as a basal dose.	40.40 q / ha

Net return (Profit) in Rs/Unit	**BC Ratio**
13	**14**
81620	3.89
82977	3.93
95972	4.23
110370	4.56

OFT – 3

1) Title of technology assessed/Refined : Management of leaf roller in sesamum.
2) Problem definition
   - ✓ No knowledge about the use of particular pesticide
   - ✓ No adoption of recommended practices
3) Details of technologies selected for assessment/refinement :

Category	**Source of technology**	**Technology details**
Technology Option1	-	Farmer practices – Use of newer insecticides
Technology Option2	-	Recommended practices Insecticidal spray at ETL of 5 larvae / 20 plants
Technology Option3	-	Alternate spray of Endosulfan 0.07 % and monocrotophos 0.04 % at 30 and 45 DAS

4) Source of technology: JAU, Junagadh
5) Production system and thematic area : Integrated Disease Management
6) thematic area : Integrated Disease Management
7) Performance of the technology with performance indicators :

Farmer No	**Name of the farmer**	**Name of the Village**	**Data on the performance indicators of the technology assessed/refined (Kg/ha)**								
			Technology option 1			**Technology option 2**			**Technology option 3**		
			Indicator 1	Indicator 2*	Indicator 3	Indicator 1	Indicator 2*	Indicator 3	Indicator 1	Indicator 2*	Indicator 3
1	A.A.Badi	Kothi	480	0.15		500	0.05		480	0.2	
2	A.G.Choudhari	Mesariya	450	0.20		490	0.15		460	0.2	
3	Ali Haji	Samdhiyala	510	0.05		500	0.10		490	0.1	
4	Badi S. V.	Samdhiyala	540	0.10		525	0.05		530	0.1	
	Average		**495**	**0.15**		**504**	**0.09**		**490**	**0.18**	

*Note Population of leaf roller after spray
Indicator 1 : yield of Sesamum in Kg/ha
Indicator 2 : -- No. of leaf roller/plant

8) Final recommendation from micro level situation: Recommended practices Insecticidal spray at ETL of 5 larvae / 20 plants
9) Constrains identified and feedback for research :
   - ✓ No knowledge about the use of particular pesticide to control leaf roller.
   - ✓ No adoption of recommended schedule for spraying of insecticides based on ETL.
   - ✓ Farmer spray insecticide as per instruction given by local pesticides retailer.
10) Process of farmers participation and their reaction:

11) Results of on farm trials

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No of trials	Technology assessed	Parameters of assessment
1	2	3	4	5	6	7
Oilseed	Rainfed farming	incidence of leaf roller in sesamum	Management of leaf roller in sesamum	4	Management of leaf roller in sesamum	• Pest population • Yield of sesamum

Data on the parameter	Results of assessments	Feedback from the farmers	Technology assessed/refined	*Production per unit
8	9	10	11	12
Acc. to parameter 7	1. Farmer practices – Use of newer insecticide 2. Reco. practices Insecticidal spray at ETL of 5 larvae / 20 plants	- - - - -	Alternate spray of Endosulfan 0.07 % and monocrotophos 0.04 % at 30 and 45 DAS	

Net return (Profit) in Rs/Unit	BC Ratio
13	**14**
16388	2.03
17323	2.12
16663	2.10

OFT – 4

1) Title of technology assessed/Refined : Management of sucking pests in cotton.
2) Problem definition
   - ✓ Improper irrigation
   - ✓ No adoption of recommended practices
3) Details of technologies selected for assessment/refinement :

Category	Source of technology	Technology details
Technology Option1	-	Farmers practice-Use of newer insecticide
Technology Option2	-	Use of new, old and bio control agent (Recommended practice)
Technology Option3	-	Alternate treatment one and two

4) Source of technology: JAU, Junagadh
5) Production system and thematic area : Integrated Pest Management
6) Thematic area : Integrated Pest Management
7) Performance of the technology with performance indicators :

Farmer No	Name of the farmer	Name of the Village	Data on the performance indicators of the technology assessed/refined (Kg/ha)								
			Technology option 1			Technology option 2			Technology option 3		
			Indicator 1	Indicator 2	Indicator 3	Indicator 1	Indicator 2	Indicator 3	Indicator 1	Indicator 2	Indicator 3
1	V.C.Sagpariya	Devgam	1580	0.25	8	1680	0.25	6	1925	0.10	8
2	R.J.Nashit	Devgam	1550	0.30	4	1750	0.20	9	1950	0.15	4
3	R.D.Gamtha	Lodhika	1500	0.30	7	1800	0.20	3	2250	0.10	7
4	L.N.Bhuva	Makhavad	1400	0.35	10	1870	0.10	3	2450	0.00	5
5	Kvk farm	Targhadia	1525	0.30	6	1900	0.10	4	2075	0.10	1
	Average		**1511**	**0.30**	**7**	**1800**	**0.17**	**5**	**2130**	**0.09**	**5**

Indicator 1 : yield of cotton in Kg/ha
Indicator 2 : --No. of jassid 3 leaves/plant, indicator 3 : No. of thrips 3 leaves/plant

8) Final recommendation from micro level situation: Alternate treatment one and two

9) Constrains identified and feedback for research :

- ✓ No knowledge about the use of particular pesticide for the control of sucking pests, resulted the development of resistance in the pest.
- ✓ Use of higher dose of insecticide
- ✓ Improper irrigation.
- ✓ Not adopting recommended schedule for spraying insecticides.
- ✓ Poor weed management.
- ✓ Farmer spray insecticide as per instructions given by local pesticides retailer.
- ✓ Unbalance fertilization.
- ✓ Lack of knowledge of fertilization.

10) Process of farmers participation and their reaction: Satisfactory

11) Results of on farm trials

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No of trials	Technology assessed	Parameters of assessment
1	2	3	4	5	6	7
Cash crop	Rainfed farming	incidence sucking pest in cotton	Management of sucking pests in cotton	3	Management of sucking pests in cotton	• Pest population • Yield of cotton

Data on the parameter	Results of assessments	Feedback from the farmers	Technology assessed/refined	*Production per unit
8	9	10	11	12
Acc. to parameter 7	1. Farmers practice-Use of newer insecticide	-	Alternate treatment one and two	
		-		
	2. Use of new, old and bio control agent (Recommended practice)	-		
		-		

Net return (Profit) in Rs/Unit	**BC Ratio**
13	**14**
-	-

OFT – 5

1) Title of technology assessed/Refined : Problem identification : Application methods of *Trichoderma* against stem rot disease in groundnut
2) Problem definition
   - ✓ Low plant population
   - ✓ Disease problems.
   - ✓ Lack of knowledge for use of recommended control measures

3) Details of technologies selected for assessment/refinement :

Category	Source of technology	Technology details
Technology Option1	-	Mix Trichoderma @ 2.5 kg /ha with 50 kg fine sand or organic manure and soil application in side the groundnut row at 30 days after sowing in moist condition (General Recommendation- (Farmers Methods)
Technology Option2	-	Mixing Trichoderma @ 2.5 kg/ha with castor cake @ 500 kg/ha at the time of sowing with the help of multi purpose seed drill . (Recommended Practice by JAU).
Technology Option3	-	Soil drenching of Trichoderma @ 50 gm/10 litter of water using spray pump without nozzle. (Intervention)

4) Source of technology: JAU, Junagadh
5) Production system and thematic area : Integrated Disease Management
6) thematic area : Integrated Disease Management
7) Performance of the technology with performance indicators :

Farmer No	Name of the farmer	Name of the Village	Data on the performance indicators of the technology assessed/refined (Kg/ha)								
			Technology option 1			Technology option 2			Technology option 3		
			Indicator 1	Indicator 2	Indicator 3	Indicator 1	Indicator 2	Indicator 3	Indicator 1	Indicator 2	Indicator 3
1	B. R. Topiya	Magharvada	980	4		1025	3.5		975	5	
2	B.D.Ramani	Bedala	920	4.5		1100	2.5		900	6	
3	U.N.Badi	Mesariya	1050	3		1125	2		940	7	
4	Jamalali Piparvaliya	Samdhiyala	870	5		1060	3		850	7	
	Average		**955**	**4.125**		**1077.5**	**2.75**		**916.25**	**6.25**	

Indicator 1 : yield of groundnut in Kg/ha
Indicator 2 : --Percent infected plant

8) Final recommendation from micro level situation: Soil drenching of Trichoderma @ 50 gm/10 litter of water using spray pump without nozzle. (Intervention)

9) Constrains identified and feedback for research :
- ✓ Low plant population
- ✓ Disease problems.
- ✓ Lack of knowledge for use of recommended control measures.

10) Process of farmers participation and their reaction:

11) Results of on farm trials

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No of trials	Technology assessed	Parameters of assessment
1	2	3	4	5	6	7
Oilseed	Rainfed farming	Stem rot disease in groundnut	Application methods of Trichoderma against stem rot disease in groundnut	4	Application methods of Trichoderma against stem rot disease in groundnut	• Yield of groundnut • Percent infected plant

Data on the parameter	Results of assessments	Feedback from the farmers	Technology assessed/refined	*Production per unit
8	9	10	11	12
Acc. to parameter 7	1. Mix Trichoderma @ 2.5 kg /ha with 50 kg fine sand or organic manure and soil application in side the groundnut row at 30 days after sowing in moist condition (General Recommendation-(Farmers Methods) 2. Mixing Trichoderma @ 2.5 kg/ha with castor cake @ 500 kg/ha at the time of sowing with the help of multi purpose seed drill . (Recommended Practice by JAU).	- - - - - - -	Soil drenching of Trichoderma @ 50 gm/10 litter of water using spray pump without nozzle. (Intervention)	

Net return (Profit) in Rs/Unit	BC Ratio
13	**14**
4125	1.20
4650	1.21
3400	1.17

OFT – 6

1) Title of on-farm trials : Low yield in Groundnut due to due to improper tillage practice
2) Problem definition: 1. Shallow ploughing.
2. Lack of knowledge about soil moisture conservation and its importance.
3. Lack of knowledge regarding proper tillage practice.

3) Details of technologies selected for assessment/refinement :

Category	Source of technology	Technology details
Technology Option1	Farmer method	Shallow plowing with 7-8 interculturing
Technology Option2	Recommendation	Deep plowing with 2-4 interculturing
Technology Option3	Intervention	Medium deep plowing with 4-5 interculturing

4) Source of technology : JAU, Junagadh
5) Production system and thematic area : Resource conservation technology
6) Thematic area : Resource conservation technology
7) Performance of the Technology with performance indicators :

Farmer No.	Name of the farmer	Name of the Village	Data on the performance indicators of the technology assessed/refined								
			Technology option 1			Technology option 2			Technology option 3		
			Indicator 1 kg/ha	Indicator 2 %	Indicator 3	Indicator 1 kg/ha	Indicator 2 %	Indicator 3	Indicator 1 kg/ha	Indicator 2 %	Indicator 3
1	B.D. Ramani	Khorana	1050	21		1160	24		1230	23	
2	A.M. Vekariya	Metoda	1110	22		1250	26		1320	25	
3	D.V. Rathod	Mesariya	990	21		1130	25		1200	23	
	Average		**1050**	**21.3**		**1180**	**25.0**		**1250**	**23.7**	

Indicator 1 : yield of groundnut (kg/ha)
Indicator 2 : moisture content (%)

8) Final recommendation for micro level situation - Medium deep ploughing with 4-5 times inter culturing

9) Constraints identified and feedback for research ; --

10) Process of farmer's participation and their reaction : Farmers aware about benefit of medium deep ploughing

11) Results of on farm trials

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No of trials	Technology assessed	Parameters of assessment
1	2	3	4	5	6	7
Oilseed	Rainfed farming	Low moisture content due to rain fed farming	Low yield of Groundnut	3	Low yield of Groundnut due to improper tillage practice	• Yield of groundnut • Moisture percent

Data on the parameter	Results of assessments	Feedback from the farmers	Technology assessed/refined	*Production per unit
8	9	10	11	12
Acc. to parameter 7	1. Shallow ploughing with 7-8 interculturing	Low moisture content due to shallow plowing	Medium deep ploughing with 4-5 interculturing	
	2. Deep ploughing with 2-4 interculturing	Wilt due to deep plowing		

Net return (Profit) in Rs/Unit	**BC Ratio**
13	**14**
15100	**1.93**

OFT – 7

1) Title of on-farm trials : Soil moisture conservation in summer groundnut cultivation
2) Problem definition: 1. Shallow ploughing.
   2. Lack of knowledge about soil moisture conservation and its importance.
   3. Lack of knowledge regarding proper tillage practice.
3) Details of technologies selected for assessment/refinement :

Category	**Source of technology**	**Technology details**
Technology Option 1	Farmer method	T1- Control (No mulch)
Technology Option 2	Recommendation	T2- Degradable Plastic mulch
Technology Option 3	Intervention	T3- Wheat straw mulch
Technology Option 4	Intervention	T4- Groundnut shell mulch

4) Source of technology : JAU, Junagadh
5) Production system and thematic area : Resource conservation technology
6) Thematic area : Resource conservation technology
7) Performance of the Technology with performance indicators :

Farmer No.	**Name of the farmer**	**Name of the Village**	**Data on the performance indicators of the technology assessed/refined**											
			Technology option 1			**Technology option 2**			**Technology option 3**			**Technology option 4**		
			Indicator 1 kg/ha	Indicator 2	Indicator 3	Indicator 1 kg/ha	Indicator 2	Indicator 3	Indicator 1 kg/ha	Indicator 2	Indicator 3	Indicator 1 kg/ha	Indicator 2	Indicator 3
1	K. H. Pedhadiya	Rataiya	2195	21		2435	26		2405	22		2515	24	
2	L. H. Pedhadiya	Rataiya	2055	21		2340	25		2270	22		2325	23	
3	L. R. Saipariya	Rataiya	1985	20		2215	23		2170	21		2290	23	
	Average		**2078**	**20.7**		**2330**	**24.7**		**2282**	**21.7**		**2377**	**23.3**	

8) Final recommendation for micro level situation – Groundnut shell / Plastic mulch
9) Constraints identified and feedback for research ; - problem faced during installing plastic sheet between rows

10) Process of farmers participation and their reaction : - Farmers aware about benefit of mulching

11) Results of on farm trials :

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No of trials	Technology assessed	Parameters of assessment
1	2	3	4	5	6	7
Oilseed	Rainfed farming	Low moisture content due to rain fed farming	Low yield of Groundnut	3	Low yield of Groundnut due to loss of moisture during summer	• Yield of groundnut • Moisture percent

Data on the parameter	Results of assessments	Feedback from the farmers	Technology assessed/refined	*Production per unit
8	**9**	**10**	**11**	**12**
Acc. to parameter 7	T1-No mulch	-	T4- Groundnut shell mulch T2- Degradable Plastic mulch	
	T3- Wheat straw mulch	-		

Net return (Profit) in Rs/Unit	BC Ratio
13	**14**
-	-

3.2 Achievements of Frontline Demonstrations

a. Follow-up for results of FLDs implemented during previous years

List of technologies demonstrated during previous year and popularized during 2009-10 and recommended for large scale adoption in the district

Sr. No	Crop	Thematic Area*	Technology demonstrated	Details of popularization methods suggested to the Extension system	Horizontal spread of technology		
					No. of villa.	No.of farmer	Area in ha
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1	Groundnut	Varietal Evaluation	Seeds of Guj. Groundnut-5	Short duration, bunch type and high yielding	6	10	4
2	Groundnut	IDM	Newer fungicide	To minimize the tikka and rust disease in groundnut	5	10	4
3	Sesamum	Varietal Evaluation	Seeds of Guj. Til-2	Short duration, high yielding	5	10	4
4	Green gram	Varietal Evaluation	Seed of green gram 4	Short duration, high pod length and yield	9	17	6.8
5	Gram	Varietal Evaluation	Seed of black gram GG-1	High yielding Variety	3	10	4
6	Black gram	Varietal Evaluation	Seeds of GU-1	High yielding Variety	5	5	2
7	Cumin	Varietal Evaluation	Seed of GC-4	Resistance to wilt and tolerant blight disease	10	15	6

1	2	3	4	5	6	7	8
8	Wheat	Varietal Evaluation	Seeds of GW-366	bold size grain with High yielding variety	10	10	4
9	Cotton	Varietal Evaluation	Variety(Akka)	High yielding Variety	15	25	10
10	Cotton	INM in cotton	INM	Balance fertilization	15	25	10

b. Details of FLDs implemented during 2009-10

Oilseeds

Sr. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ Demonstration			Reasons for shortfall
					Proposed	Actual	SC/ST	Others	Total	
1	Groundnut	Varietal Evaluation	Seeds of TG-38	Kharif - 09	8	8	-	20	20	-
2	Sesamum	Varietal Evaluation	Seeds of GT-2	Kharif - 09	2	2	-	5	5	-
3	Groundnut	Pest management	Tricogamma card	Kharif - 09	4	4	-	10	10	-
4	Groundnut	Disease management	*Trichoderma* Powder	Kharif - 09	4.8	4.8	-	12	12	-

Pulses

Sr. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
					Proposed	Actual	SC/ST	Others	Total	
1	Black gram	Varietal Evaluation	Seeds of GU-1	Kharif – 09	4.0	4.0	-	10	10	-
2	Green gram	Varietal Evaluation	Seeds of GM-4	Kharif – 09	4.0	4.0	-	10	10	
3	Gram	Varietal Evaluation	Seeds of GG-1, 2 & 3	Rabi – 09	10.0	10.0	-	25	25	-

Cotton

Sr. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
					Proposed	Actual	SC/ST	Others	Total	
1	Cotton	INM & IPM in cotton	INM & IPM	Kharif – 09	30	30	21	54	75	-

Commercial crops (Cumin & Wheat)

Sr. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ Demonstration			Reasons for shortfall
					Proposed	Actual	SC/ST	Others	Total	
1	Wheat	Varietal Evaluation	Seeds of GW-366	Rabi - 09	4.8	4.8	-	12	12	-
2	Cumin	Varietal Evaluation	Seeds of GC-4	Rabi - 09	4.8	4.8	-	12	12	-

Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Groundnut	Kharif	RF	M. B.	M	M	M	Wheat	19/7/09	29/10/09	459.5	17
Sesamum	Kharif	RF	M. B.	M	M	M	Cumin	10/7/09	9/10/09	459.5	17
Green gram	Kharif	RF	M. B.	M	M	M	Groundnut	19/7/09	20/10/09	459.5	17
Back gram	Kharif	RF	M. B.	M	M	M	Cumin	11/6/09	18/9/09	459.5	17
Gram	Rabi	Irrigated	M. B.	M	M	M	Groundnut	5/11/09	16/2/10	-	-
Cumin	Rabi	Irrigated	M. B.	M	M	M	Green gram	6/11/09	27/2/10	-	-
Wheat	Rabi	Irrigated	M. B.	M	M	M	Groundnut	17/11/09	1/3/10	-	-
Cotton	Kharif	Irrigated	M. B.	M	M	M	Groundnut	25/6/09	10/12/09	459.5	17

. B. – Medium Black M. – Medium

Performance of FLD

Sr. No.	Crop	Technology Demonstrated	Variety	No. of Farmers	Area (ha.)	Demo. Yield Qtl/ha			Yield of local Check Qtl./ha	Increase in yield (%)	Data on parameter in relation to technology demonstrated (Rs.)	
						H	L	A			Demo	Local
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Groundnut	Variety	TG-38	20	8	4.8	3.6	3.8	3.7	2.70	1320	1200
2	Sesamum	Variety	GT-2	5	2.0	3.75	3.5	2.9	2.65	9.43	122	70
3	Green gram	Variety	GM-4	10	4.0	2.3	1.7	1.95	1.8	8.33	248	220
4	Black gram	Variety	GU-1	10	4.0	5.0	3.5	1.68	1.6	5.0	228	200
5	Gram	Variety	GG-1	12	4.8	22.1	15.5	20.1	16.8	19.58	3350	2850
			GG-2	3	1.2	18.5	15	16.5	13.7	20.44	3350	2850
			GG-3	10	4.0	19.0	11	15.0	12.6	19.05	3350	2850
6	Wheat	Variety	GW-366	12	4.8	50.5	42.0	46.3	40.5	30.28	4745	4370
7	Cumin	Variety	GC-4	12	4.8	8.0	6.0	7.0	6.3	11.11	3871	3496
8	Groundnut	Tricogamma card	GG-20	10	4.0	3.2	2.4	2.84	2.7	5.19	-	-
9	Groundnut	*Trichoderma* Powder	GG-20	12	4.8	4.0	3.45	3.7	3.5	5.71	110	100
10	Cotton	INM & IPM	B.t cotton	75	30	31.5	23.0	27.6	25.3	19.2	27658	32125

Economic Impact (continuation of previous table)

Average Cost of cultivation (Rs./ha)		Average Gross Return (Rs./ha)		Average Net Return (Profit) (Rs./ha)		Benefit-Cost Ratio (Gross Return / Gross Cost)
Demonstration	Local Check	Demonstration	Local Check	Demonstration	Local Check	
14	15	16	17	18	19	20
12000	11800	11400	11100	-600	-700	1:0.95
9000	8500	17400	15900	8400	7400	1:1.93
10000	9700	11700	10800	1700	1100	1:1.17
9700	9500	10080	9600	380	100	1:1.04
11000	10500	40180	33600	29180	23100	1:3.65
11000	10500	33000	27400	22000	16900	1:3.00
11000	10500	30000	25200	19000	14700	1:2.73
15475	15100	78348	60137	62873	45037	1:5.06
13407	12800	80500	72450	67093	59650	1:6.00
12000	11800	8520	8100	-3480	-3700	1:0.71
12000	11800	11100	10500	-900	-1300	1:0.93
27658	32125	94120	85850	66462	53725	1:3.40

Analytical Review of component demonstrations

Crop	Season	Component	Farming situation	Average yield (q/ha)	Local check (q/ha)	Percentage increase in productivity over local check
Groundnut	Kharif	Seed/Variety	Rainfed	3.8	3.7	2.70
Sesamum	Kharif	Seed/Variety	Rainfed	2.9	2.65	9.43
Green gram	Kharif	Seed/Variety	Rainfed	1.95	1.8	8.33
Black gram	Kharif	Seed/Variety	Rainfed	1.68	1.6	5.00
Gram	Rabi	Seed/Variety	Irrigated	20.1	16.8	19.58
Gram	Rabi	Seed/Variety	Irrigated	16.5	13.7	20.44
Gram	Rabi	Seed/Variety	Irrigated	15.0	12.6	19.05
Wheat	Rabi	Seed/Variety	Irrigated	46.3	35.5	30.28
Cumin	Rabi	Seed/Variety	Irrigated	7.0	6.3	11.11
Groundnut	Kharif	Tricogamma card	Rainfed	2.84	2.7	5.19
Groundnut	Kharif	*Trichoderma* Powder	Rainfed	3.7	3.5	5.71
Cotton	Kharif	INM & IPM	Irrigated	27.6	25.3	19.2

Technical Feedback on the demonstrated technologies

Sr. No.	Feed Back
1	To enhance the farmers to use recently developed notified varieties of related crop.
2	Proper use of fertilizers, Irrigation, insecticides and fungicide as per recommendation to reduce the production cost.

Farmers' reactions on specific technologies

Sr. No.	Feed Back
1	Cumin variety GC-4 is high yielding and resistant to wilt.
2	Bunch type groundnut variety is suitable in for rain fed area.
3	Application of *Trichoderma* is very useful for minimizing the stem rot in groundnut but at the time of application (30 to 40 DAS) unavailability of moisture is the major problem.
4	Wheat variety GW-366 is high yielding

Extension and Training activities under FLD

Sr. No.	Activity	No. of activities organized	Date	Number of participants	Remarks
1	Farmers Training	8	-	330	-
2	Media coverage	3	-	-	-
3	Kisan Ghosthi	2	-	43	-
4	Field day	4		156	-
	TOTAL	**17**	**-**	**529**	

3.3 Achievements on Training (Including the sponsored, vocational, FLD and trainings under Rainwater Harvesting Unit) :

A) ON Campus

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
1	2	3	4	5	6	7	8	9	10	11
(A) Farmers & Farm Women										
Weed Management	1	24		24			0	24	0	24
Cropping Systems	1	27		27	3		3	30	0	30
Production of quality animal products	1	15		15				15	0	15
Designing and development for high nutrient efficiency diet	1		17	17						
Value addition	1		35	35		1	1	0	36	36
TOTAL	**5**	**66**	**52**	**118**	**3**	**1**	**4**	**69**	**53**	**122**
(B) Extension Personnel										
Integrated Pest Management	1	22		22				22		22
Integrated Nutrient manag.	1	27		27				27		27
Management in farm animals	1	28		28	1		1	29		29
TOTAL	**3**	**77**	**0**	**77**	**1**	**0**	**1**	**78**	**0**	**78**

B) OFF Campus

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
1	2	3	4	5	6	7	8	9	10	11
(A) Farmers & Farm Women										
Water management	1	38		38				38		38
Integrated Crop Management	2	112	6	118	13		13	125	6	131
Protective cultivation (Green Houses, Shade Net etc.)	2	38		38	2		2	40		40
Cultivation of Fruit	1	21		21	2		2	23		23
Nursery Management	1	39		39				39		39
Soil fertility management	1	49		49	4		4	53		53
Dairy Management	1		21	21		5	5		26	26
Disease Management	1	27		27	8		8	35		35
Feed management	1	31		31	5		5	36		36
Production of quality animal products	1	18		18				18		18
Value addition	2		72	72		1	1		73	73
Income generation activities for empowerment of rural Women	1		30	30		4	4		34	34
Rural Crafts	1		24	24					24	24
Integrated Pest Management	1	81		81	4		4	85		85
Integrated Disease Management	1	33		33				33		33
TOTAL	**18**	**487**	**153**	**640**	**38**	**10**	**48**	**525**	**163**	**688**

C) Consolidated table (ON and OFF Campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
1	2	3	4	5	6	7	8	9	10	11
(A) Farmers & Farm Women										
Weed Management	1	24		24			0	24	0	24
Cropping Systems	1	27		27	3		3	30	0	30
Water management	1	38		38				38		38
Integrated Crop Management	2	112	6	118	13		13	125	6	131
Protective cultivation (Green Houses, Net etc.)	2	38		38	2		2	40		40
Cultivation of Fruit	1	21		21	2		2	23		23
Nursery Management	1	39		39				39		39
Soil fertility management	1	49		49	4		4	53		53
Dairy Management	1		21	21		5	5		26	26
Disease Management	1	27		27	8		8	35		35
Feed management	1	31		31	5		5	36		36
Production of quality animal products	2	33		33				33		33
Value addition	3		107	107		2	2		109	109
Income generation activities	1		30	30		4	4		34	34
Location specific drudgery reduction technologies										
Rural Crafts	1		24	24					24	24
Integrated Pest Management	1	81		81	4		4	85		85
IDM	1	33		33				33		33
TOTAL	**23**	**553**	**205**	**758**	**41**	**11**	**52**	**594**	**216**	**810**
(C) Extension Personnel										
Integrated Pest Management	1	22		22				22		22
Integrated Nutrient manag.	1	27		27				27		27
Management in farm animals	1	28		28	1		1	29		29
TOTAL	**3**	**77**	**0**	**77**	**1**	**0**	**1**	**78**	**0**	**78**

(D) Sponsored Training Programmes

Sr. No	Date	Title	Discipline	Thematic area	Duration (days)	Client (PF/RY/EF)	No. of courses	No. of Participants									Sponsoring Agency
								Others			SC/ST			Total			
								M	F	T	M	F	T	M	F	T	
1	8/10/09	Protected Cultivation of Vegetable crops.	Horti	Export potential vegetables	1	PF	1	11	-	11	2	-	2	13		13	NHRDF
2	18/12/09	Loans/Subsidies for Dairy farm animals	A.H	Dairy Management	1	FW	1	-	24	24	-	2	2		26	26	FTC
3	22/12/09	Improved cultivation practices of major rabi crops	Agro.	Production and management technology	1	PF	1	24	-	24	-	-	-	24		24	FTC
4	7/1/10	Breed Improvement of Cattle and Buffalo through A.I./ Natural services	A.H.	Breed Improvement	1	PF	1	24	-	24	-	-	-	24		24	FTC
5	6/2/10	Vaccination in mothers and children	H.S.	Mother & Children care	1	FW	1	-	44	44	-	-	-		44	44	NGO
6	9/2/10	Reduction of Inter calving period in buffalos	A.H.	Dairy Management	1	PF	1	16	-	16	-	-	-	16		16	FTC
7	22/12/09	Nursery raising for fruits and vegetable crops	Horti	Nursery managment	1	PF	1	18	-	18	-	-	-	18		18	NHRDF
8	31/12/09	Fruits and vegetables preservation	H.S.	Preservation	1	FW	1	-	37	37	-	12	12		49	49	FTC
9	16/2/10	Nursery raising for fruits and vegetable crops	Horti	Nursery managment	1	PF	1	10	2	12				10	2	12	NHRDF
10	19/2/10	Preservation of Lemon	H.S.	Value addition	1	FW	1		44	44		3	3		47	47	NGO
11	26/3/10	Scientific Dairy Farming	A.H.	Dairy Management	1	FW	1		52	52		3	3		55	55	FTC

3.4. Extension Activities (including activities of FLD programmes)

Sr. No.	Nature of Extension Activity	Purpose/ topic and Date	No. of activities	Participants											
				Farmers (Others) (I)			SC/ST (Farmers) (II)			Extension Officials (III)			Grand Total (I+II+III)		
				M	F	T	M	F	T	M	F	T	M	F	T
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.	Field Day	1/10/09 Sesamum	1	41		41	9		9				50		50
		8/2/10 Wheat	1	62		62							62		62
		10/2/10 Gram	1	30		30							30		30
		26/2/10 Cumin	1	31		31									
		3/3/10 Wheat	1	24		24									
		4/3/10 Wheat	1	40		40									
	Total		**6**	**228**	**0**	**228**	**9**	**0**	**9**	**0**	**0**	**0**	**142**	**0**	**142**
2.	Kisan Mela	-													
3.	Kisan Ghosthi	4/11/09	1	28		28	2		2				30		30
	Kisan Ghosthi	13/11/09	1	31		31	1		1				32		32
	Kisan Ghosthi	20/11/09	1	19		19	4		4				23		23
	Kisan Ghosthi	30/11/09	1	47		47	5		5				52		52
	Kisan Ghosthi	15/1/10	1	35		35	2		2				37		37
	Total		**5**	**160**	**0**	**160**	**14**	**0**	**14**	**0**	**0**	**0**	**174**	**0**	**174**
4.	Exhibition	-	-	-		-	-	-	-	-	-	-	-	-	-
5.	Film Show	18/12/09	1		24	24		2	2					26	26
	Film Show	19/12/09	1	15		15							15		15
	Film Show	4/1/10	1	24		24							24		24
	Film Show	6/1/10	1		35	35		1	1					36	36
	Film Show	26/2/10	1	33		33							33		33
	Film Show	6/2/10	1		44	44								44	44
	Film Show	9/2/10	1	16		16							16		16
	Film Show	16/2/10	1	10		10	2		2				12		12
	Film Show	12/3/10	1	28		28	1		1				29		29
	Film Show	25/3/10	1	22		22							22		22
	Total		**10**	**148**	**103**	**251**	**3**	**3**	**6**	**0**	**0**	**0**	**151**	**106**	**257**
6.	Method Demonstrations	47													
7.	Farmers Seminar	5/3/10	1	132	12	144	32		32	16	3	19	180	15	195
8.	Workshop	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.	Group meetings	5/11/09	1	24		24	3		3				27		27
	Group meetings	26/2/10	1	21		21							21		21
	Total		**2**	**45**	**0**	**45**	**3**	**0**	**3**	**0**	**0**	**0**	**48**	**0**	**48**
10.	Lectures delivered as resource persons	Oct-09	7	800	66	866	121	3	124	-	-	-			
		Nov-09	2	42	-	42	7	-	7	-	-	-	49	0	49
		Dec-09	9	4135	121	4256	132	18	250	-	-	-	4267	139	4406
		Jan.-10	8	370	23	393	23	-	23	3	-	3	396	23	419
		Feb.-10	9	855	143	998	40	2	42	7	-	7	902	145	1047
		Mar.-10	6	4331	978	5309	59	22	81	5		5	4395	1000	5395
	Total		**41**	**10533**	**1331**	**11864**	**382**	**45**	**527**	**15**	**0**	**15**	**10009**	**1307**	**11316**
11.	Newspaper coverage		4												
12.	Radio talks	18/2/10	1												
	Radio talks	23/2/10	1												
	Radio talks	29/3/10	1												

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Total		**3**												
13.	TV talks	9/11/09	1												
	TV talks	3/3/10	1												
	Total		**2**												
14.	Popular articles	-	7												
	Total		**3**												
15.	Extension Literature		9												
16.	Advisory Services														
17.	Scientific visit to farmers field		9	78		78	6		6	2		2	86		86
18.	Farmers visit to KVK			968	827	1795	150	106	256	21		21	1139	933	2072
19.	Diagnostic visits		9												
20.	Exposure visits														
21.	Ex-trainees Sammelan		10	201	76	277							201	76	277
22.	Soil health Camp	-													
23.	Animal Health Camp	31/10/09	1	110		110				3		3	113		113
		10/10/09	1	60		60				2		2	62		62
		17/11/09	1	49		49	2		2	9		9	60		60
		25/11/09	1	35		35				6		6	41		41
		27/11/09	1	53		53							53		53
		30/11/09	1	52		52							52		52
		19/12/09	1	38		38	2		2				40		40
	Total		**7**	**397**	**0**	**397**	**4**	**0**	**4**	**20**	**0**	**20**	**421**	**0**	**421**
24.	Agri mobile clinic	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.	Soil test campaigns	2975													
26.	Farm Science Club Conveners meet	-													
27.	Self Help Group Conveners meetings	5/11/09	1		17	17								17	17
28.	Mahila Mandals Conveners meetings	12/1/10	1		12	12		1	1					13	13
		23/3/10	1		17	17								17	17
	Total		**2**	**0**	**29**	**29**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**30**	**30**

3.5 Production and supply of Technological products 2009-10

SEED MATERIALS

Sr. No.	Crop	Variety	Quantity (Kg)	Value (Rs.)	Provided to No. of Farmers
OILSEEDS	Groundnut (Breeder seed)	GG-5	630	31500	-
	Groundnut (Mega seed)	GG-5	160	6400	-
	Groundnut (Certified)	GG-20	140	3675	-
	Sesamum (Breeder seed)	GT-2	200	22220	-
	Sesamum (certified)	GT-2	920	77055	-

PULSES	Black Gram	T-9	360	23435	-
OTHERS					

3.6. Literature Developed/Published (with full title, author & reference)

(A) KVK News Letter ((Date of start, Periodicity, number of copies distributed etc.)

(B) Literature developed/published

Item	Title	Authors name	Number
1	2	3	4
Research papers	A comparative study of different tests for diagnosis of sub clinical mastitis in camel	J.B.Kathiriya and N.M Shah	Not applicable
Technical reports	Monthly Progress Report Quarterly Progress Report Moniterable Quarterly Progress Report Annual Progress Report	Krishi Vigyan Kendra, Targhadia	8
TOTAL	4		8
News letters	-	-	-
Technical bulletins	-	-	-
Popular articles	Jaminmathi lidhelu jaminne parat apo	Dr.M.B.Viradia,,Dr.N.D.Polara,Dr.J.B. Kathiriya,Dr.B.B.Kabaria, Shri.P.P.Gajjar, Dr.A.V.Kanpara	Not applicable
	Svaschha dudha utpadna –dudha utpadko mate aek vardan	Dr.J.B.Kathiriya, Dr.N.D.Polara, Dr.B.B.Kabaria	
	Pashuoni parmparagat Aushdhiya Sarvar	Dr.J.B.Kathiriya, Miss.R.T.Padaliya, Dr.B.B.Kabaria	
	Pashu Rogchala niyantranlaxi pagalanu mahatva	Dr.J.B.Kathiriya, Dr.M.B.Viradia, Dr.B.B.Kabaria	
	Soyabinni Svadist vangio	Ms. H.A. Manvar, Dr.B.B.Kabaria	
	Fal zadna bagichha mate kalam/ ropani pasandagi ane ropani	Dr.N.D.Polara,Dr.B.B.Kabaria, Dr.A.V.Khanpara	
	Ghaschhara ni kheti padhti	Dr.J.B.Kathiriya, Dr.B.B.Kabaria, Shri.P.P.Gajjar, Ms.H.A.Manvar	
TOTAL	7		
Extension literature	Pashuoma Uthala Marvana Karno ane tenu Nirakaran	Dr. J. B. Khathiriya Dr.N.D.Polara & Dr. B. B. Kabaria	1000
	Pashuni Samany bimarima been kharchal Sarvar	Dr. J. B. Khathiriya Dr.N.D.Polara Shri J.K.Rasadia & Dr. B. B. Kabaria	1000
	Sangrahit Anajma Jivat Niyantran	Shri D.A.Saradva, Shri G.B.Vekaria & Dr. B.B.Kabaria	1000
	Sankalit Jaiv Poshan Vyavsthapan	Shri D.A.Saradva, Shri M.G.Khokhani,Shri D.V.Muchhadia & Dr. B.B.Kabaria	1000
	Limbini Vaigyanik kheti Padhatti	Dr. N.D. Polara, Dr.J.B.Kathiriya & Dr. B.B.Kabaria	1000
	Pashu Aharma Mineral	Dr. J. B. Khathiriya Shri M.G.Khokhani,	1000

	Mixtureni Upyogita	Ku. H.A.Manvar & Dr. B. B. Kabaria	
	Fal ane Shakbhaji Parirakshan	Ku. H.A.Manvar, Dr. N.D.Polara, Dr. J.B.Kathiriya & Dr. B. B. Kabaria,	1000
	Kapashma sankalit Jivat Niyantran vyavastha	Dr. B.B.Kabaria, Shri D.V. Muchhadia & shri D.A.Saradva	1000
TOTAl	8		8000

3.7. Success stories/Case studies, if any

Success story-1

1. **Title : Cultivation of New Mustard variety (GM-2)**
2. **Background :**
   Mr. Parshotambhai Bhut is the farmer of Chhapra village of Lodhika Taluka, District Rajkot. He is a progressive farmer and regularly in touch with KVK, Targhadia. Previously he was cultivating Wheat and Cumin crop. After coming in contact with the scientist of KVK, Targhadia he cultivated the improved and recently release variety of mustard (Gujarat Mustard – 2) as a Front Line Demonstration and harvested good yield (23.75 Q/ha) as compared to local one (14.69 Q/ha) during Rabi 2006-07. With introduction of new variety, he got high additional net return.
3. **intervention: Introduction of new crop in this area**
   process:
   technology:
4. **Impact:** This variety GM-2 will increase the production of Mustard from14.69 to 23.75 Q/ha which will improve the economic condition of farmers of Saurashtra area

Success story-2

1. **Title : Production of vermi compost**
2. **Background :**
   Mr. Haresh M. Saipariya, a farmer of village Rataiya, Ta-Lodhika, Dist- Rajkot cultivating cotton since last 10 years. Due to continuous mono cropping and less use of organic matter in soil, the soil health and fertility destroyed in some extent. The yield of cotton reduced year after year. Due to contact with Krishi Vigyan Kendra, he started to produce Vermi compost and use in his own farm from last three years. Due to use of vermicompost the soil health and fertility improved and he got good yield of cotton since last three years
3. **intervention:** Use of organic matter in soil
   Impact: After use of vermi compost the cotton yield increased from 2000 kg/ha to 3600 kg/ha
   Horizontal spread : Most of the farmers of this village use vermicompost in his soil
   Economic gains : 40000 Rs./ha
   Employment generation : NIL

Success story-3

1. **Title : Minimise the problem of wilt and blight disease in cumin**
2. **Background :**
   Mr. Laljibhai Saipariya is the farmer of Rataiya village of Lodhika Taluka, District Rajkot. He is a progressive farmer and regularly in touch with KVK, Targhadia. Previously he was cultivating Wheat and Cumin crop with old variety in Rabi season. In this cumin cultivation he suffered lot of from heavy infestation of wilt and blight diseases as a result there was a considerable loss in yield of the cumin. After

coming in contact with the scientist of KVK, Targhadia he cultivated the improved and recently release variety of cumin (Gujarat Cumin – 4) as a Front Line Demonstration and harvested good yield (7.50 Q/ha) as compared to local one (4.85 Q/ha) during Rabi 2006-07. With introduction of new variety, he found this variety of cumin is highly tolerant to wilt and blight disease and he got high additional net return.

3. **intervention:** Disease management in cumin
4. **process:**
   technology:

Impact: This variety GC-4 will increase the production of Cumin from 4.85 to 7.50 Q/ha which will improve the economic condition of farmers of Saurashtra area.
Horizontal spread : Most of the farmers of this village use Cumin variety-GC-4
Economic gains : Increased the yield from 500 kg/ha to 1000 kg/ha
Employment generation : NIL

Success story-4

1. **Title** : An effective approach for the management of groundnut stem rot :

2. **Background :**

Groundnut and cotton are the major Kharif crops and cumin in Rabi season in operational area of KVK. During the survey in March 2001, it was observed that majority of farmers are growing groundnut variety GG-20 with wide spreading of 90 cm, so that agricultural practices can be done easily. Farmers are recommended to sow groundnut by keeping row spacing of 60 cm and for controlling the stem rot, seed should be treated with Trichoderma culture @ 4 gm/kg seeds and soil application @ 2.5 kg with 50 kg of castor cake at 30-40 days after sowing by using drill in moist condition. By organizing the activities like group discussion, night meeting, field day etc. Mr. Bhupatsinh Jadeja a farmer of Devalia village who took the interest to conduct demonstration under complete guidance and frequent supervision of KVK scientist. After adopting this improved technology, Mr. Bhupatsinh Jadeja harvest Groundnut pod yield of 31.25 q/ha with gross return of Rs. 46875 per ha as compared to 23.75 q/ ha with gross return of Rs. 35625 per ha by traditional practice.

3. **intervention:** Disease management in groundnut
4. **process:**
   technology:
   Impact: Additional yield can be obtained in case of Groundnut by application of *Trichoderma*.

Horizontal spread : Most of the farmers of this village use *Trichoderma* to control stem rot
Economic gains : Increased the yield from 800kg/ha to 1200 kg/ha
Employment generation : NIL

Success story-5

1. **Title** : Introduction of new crop in Saurashtra region
   Background :
   Farmer's Name: Rameshbhai Tarpara (Mob. 9824362442)

   Village: Nagarpipaliya, Ta: Lodhika Dist : Rajkot

He is a progressive farmer of Rajkot district if Nagarpipaliya village. He inspired to cultivate mosambi from Nagpur (MH), learned cultivation technology and planted the mosambi graft in his field. He received planting materials from Maharashtra. Total 12000 mosambi plants are planted within three years. After three year he take fruits of success from the mosambi cultivation and provide the motivation for introduction of new crops in non traditional areas like Lodhika taluka of Rajkot district.. He also take intercrops between the plant during initial three to four years and got extra income till main crop start to gave production.

2. **intervention:** Introduction of new horticultural crop
3. **process:**
   technology:
   Impact: Successful cultivation of mosambi and he assume high income from this crop
   Horizontal spread : Most of the farmers of the area interested to visit this farm
   Economic gains : He assume to earn net profit of Rs. 3 Lack /ha. from his field
   Employment generation : NIL

4 Performance of instructional farm (Crops) including seed production

Name Of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty. (kg)	Cost of inputs	Gross income	
Cereals : nil									
Pulses									
Black Gram	14/7/09	29/10/09	3.30	T-9	Seed(certi.)	360	7047	23435	-
					B Grade	40		2014	
Oilseeds									
Groundnut	11/7/09	22/10/09	4.18	GG-5 Breeder seed	Pod	630	35917	31500*	
					B Grade	80		2000*	
					Fodder			21220	
Groundnut	12/7/09	25/10/09	1.73	GG-5 Mega Seed	Pod	160	7394	6400*	
					B Grade	20		500*	
					Fodder			9770	
Groundnut	13/7/09	24/10/09	1.87	GG-20 Certi.	Pod	140	3511	3675*	
					B Grade	35		900*	
					Fodder				
Sesamum	12/7/09	15/10/09	1.02	GTill-2 Breeder	Seed	200	1411	22220*	
					B Grade	10		650*	
Sesamum	12/7/09	8/10/09	3.73	GTill-2 Certi.	Seed	920	5037	77055	
					B Grade	150		9750	
Total Income								211089	

* Expected Income based on previous year Price

5. FINANCIAL PERFORMANCE

5.1 Utilization of funds under FLD on Oilseed *(Rs.)* (Budget Head 2704-15)

Item	Released by ICAR		Expenditure		Unspent balance as on 1st April 2010
	Kharif 2009	Rabi 2009-10	Kharif 2009	Rabi 2009-10	
Inputs					
Extension activities					
TA/DA/POL etc.					
TOTAL			**27,000**		**-27,000**

5.2 Utilization of funds under FLD on Pulses *(Rs. In Lakhs)* (Budget Head 2704-24)

Item	Released by ICAR		Expenditure		Unspent balance as on 1st April 2010 Rabi 2009-10
	Kharif 2009	Rabi 2009-10	Kharif 2009	Kharif 2009-10	
Inputs					
Extension activities					
TA/DA/POL etc.					
TOTAL			**28430**		**-28430**

5.3 Utilization of funds under FLD on Cotton *(Rs. In Lakhs)* (Budget Head 2704-36)

Item	Released by ICAR		Expenditure		Unspent balance as on 1st April 2010 Rabi 2009-10
	Kharif 2009	Rabi 2009-10	Kharif 2009	Kharif 2009-10	
Inputs					
Extension activities					
TA/DA/POL etc.					
TOTAL	**80,000**		**98,513**		**-18,513**

5.4 Utilization of KVK funds during the year 2009 – 10 (Rs in Lakh)

Sr. No.	Particulars	Sanctioned	Released	Expenditure
1	2	3	4	5
A. Recurring Contingencies				
1	**Pay & Allowances**	42.00	42.00	40.85
2	**Traveling allowances**	1.00	1.00	0.77
3	**Contingencies**			
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	1.50	1.50	2.55
B	POL, repair of vehicles, tractor and equipments	0.90	0.90	1.21
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	0.70	0.70	0.36
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	0.80	0.80	0.79
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	0.90	0.90	0.01
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	0.60	0.60	0.03
G	Training of extension functionaries	0.40	0.40	0.07
H	Maintenance of buildings	0.20	0.20	0.01
I	Establishment of Soil, Plant & Water Testing Laboratory			
J	Library			
TOTAL (A)		**49.00**	**49.00**	**46.65**
B. Non-Recurring Contingencies				
1	**Works**			
2	**Equipments including SWTL & Furniture**	0.40	0.40	0.38
3	**Vehicle** (Four wheeler/Two wheeler, please specify)			
4	**Library** (Purchase of assets like books & journals)	0.10	0.10	0.09
TOTAL (B)		0.50	0.50	0.47
C. REVOLVING FUND				
GRAND TOTAL (A+B+C)		**49.50**		**47.12**