

Research on Post Harvest Technology of Importance Crop of Saurashtra



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REVIEW OF PLAN SCHEME

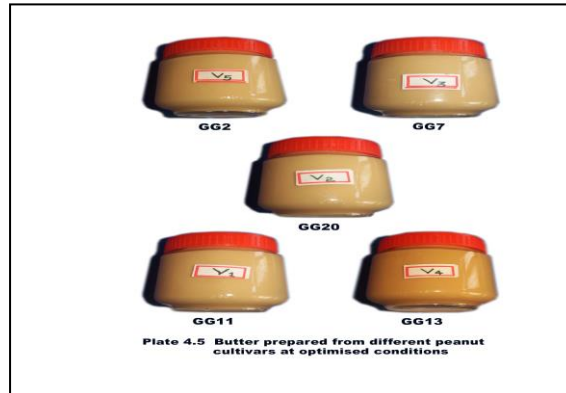
(Research on Post Harvest Technology of Importance Crop of Saurashtra)

1. **Budget Head:**12576
2. **Name of Scheme:**Research on Post Harvest Technology of Importance Crop of Saurashtra.
3. **Year of commencement:**2005-06
4. **Objective (s) of the scheme:**
 - Management of pre harvest practices of important fruits and vegetables for improving the quality and reduction in post harvest losses.
 - Development of suitable on-farm drying and curing technology for the important crops of Saurashtra.
 - Improvement in on-farm post harvest handling of major crops.
 - Design and development of suitable storage structures for perishable crops.
 - Development of process technology and machines for value added products.
 - Development and standardization of packaging techniques for raw and processed products.
5. **Details of Post Sanction:**No Post has been sanctioned under this project.
6. **Year wise financial progress :** From 2004-05 to 2014-15 given in **Appendix-1**
7. **Year wise physical achievements:** As given below

Year 2007

Peanut Butter

The entrepreneurs / farmers interested in value addition in Groundnut / peanut is recommended to select the GG-20 cultivars of peanut for the production of good quality peanut butter.



Year 2008

Fruits & Vegetable Grader

The farmers, processing machineries manufacturers and processors are recommended to use hand-operated grader developed by Junagadh Agricultural University for grading sapota and other similar types of fruits on the basis of size.



Year 2010

Drying of Vegetables using Crop Residue Dryer

The agro processor interested in using the crop residue based dryer developed by Junagadh Agricultural University for drying serrated carrot, carrot slices, cabbage leaves, cauliflower pieces, tomato slices and whole green chillies are recommended to use following operating parameters :

1. Air temperature : 51 to 55 0C
2. Air velocity : 1.5 m/s
3. Bed thickness : 8.0 cm
4. Average fuel required : 5.5 kg/h



Year 2012

Dehydration and Storage of Vegetables

The processors, exporters are advised to store dehydrated onion, garlic and unripe mango powder in polyethylene (HDPE) bags of 50 micron in vacuum packaging (740 mm Hg) to retain the quality up to 120 days of storage period.



Plate No. 3.6 Onion powder

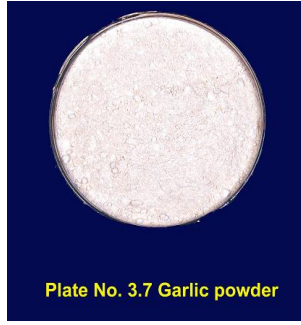


Plate No. 3.7 Garlic powder



Storage of Onion

Farmers and traders who are interested to store the onion for more than four months are recommended to use forced air ventilated storage structure to get 36 % of more marketable red onion.



Year 2014

Packaging of guava fruit

The farmers, processors and exporters are recommended to adopt packaging technique developed by Junagadh Agricultural University for increasing the shelf life of guava fruit up to 18 days at room temperature by packing in 50 μ polyethylene bag with a vacuum level of 700 mm Hg.

Guava powder and its packaging and storage

The farmers, processors and exporters are recommended to adopt hot air drying technique developed by Junagadh Agricultural University for preparing of Guava powder by drying of fresh guava slices (3 mm thick) pretreated with 1 % CaCl_2 + 2 % KMS solution for 10 minutes at 600 C drying air temperature and 1.25 m/s air velocity in drying period of 17 hours. The powder prepared by this method can be stored up-to 80 days at room temperature by packing in 50 μ polyethylene bag with a vacuum level of 700 mm Hg.



PRETREATED GUAVA SLICES LOADED IN TRAYS BEFORE DRYING.



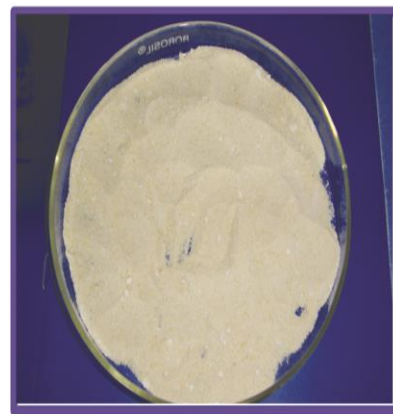
LOADING OF DRYING TRAYS IN THE DRYING CHAMBER.



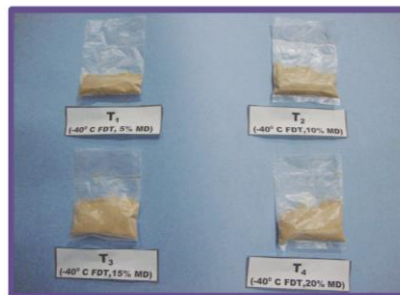
VACUUM PACKED GUAVA POWDER AFTER 80 DAYS OF STORAGE PERIOD.

Custard Apple Powder

The processors and exporters are recommended to adopt freeze drying technique developed by Junagadh Agricultural University for preparing custard apple powder by freeze drying of fresh custard apple pulp (1.5 kg) pretreated with 5 % maltodextrine at -40 0C temperature with a drying period of 41 hours. The custard apple powder obtained by this method has better product quality and could be stored for up to 90 days at room temperature when packed in 50 μ polyethylene bag at a vacuum level of 700 mm Hg.



3.4 FREEZE DRIED CUSTARD APPLE POWDER



6.3 CUSTARD APPLE POWDER WITH VACUUM
ON 90TH DAY OF STORAGE
(PREPARED AT - 40° C TEMPERATURE)

Year 2015

Extraction of pectin from Kesar mango peel by resins

Mango processors are recommended to adopt a process technology developed by Junagadh Agricultural University for the production/extraction of pectin from mango peel using cation exchange resin as an extraction medium with peel to extraction medium ratio of 1:4, extraction pH of 2.56, extraction temperature of 80 °C, extraction time of 60 min and two times extractions. This method can give better yield and quality of pectin with benefit cost ratio (BCR) of 1.17.



Waste from Mango canning Plant Pectin powder

Appendix -1

Year wise financial progress (from year 2004-05 to 2014-15}

Budget Head	Year	Sanctioned Grand (Rs. In lakh)				Expenditure (Rs. In lakh)				Income (Rs. lakh)
		Pay	Recurring	Non Recurring	Total	Pay	Recurring	Non Recurring	Total	
10576	05-06	--	70000	230000	300000	--	66370	228000	294370	--
10576	06-07	--	90000	45000	135000	--	127781	--	127781	--
10576	07-08	--	103000	1025000	1128000	--	103000	1018247	1121247	--
10576	08-09	--	70000	--	70000	--	77827	--	77827	--
10576	09-10	--	70000	--	70000	--	69265	--	69265	--
10576	10-11	--	100000	--	100000	--	99528	--	99528	--
12576	11-12	--	70000	--	70000	--	55949	--	55949	--
12576	12-13	--	160000	--	160000	--	159524	--	159524	--
12576	13-14	--	150000	--	150000	--	145047	--	145047	--
12576	14-15	--	170000	--	169980	--	169980	--	169980	--