AICRP on Post Harvest Engineering and Technology

Department of Processing and Food Engineering
College of Agricultural Engineering
University of Agricultural Sciences, Raichur

UAS, Raichur was approved as new co-operating centre for AICRP on PHET during Xth plan vide Council's sanction letter No. 4-5/IA-II (AE) dated 21.04.2004. The centre was established at College of Agricultural Engineering, Raichur on 19.11.2004. It was inaugurated by Dr.S.A.Patil, Honorable Vice-Chancellor, UAS, Dharwad along with the University Officials. The mandate of the centre as per X^{th} Plan EFC document was to conduct the research on "Fish Processing, Product Development and Preservation of Value Added Products from Low Value and Under-utilized Fish Species of Indian west-coast".

Considering the post harvest needs of the northern part of Karnataka, the Director of Research, UAS, Dharwad requested the council to expand the mandate of the centre to carryout research on major fruits and vegetables grown in this region. Accordingly, the revised mandate of the centre was on "Processing, Preservation and Value Addition of Fish, Fruits and Vegetables.

During the 28^{th} Annual Workshop of AICRP on PHET held at CIAE, Bhopal during 28^{th} - 31^{st} October, 2010, the mandate of the centre was restructured and the fish processing component was shifted to the newly sanctioned Mangalore centre (KVAFSU, Bidar). From March, 2011 onwards, the mandate of UAS, Raichur is on "Processing, Preservation and Value Addition of Fruits, Vegetables and Food Grains"

Objectives of the Scheme

i. To develop processes technologies and value added products from cereals, pulses, millets, fruits, vegetables and their byproducts utilization

ii. To develop suitable equipments, machineries and gadgets for the benefit of small and marginal farmers and entrepreneurs

iii. To generate additional income and employment in the rural areas and production catchments of Kalyan- Karnataka region through establishment of agro-processing centers

iv. To conduct large scale demonstrations of proven technologies viz., Multi mode solar dryer, onion dehydration, mini dhal mill, probiotic poultry feed , honey comb packaging technology for fruits, process technology for production of honey powder

v. To create post harvest technology consciousness and transfer of proven technologies in the production catchments and monitoring its effects on economic and social development of the stake holders

Staff Position as on Date

Sl. No.	Name	Designation	No. of posts sanctioned	No. of posts filled	Vacant
1	Dr. Udaykumar Nidoni	Sr. Scientist (AS & PE)	01	01	-
2	Dr. P.F. Mathad	Scientist (Process Engg)	01	01	-
3	Ms. Swapna	Scientist (Food Micro.)	01	01	-
4	Er. SudhaDevi Assistant Professor	T-6 Senior Technical Officer	01	01	-
5	**Vacant**	**T-4 Sr. Technician**	**01**	**-**	**01**
6	Sri. Nagaraj K	T-2 Technician	02	02	-
7	Sri. Mirza Md. Iftekharulla Baig				
8	Sri. Prabhakar J	**T-1 Technician**	02	02	**02**
9	**Vacant**				
10	Smt. Radhika K	Steno/ Jr. Clerk	01	01	-
		Total	**10**	**07**	**03**

List of Ongoing Projects

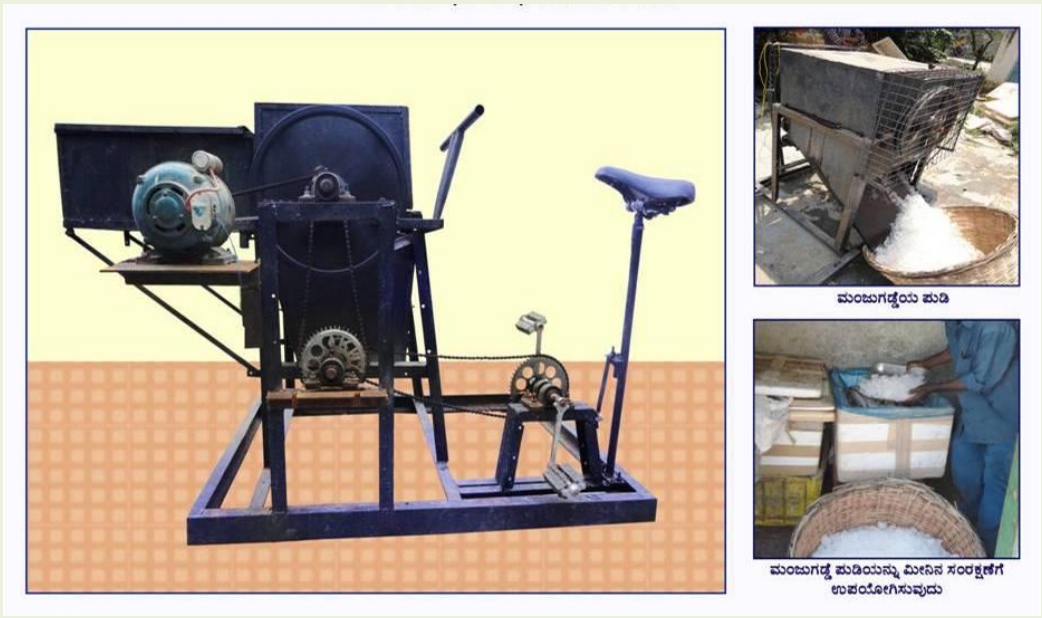
- Development of fortified rice analogues using byproducts of rice and dhal mill
- Development of amylose sensor for assessing ageing of rice
- Radio-frequency processing of low-moisture foods for improving shelf life and microbiological safety
- Development of light emission diode system for inactivation of food pathogens
- Development of microbial fuel cells (MFCs) for the generation of electricity using food wastes
- Studies on extraction of phytochemicals from *Parthenium hysteroporus* L. and its beneficial uses in food preservation and formulation of herbal medicines
- Development of pneumatic aspiration system for safe handling of husk in rice mills
- Development of sensor for detection and quantification of selected heavy metals and residual pesticides in water and food matrix
- Value chain on pulses
- Establishment of agro processing centres, training and demonstration of the technologies

Technologies Developed and included in Package of Practice

- Pedal cum power operated ice crusher
- Low temperature chilli pulverizer
- Dehydration technology for onion and fig fruit
- Improved mini dhal mill
- Fish de-boner (Meat bone separator)
- Multimode solar dryer for drying horticultural produce
- Enhancing shelf life of de-husked foxtail millet through packaging technology
- Honey comb packaging material and production machine for reducing transportation damage in fruits
- Technology for production of honey powder
- Process Technology for production of microencapsulated asthma plant extract powder
- Phycocyanin natural colour extraction from algae to replace synthetic colour
- Process technology for production of fortified rice analogues

Photographs of the Technologies Developed under PHET Scheme

Pedal cum power operated ice crusher



ಮಂಜುಗಡ್ಡೆಯ ಪುಡಿ

ಮಂಜುಗಡ್ಡೆ ಪುಡಿಯನ್ನು ಮೀನಿನ ಸಂರಕ್ಷಣೆಗೆ ಉಪಯೋಗಿಸುವುದು

Low temperature (Water cooled) chilli pulverizer

ಒಣ ಮೆಣಸಿನಕಾಯಿ

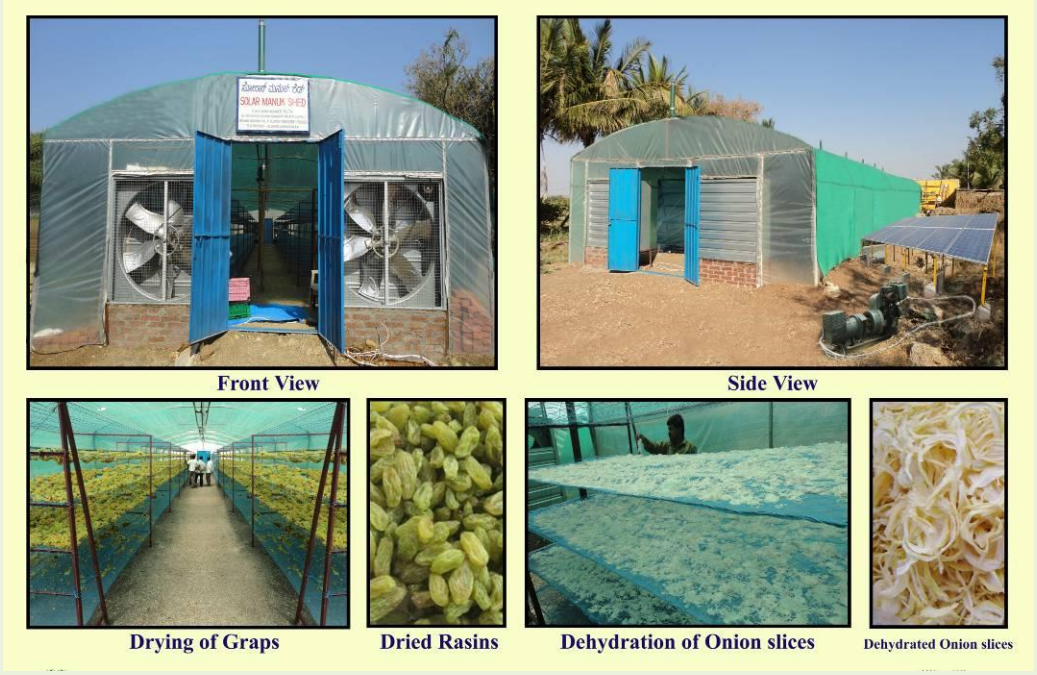
ಉತ್ಕೃಷ್ಟ ಗುಣಮಟ್ಟದ ಮೆಣಸಿನಕಾಯಿ ಪುಡಿ

Dehydration technology for onion

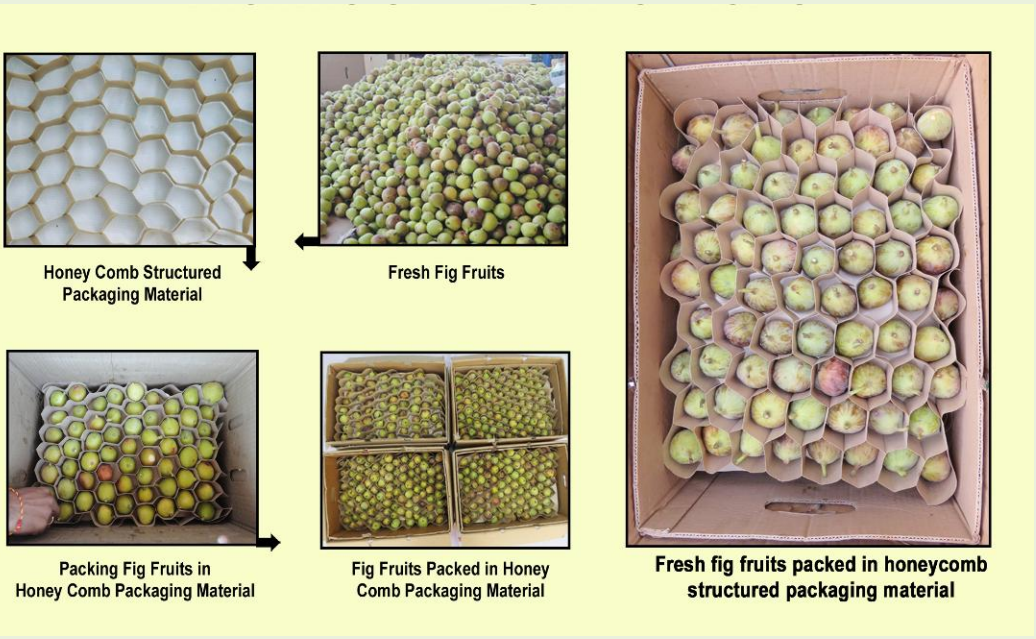
Improved mini dhal mill

Fish de-boner (Meat bone separator)

Multimode solar dryer for drying horticultural produce

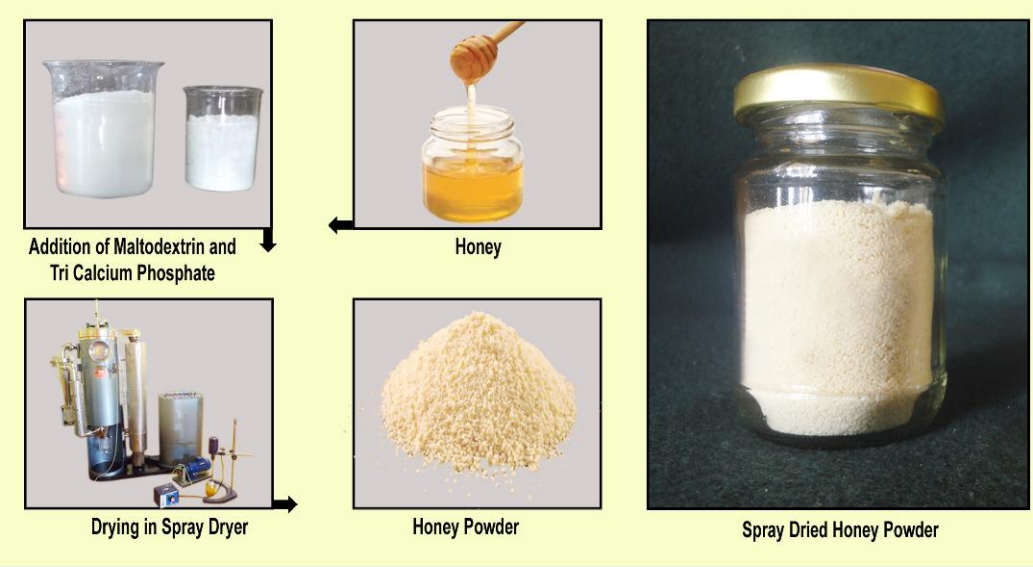


Honey comb packaging material or fig fruits to reduce transportation damage



Honey comb packaging material production machine

Process Technology for production of Honey Powder



Enhancing shelf life of de-husked foxtail millet through packaging

Process Technology for production of microencapsulated asthma plant extract powder

Fresh Asthma Plant | Dehumidified Air Drying | Supercritical CO_2 Extraction

Asthma Plant Extract | Spray Drying of Extract | Micro Encapsulated Asthma Plant Extract Powder and Capsules

Phycocyanin natural colour extraction from algae to replace synthetic colour

Mass production of Spirulina maxima algae in zarrouk's media

Supercritical CO_2 extraction of blue colour phycocyanin from algae

Phycocyanin extract and spray dried powder

Phycocyanin added peppermint and flavoured milk