



September, 2007

मधुमतीरोषधीद्यवि आपो मधुमन्नो भवत्वन्तरिक्षम् क्षेप्रस्प पतिर्मधुमान्नो अस्त्वरिष्यन्तो अन्वेन चरेम ।

May our vegetation be sweet, nutritious and health giving. May the rays of the sun and the moon produce sweetness all round and the water and the sky may also create sweetness for us. May our farmer produce sweet, and we avoiding injustice and injury to others, do whatever is in the interest of our farmer. Atharva Veda, Chapter 20, Section 145,

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"Our overall global agricultural image makes us proud. We have considerable capacity in agricultural research and education. We occupy a leading position in many areas of farm technology, including information, bio-and technologies."

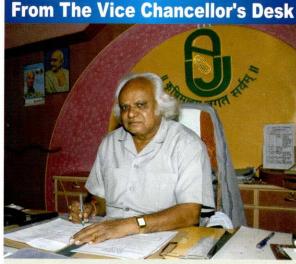
Dr. M. S. Swaminathan

Shri Narendra Modi, Chief Minister **Inspiring Farmers for Export &** Value Addition of Farm Produce

Number: 7-8



The valedictory session of the national seminar was also presided over by the Hon'able Chief Minister of Gujarat, Shri Narendrabhai Modi. Also present on the dias were Shri Bhupendrasinh Chudasma, Minster, Agriculture & Co-operation Department (Gujarat State); Shri I. K. Jadeja, Minister, Urban Development, Smt. Anandiben Patel, Minister, Education, Shri C. D. Patel, Minister, Travel and Tourism; Shri Ratibhai Sureja, Minister, Water Resources and Dr. Avinash Kumar, Additional Chief Secretary, Agriculture & Co-operation Department. On this occasion, The Chief Minister released a book entitled "Phal ane Phul Pako ni Kheti"and a booklet on "Khedut upyogi sansodhan bhalamano".



NEW TECHNOLOGIES OF AGRO PROCESSING AND POST HARVEST ENGINEERING

Agricultural production in India has made rapid strides in the past three decades and enabled us to achieve self sufficiency in food grains. Significant increase have also been achieved in the production of fruits, vegetables, milk, egg, meat and other food products. However, less than 1% of our total horticultural produce is processed as compared to more than 60% in developed countries. It is estimated that the post harvest losses in durable commodities are around 10% and in perishables about 40%, resulting in a value loss of the order of more than Rs.80,000 crores a year, because of the inadequate processing technologies, infrastructure facilities and qualified technical personnel.

In the present scenario of economic liberalization, GATT agreement and changing food consumption habits, the Indian Food Industry will shift to foods that demand more appropriate handling, processing, preservation, storage and marketing resulting in greater protein intake besides making the Indian food products internationally competitive.

A number of R&D organizations in the country have been working in the area of Post Harvest Technology. However, in view of the agro climatic diversity and vastness of the country besides globilization there is an urgent need to develop suitable technologies. Some of the such technologies are identified and listed hereunder which requires the attention of the enterprenures as well as research institutes.

- (1) Pre cooling and storage of fruits and vegetables including controlled environment storage.
- (2) Utilization of neno technology in packaging to preserve freshness of the fruits and vegetables.

- (3) Application of bio technology in milling of oilseeds and pulses.
- (4) Cryogenic grinding of spices.
- (5) Protein isolation from groundnut.
- (6) Critical fluid extraction technology for essential oils

Also, the research institutions need to work in close coordination with the food processing industries so that the feed back can be considered suitably in the research programmes. Necessary fund should be provided to the identified institutions for pursuing the area specific commodity research for its processing.

In the era of economic liberalization where the private, public and co-operative sectors are to play their rightful role in development of food processing sector, the policy of the Government should act as a catalyst for bringing in greater investment into this sector, guiding and helping the industry in a proper direction, encouraging exports and ceating a conducive environment for the healthy growth of the food processing industry.

In context to the above, the following points / suggestions should be considered at appropriate level and by the concerned people/ organizations so that the food processing industry grow at a faster pace in our country for the benefit of farmers as well as providing better nutrition to our people.

Suggestions

1. Establishment of a separate Department of Food Processing in each State

The food processing and handling activities are still largely in the unorganised and small scale sector which accounts for 75% of total food industry. Looking to the rising level of processing activities and present status, there is urgent need to establish a separate Department of Food Processing in each State.

2. Establishment of testing laboratory for quality analysis

The quality of processed products should meet the international standards especially for the purpose of export. Moreover the processors should be able to get the quality analysed for the raw material and processed products. At present limited number of such laboratory giving the test certificate are available in the country. To boost the processing activities and help the processors, there is urgent need of establishing a testing laboratory in collaboration with the processing industries and agricultural universities.

3. Manpower

The qualified and trained manpower is needed to fulfill the industry requirement for undertaking the aspects of quality control, processing, development of new products, technology upgradation, food processing machinery manufacturing and maintenance of the plant. Considering the existing status, suitable educational courses should be designed for various categories of manpower required including the operators of the plant. The training and retraining of the manpower of such industries are very important for overall growth of the food processing sector.

4. Establishment of Rural Agro Processing Centers

The 'Model' Agro Processing Center established at Village Ta. - Dhoraji, Dist. -Fareni. Rajkot and Village Tadka Pipaliya Dist.-Junagad by Ta. - Bhesan Agricultural the Junagadh University have been found successful. Both the center are run by the village co-operatives undertaking the oil milling, spice grinding and mango pulp bottling activities. The farmers have been benefited due to the value addition taking place at their village itself in addition to providing employment to the rural youths. More number of such agro processing centers should

be established at rural level through out the country.

5. Creating awareness about the new technologies among farmers, processor, policy makers and extension agencies.

Lot of research work has been carried out by the Government and R&D organizations for process technology and post harvest engineering. However, many of the technologies and machines have not reached to the end users due to one or other reasons. Such technologies and machines need to be refined through further R & D in collaboration with the industry. The technologies so refined should be extended properly to the farmers, agro processing industries as well as cooperative sectors processing units through various extension agencies.

Gujarat Gaurav Deen-2007

Govt. of Gujarat celebrates Gujarat Gaurav Deen on 1st May at different places. Junagadh district was selected for the year 2007. Variuos development programs were launched during 11 days celebration period. JAU added new the feathers in the crown by inaugarating 17 projects/programs.

Fountain:

A symbol of dynamism and continuum

Beauty and duty are the parts of organizati Panorami c view



a n d beautiful look is new ornaments to the campus. A fountain is being inaugurated by Shre Ratibhai Sureja, State Minister for Water Resources, on 23rd April, 2007, the first program at JAU celebration. He expressed his joy with saying that after commencement of JAU, campus has acquired beautiful scenery and attracting the eyes of people.

ATIC: A step ahead in the sky of Technological Information



A T I C
(Agricultu
r a l
Technolog
i c a l
Informatio
n Center)

meant for providing single window services including technological information, quality products like improved seeds, planlets, equipments & implements and various services to the farmers. The center was inaugurated by Shri Vajubhai Vala, Minister for Finance, Gujarat state on 26th April, 2007.

Renovated Community Hall: Working together, enjoying together

On 26th April 2007, S m t . Jasumatibe n Korant, S t a t e

Minister.



Women and Children Welfare, Gujarat state, inaugurated the Community center having modern facilities for to dine and to rejoice together. The community hall harbours various social, spiritual and scientific programs. Provides basic and advanced facilities to run the meet and social functions.

High Tech Greenhouse: Widening the horizons of traditional agriculture to new dimensions

JAU is advanc ing in t h e field of precipi tating

hitech



knowledge into practical & innovative applications thru demonstration. A new greenhouse shaped in the campus which was inaugurated by Shri Diliphai Thakor, State Minister for Agriculture, Gujarat state, on 28th April, 2007.

WTO cell:

Global Information on tips of fingers.



W T O (World Trade Organization) cell brings the awareness

about global changes in agricultural marketing and trade. It compiles and disseminates the information thru electronic media and www. The inauguration of the cell was held on 27th April, 2007 in the auspicious presence of Shri State Minister for Revenue, Shri Kaushikbhai Patel.

Renovated Health Center

Shri Ashok B h a t t, Minister for Health and Justice, Gujarat



s t a t e inaugurated the renovated health center on 28th April, 2007. He stressed upon use of Ayurvedic practices in improving and maintaining health. This will ultimately result in better performance and joyful living of employee.

Pump Testing Laboratory: Care for quality gives returns in increased quantity.



Shri Ashok
B h a t t,
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Mega seed Project Training Hall: Knowledge makes powerful, training makes perfect

A training hall meant for imparting training to farmers, extension workers,

s e e d producers , scientists a n d profession als have been built



at JAU. The hall was inaugurated by State Minister, Animal husbandry and Fisheries, Shri Parasottambhai Solanki.

<u>Cacterium : New center of cacti collection and propagation</u>



Cactus is thorney a n d succulen t plant giving scenic beauty in

the drawing rooms and offices. A cacterium is developed by JAU inaugurated by Shri Sundarsinh Chauhan, Minister for Social welfare, Gujarat state on 29th April, 2007.

WTO website launching

JAU has built a W T O websites giving information



o n international market for agricultural commodities and issues related to the world trade. The website was floated by shri State minister for Industries and Mines, Shri Anilbhai Patel on 29th April, 2007

Seed processing plant : New hope for better and more seeds

Shri I. K. Jadeja, Minister for R&B and Urban Development, Gujarat



state ingurated the Seed processing plant at JAU on 29th April, 2007. He highlighted multifacet benefits of seed processing and its importance in cost minimization and more yield.



KrushiManotsav-2007 A marvelous fate & feature of Agricultural Education

Farmers of Gujarat witnessed a massive movement bringing subtler changes in concepts of agriculture in farmers' mind and in public. During 20th April, (Akhatrij, means Akshay Tritiya) to 19th May, 2007, more than 1.79 lakh Farmers of Saurashtra visited Krushirath at their village alongwith experts, scientists and Government officials. Totally 83632 farmers participated in One-Day Khedutshibir aquired the knowledge of various aspects of grass root agriculture and hitech agriculture. 25 publications in Gujarati on scientific cultivation of various crops, biotechnology and tissue culture, chemical fertilizer, vermi compost technology, Post harvest value addition, renewable energy etc attracted the eves of ever enthusiastic but poorly informed farmers. The success of the two earlier Krushi Mahotsav fuelled the dynamism in third such event in Saurashtra region. The scientists of JAU covered each and every village under the able guidance of The Hon. Vice Chancellor, JAU and perfect planning by Director of Ext. Education. The Mahotsav was inaugurated at each district places.

Student Counseling

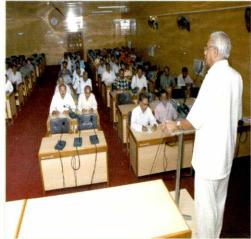


A workshop
o n
"Leadership
Development"
was organized
a t J A U ,
J u n a g a d h

during 22 to 26 May, 2007 by International School for Public Leadership, Ahmedabad in which 47 s t u d e n t s participated.



Hon. Vice Chancellor Dr. B.K. Kikani inaugurated and blessed the programme. Dr. KN Shelat, Ex Secretary teaches the participants.



Shri Gijubhai Bharad, well known educationist speaks on "The role of parents in the development of confidence in the students" at the College of Agriculture, JAU, Junagadh on 23rd May, 2007.

Arunaben Sheth Teaches lessons on atlaining peace of mind to the students of JAU



Student Placement

- 1. About nine students of Agricultural faculty selected in Pest Control India Pvt. Ltd.
- 2. About seven students of Agricultural Engineering faculty are absorbed in TAFE, ten in Jain Irrigation, six in Netafim Irrigation.

Seminar organized

National Seminar on Production, Processing and Exports in Mango



Mango Seminar: Valedictory session

A National Seminar on Production, Processing and Exports in Mango was organized by Junagadh Agricultural University, Gujarat Bagayat Vikas Parishad and State Horticulture Department at Junagadh on the 1st May, 2007 to commemorate the birth of Gujarat state.

Shri Bhupendrasinh Chudasama, Hon"able Minster, Agriculture & Cooperation Department (Gujarat State) inaugurated the national seminar. The dignitaries present in this session were Smt. Shilaben Benjamin, Secretary, Agriculture and Co-operation Department; Dr. S. R. Chaudhari, Director, Horticulture Department (Gujarat state) and Dr. P. K. Singh, Area Officer (Gujarat), National Horticulture Board.

The workshop on "Safety assessment and regulations of GM crops" jointly organized by Biotech Cosortium India Ltd. and Department of Agricultural Botany, JAU, Junagadh on 7th April, 2007in which seven scientists of the Department of agricultural Botany participated..



Swami Paramatmanandaji 12th September, 2007 on pravatman samayma sukhi jivanmate vedantni yatharthata (Validity of Vedanta in the context of happy life in present time.)



Shree Mohanbhai Patel, ExMP and Minister of Gujarat state explains Kalpasar Yojana Sinchaina panino shreshtha ukel (Kalpasar Project: The

best solution of crisis of Irrigation water) on 3rd October, 2007 at JAU.

Dr. M. H. Mehta, Ex V i c e Chancellor, GAU on 27th Septenber,20 07 on The c o m i n g r a i n b o w revolution explained the v a r i o u s revlutions i.e.



Green (Food grain), White(Milk), Blue(Ocean & seas), Brown (Desert), Yellow(Pulses & Oilseeds), Black(Biofuel), Multicolour (Horticulture & Processing).

Learn while you learn Play while you play..

Intercollegiate Sports Competition



Volleyball



Kho-Kho



Badminton



Table-Tennis



Cricket



Kabbadi



OUR DOORS ARE OPEN LIKE OUR HEART

Shri Mahendra Masharu , MLA, Junagadh and Dr. B. K. Kikani, Vice Chancellor inaugurating New Gate at Motibaug



"Success of Krushimahotsava is due to union of Head (Knowledge), Heart (Dedication) and Hands (Actions) of Scientists and officers."

Shri Bhupendrasing Chudasma, Hon'ble Minister of Agriculture, Gujarat State appreciates the the efforts and zeal of scientists of JAU for successful event of Krushi Mahotsava -2007



Health is Wealth

An yoga –Prnayam shibir organized by JAU and Patanjali Yogpith Hardwar for healthy living of the staff during 5to 11 August,2007 at CEAT Hall, JAU,Junagadh



Arise, awake and stop not till the goal is reached

Impressive and inspiriting statue of Swami Vivekanandji unweiled at the door of College of Agriculture, Junagadh by Aswanikumar, The District Collector, Junagadh. Dr.B.K.Kikani, Vice Chancellor and Shri Kunvarjibhai Jadav, President of All India Kisan Sangh remained present at the occasion.



A book "Paryawarn Shikshan Parichay Samasyayo, Upayo ane Vyavsthapan" created by Dr. Harishankar Sinh, Professor of Sardar Patel Mahila B.Ed. College was released by Dr.B.K.Kikani, Vice Chancellor on 17th Dec, 2007



JUNAGADH AGRICULTURAL UNIVERSITY keeps pace with Agricultural Development with zeal

Dr. H.C.Pathak, The Director of Finance, ICAR, New Delhi and Dr.B.K.Kikani, Vice Chancellor on 29th November, 2007.



Krishi Vigyan Kendra cares and generates knowledge till it becomes skill and success.

Opening ceremony of KVK Workshop.



"My life is my message"

The Statue of Mahatma Gandhiji unveiled by Shri Mohankumar Jha, Special DGP, South Saurashtra Range, Junagadh on 11th October, 2007. The Statue is the centre of attention for all students and visitors, Dr.B.K.Kikani, Vice Chancellor.

New Findings for Farmers

Pearl millet:



The farmers of North Saurashtra & West Gujarat Agroclimatic Zones growing kharif pearl

millet in saline sodic soil with marginal sulphur status are advised to apply 250 kg gypsum/ha in addition to recommended dose of fertilizer (80:40 kg NP/ha) for obtaining higher yield and net realization.

Onion(rabi):



The farmers of South Saurashtra Agro-climatic Zone utilizing urea as a source of nitrogen in rabi onion are

recommended to apply 20 kg sulphur/ha through phospho gypsum at the time of sowing or as elemental sulphur at 20 to 25 days before transplanting for getting higher bulb yield.

Groundnut:



The farmers of South Saurashtra Agro-climatic Zone harvesting wheat through combined harvester are advised to incorporate wheat

straw in soils using rotavator for better weed control and net return along with maintenance of soil fertility in kharif groundnut.

Groundnut (kharif)-Onion (rabi)-Green gram (summer):







The farmers of South Saurashtra Agro-climatic Zone having assured irrigation facility are advised to adopt groundnut (kharif)-onion (rabi)-green gram (summer) sequence for obtaining higher production and net returns.

Cotton:



The farmers of South Saurashtra Agro-climatic Zone growing cotton in medium black calcareous soils are advised to apply 120

kg K₂O and 50 kg ZnSO₄ per hectare as basal in addition to recommended dose of nitrogen for getting maximum net return.

Garlic: JG-99-213 (Guj. Garlic-4)



The proposed Garlic variety JG-99-213 (Guj. Garlic-4) recorded 20.42 and 20.34 per cent higher bulb yield

over checks GG-3 and G-282, respectively. The bulbs are compact

and contain higher soluble solids (36.12%) as compared to GG-3 (35.50%) and G-282 (34.75%). The Guj. Garlic-4 variety is released for cultivation in the region of Saurashtra and Middle Gujarat.

Garlic:

Farmers of South Saurashtra Agroclimatic Zone growing garlic are advised to apply three sprays of thiophanate methyl 70 % WP @ 0.05 % (CBR 1: 7.85) or hexaconazole 5 % EC @ 0.008 % (CBR 1:6.48) at 10 days interval starting from initiation of powdery mildew (Leveillula taurica) disease during rabi season for it's economic and effective management. However, those who are interested in organic farming can use wettable sulphur 80 WP @ 0.30 % (ICBR 1: 8.67).

Banana:



The farmers of South Saurashtra Agro-climatic Zone growing banana are advised to grow

variety "Gandevi Selection" for higher yield and income per hectare.

Papaya:

Papaya growers of Saurashtra region are advised to grow Madhubindu variety for maximum papain production. Further, they are advised to extract papain from papaya at 80 days old fruits for getting maximum fresh and dry weight of latex (crude papain).

Coriander:



For effective and economical management of aphid in coriander, farmers of South Saurashtra region are advised to

apply seed treatment with thiamethoxam 70 WS @ 4.2 g/kg seed (CBR 1:4.94).

Chickpea:



For effective and economic management of Heliothis armigera in chickpea, farmers of South Saurashtra Agro-

climatic Zone are advised to spray fenvalerate 0.02 % at 50 per cent flowering followed by second spray of endosulfan 0.07 % at 50 per cent pod formation (CBR 1:9.85).

Chickpea:

For effective and economic management of gram pod borer in chickpea, farmers of South Saurashtra Agro-climatic Zone are advised to apply three sprays of profenophos @ 750 g a.i./ha.(1.5 litre/ha) (CBR 1:2.47) or go for alternate spray of NSKE 5 %, Bt 1 kg/ha and profenophos 750 g a.i./ha (1.5 litre/h) (CBR 1:1.98) at 10 days interval stating from 50 per cent flowering.

Gir cow:



Milk replacer containing the following ingredients is useful to replace 50 per cent of whole milk for feeding weaned

Gir calves, without any adverse effect on body growth. Ingredient composition for one kg milk replacer is wheat flour -100g, soybean meal, 120g, groundnut cake meal - 400g, skim milk powder-130g, coconut oil-100g, butyric acid-3g, molasses/jaggary-65% - 100g, mineral mixture - 32g and citric acid-15g.

Mullet fish culture:



It is recommended to incorporate Prosopis juliflora pod powder @ 20 % alongwith

fish meal - 10 %, soyabean meal - 40 %, wheat bran - 15 % and cotton seed oil cake - 15 % in pelleted feed for higher production as well as greater survival rate in mullet fish culture.

Peanut butter:

The entrepreneurs/farmers interested in value addition in peanut are recommended to select the GG-20 cultivar (in comparison to GG-2, GG-7, GG-11, GG-13) of peanut for the production of good quality peanut butter.

Cleaner-cum-Grader for Cumin:

The cumin cleaner-cum-grader machine developed by Junagadh Agricultural University has cleaning efficiency of 75 per cent at the capacity of 50 kg/h and a low cost of cleaning (Rs. 0.31 per kg). It is recommended for the use of farmers, processors and other users.

Publication

- 1. Book:
 - 1. Plantation pakoni kheti paddhati (Cultivation Methods of Plantation Crops)
 - 2. Mari masala ane tejana pakoni kheti pddhati

(Cultivation Method of Spices and Condiments)

Author: Dr. P.K. Kapadiya, Associate Research Scientist ,JAU, Mahuva

2. Pamphlet: Hi-Tech Horticulture Park

The Department of Horticulture, JAU, Junagadh

- 3. Technical Bulletin:
 - (1) Research Highlight of Mealybug in Saurashtra (1974-2007) Authors: Dr. M.N. Kapadia, Prof, N.N. Beria, Dr. M.F. Acharya and Dr. V.R. Virani, The Department of Entomology, JAU, Junagadh
 - (2) Glimpess of Research on Grounnut Pests in Saurashtra Authors: Dr. M.N. Kapadia, Prof, N.N. Beria, Dr. M.F. Acharya and Dr. M.N. Motka, The Department of Entomology, JAU, Junagadh

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Res	ear	cn	pro	20	16
			No. of Concession, Name of Street, or other Designation, or other		

Sr.	Title of project	Sponsoring	Principal	Amount				
No.		organization	Investigator	(Rs. in Lakhs)				
			and co-Investigator					
1	Establishment of	Gujarat Agro	Professor and Head,	68.60				
	canning plant at JAU,	Industries	Department of	Lakhs				
	Junagadh		Agricultural Process					
			Engineering, JAU,					
		Ahmedabad	Junagadh					
2	Front Line	Gujarat	Dr. K. V. Kalathiya,	5.16				
	Demonstration of	Horticulture	Research Scientist	Lakhs				
	Vegetable Crops	Mission,	and					
	(Onion, Garlic,	Gandhinagar	Prof. A. G. Patel,					
	Tomato, Brinjal and		Assistant Professor,					
	Okra).		Vegetable Research					
			Station,					
			JAU,Junagadh					
3	Evaluation of growth			1.51				
	stimulating and disease	Chemicals	Professor and Head,	Lakhs				
	control effect of	India Pvt. Ltd.						
	Vitavax 200	Mumbai	Pathology, JAU,					
	wp, Ipconazole and		Junagadh					
	Kodiak on groundnut							
	seeds against collar rot							
	of groundnut.							

Extension activities

Training imparted:

Two days training programme was arranged at JAU, Junagadh for farm women on the subject "Value addition in farm produce" in collaboration with Ambuja Cement Foundation, Kodinar () in which thirty farm women actively participated.

Visitors:

- 1. Dr. S.S. Magar, Former Vice Chancellor, BSKKV, Dapoli.
- Dr. C.L. Acharya, Former Director , Indian institute of Soil Science (ICAR), Bhopal.
- Dr. S.K. Chaudhary , Sr. Scientist , WTC, Bhuvneshwer.

Our Pride

Sipani Krishi Anusandhan Farm Award 2007



The paper entitled "Testing of traditional methods for weather forecast in Gujarat" authored by Dr. P.R. Kanani, Associate

Professor, Department of Extension Education, College of Agriculture, Junagadh has been selected by Asian Agri-History Foundation as the Best Paper in Asian Agri-History for the Sipani Krishi Anusandhan Farm Award 2007. The award consists of a cash prize of Rs. 5000 and a certificate to the author.

Krushi Vigyan Kendras of JAU Sky is the limit....

Dr. A.M. Parakhia, Director of Extension Education, JAU, Junagadh praises the achievements of 5 KVK's in its multifacet activities. Some of this can be narrated as below.

Activity	Numbers	Farmer
Training	386	9830
Agril. Exhibition	18	9007
Field Day	59	1338
Guidance on	46	654
farmers' field		
Visitors		1861
Khedut Shibir	34	972
F.L.D.		515
Scientist Farm visit	77	887
Krushi Gosthi	50	8029
Farmer's Meetings	208	8029

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BOOK-POST

Directorate of Extension Education Junagadh Agricultural University

Where Problems are neutralized by Solutions



Scientific Advisory Committee (SAC) to resolve the problems of farm & farming in scientifically planned manner.