FROM THE DIRECTOR’S DESK

The first quarter of year 2011 was marked with achievements in both the areas of research and extension. Pearl millet extrudates, technology for enhancement of shelf life of guava fruit and Ber fruit grader were developed at CIPHET. As many as eight training programmes were organized, including a series of programmes for women jail inmates of Central Jail at Ludhiana. Twelve papers were published by scientists, two patents were filed and five technologies were licensed to entrepreneurs during this quarter. CIPHET had the satisfaction of assisting an entrepreneur by giving the technology for preparing chilli powder, which is now available under the brand name ‘Farm Green’ in Leading stores in ludhiana. At the regional level, PAU and SKUAST, organised training programmes for farmers on post harvest technology.

(R.T. Patil)

SECTORAL NEWS

National seminar on ‘Technological Innovations in Saffron’ in SKUAST-K

A two-day National Seminar on ‘Technological Innovations in Saffron’ was organized by SKUAST-K in collaboration with National Horticulture Board at Srinagar. The seminar was aimed to deliberate and address the bottlenecks in saffron farming to make it more remunerative for livelihood security of the saffron growing community. Five technical sessions were held on different aspects namely to identify current problems of saffron cultivation in the valley, improving production, post/harvest handling, value addition, economic, marketing, medicinal and industrial application of saffron. Forty five research papers were presented by the scientists/researchers from SKUAST-K; SKUAST-J; University of Kashmir; University of Jammu; Indian Institute of Integrated Medicine, Himalayan Bio-Resources Institute, University of Mysore etc. The National Seminar provided a platform to 150 saffron growers and about 70 scientists to share their experiences to evolve a strategy for capitalizing saffron based livelihood opportunities in Kashmir valley.

PAU organises training course for FAPRO farmers

A four-day training programme on ‘Processing, packaging and marketing of medicinal plants and oilseeds’ was organized by the Department of Processing and Food Engineering, in collaboration with the Punjab Horticultural Postharvest Technology Centre, PAU. The farmers of Farm Produce Promotion Society (FAPRO), Hoshiarpur, were imparted practical training in processing packaging and marketing of medicinal plants and oilseeds. During the programme, emphasis was given on scope of medicinal, aromatic and spice crops, nutritional and therapeutic properties of Aloe-vera, importance of ayurvedic medicinal plants.
INSTITUTE NEWS

RESEARCH HIGHLIGHTS

Pearl Millet Extrudates
CIPHET has developed the ready to eat puffed products from pearl millet using a collet extruder (25 kg/h). The technology can be easily adopted by small and cottage level entrepreneur within a budget cost of Rs. 5 Lakhs. This technology has high value addition and rain fed/traditional crops can be converted into value added ready to eat snack foods at rural catchments.

Development of Ber Grader
A Ber fruit grader has been developed. This prototype can grade the fruit size of >1.25, 1.25 - 1.75 and <1.75 inch diameter. The capacity and efficiency of grading was observed to the tune of 200 kg/hr and 85-87% respectively for grading of ber fruits of two varieties namely Gola and Umaran.

Treatment of Guava For Enhancing Shelf Life
Guava fruits were treated with different concentration of 1-MCP and stored under ambient and low temperature conditions for assessing their storage quality. All the treated fruit could be stored for 9 days while non treated fruit could last only for 5 days. 1-MCP treatments at 100 and 250 nl were not effective for 4 h of exposure time. However, storage was improved by 8 or 16 h. The effect of MCP was quite significant on the reduction of rot incidence at both storage conditions. Application of 1000 nl of 1-MCP for 4 h showed the best results regarding delaying weight loss, maintaining skin colour, firmness and reducing decay incidence.

PROGRAMMES ORGANIZED

- A training on Agro-Process Equipment Design for Research Engineers of AICRP on PHT was organized from 28th Dec., 2010 to 7th Jan., 2011. More than 40 lectures on diverse topics including extrusion processing of expanded products, formulation of food products through linear programming, design of axial follow thresher, prediction modeling in post harvest technology, design of groundnut grader, basket centrifuge, electrical controls in processing equipment, innovative mechanical designs by common man were delivered.
- A series of training programmes in food processing for women inmates of Central Jail for Women, Ludhiana were conducted on pickles, garlic and ginger powder and jam/jelling making technology. More than hundred women prisoners participated in the programme.
- A training programme sponsored by ATMA, Punjab, on processing of soybean was organized from 2- 8th February. Eleven farmers including two women participated in the programme.
- An ‘Indo-African Forum Summit’ for ‘Post Harvest Processing and Value Addition of Food Grains’ was conducted on 8th February, 2011. The participants from countries like Niger, Nigeria, Mauritius, Egypt, Tanzania, Mali etc participated in the training programme.
- A seven-day training programme on ‘Post Harvest Technology in Rural Catchments’ for 15 farmers from SIRD Assam (Khanapara) was conducted from 9th February, 2011.
• The 4th CIC meeting of NAIP project entitled ‘Studies on cryogenic grinding for retention of flavour and medicinal properties of some important Indian spices’ was held on 31st Jan., 2011.
• A training on ‘Microencapsulation methods for food and biotechnological applications’ was organised from 25-11th January 2011.
• A training was conducted on ‘Ultraviolet, visual and near infrared spectroscopy methods and data analysis for evaluation of foods and biomaterials at commercial level’ during 3rd - 8th January 2011.
• One day training programme on ‘Cottage level food processing entrepreneurship development’ for the farmers was conducted on 2nd February at HCP division, Abobhar campus. The programme was jointly organized by CIPHET and Indian Institute of Crop Processing Technology (MOFPI, Govt. India), Tamilnadu.
• Two days Exposure programme on ‘Cottage level manufacturing of value added products from fruits and vegetables for rural women’ was organized jointly by CIPHET and The Kerakhera Multipurpose Cooperative Society Ltd., during 21-22 March 2011.
• Result framework Document workshop was organised on 9th March, 2011 by the PME Cell to sensitize the scientists.
• A special Institute Research Council meeting was also conducted by the PME Cell on 30th March, 2011 to streamline the research load of scientists for ongoing projects.
• Research Advisory Committee meeting was held on 25-26th February 2011. PME Cell under the chairmanship of Prof Satish Bal (Ex Prof IIT, Kharagpur) chalk out the programmes for the 12th five year plan.

PAPERS PUBLISHED
• Babbar N, Oberoi HS, Uppal DS and Patil RT (2011) Total phenolic content and antioxidant capacity of extracts obtained from six important fruit residues. Food Research International. 44, 391-396.


**Patents Filed:**


**TECHNOLOGIES COMMERCIALIZED**

<table>
<thead>
<tr>
<th>Technology transferred</th>
<th>Contracting party</th>
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| 1. Production of green chilli powder and puree | Mrs. Pratibha Mahajan 39, Ravinder Nagar Khargon Dist. Khargon, M.P.  
Mr. T. Santosh Kumar, 86 Dhana Lakshmi Col., Mahendra Hills, Secunderabad, A.P  
Mr. B. S. Avhad At. PO Malegaon (MIDC) Tal-Simar Dist. Nasik, Maharashtra  
Mr. Vikhil Dhyaneshwar Gudadhe, 864, Near Shiv Temple, Jaitala, Nagpur-16  
Mr. Ajeet Kumar Singh, 51/5, Nehru Nagar East, Bhilai Nagar -490020, Chattisgarh  
Mr. Anirudha H. More, Rukhmini Niwas, Rahuri Khurd, Rahuri, Dist- Ahmednagar, Maharashtra  
Mr. Shrichand Mandloi 4, Gujan, Sanawad-451111 |
| 2. Guava processing technology | Mr. Vikas Punia S/O Sh. Omparkash Punia, # 51, Gali No: 8, Shanty, Bhiwani (Haryana) |
| 4. Evaporative cooled room (2 tons) | Sh. (Dr.) Jatinder Singh Dhaliwal, Project Manager Industrial area-26, Gurdaspur, Punjab |
| 5. CIPHET Evaporative cooled structure | Sh. (Dr.) Jatinder Singh Dhaliwal, Project Manager Industrial area-26, Gurdaspur, Punjab |

**FEEDBACK**

CIPHET’s initiative to transfer technology of green chilli powder has yielded results as the product has hit shelves of the major stores in ludhiana city. The product chilli powder is now available under the brand name of FARM GREEN produced by local entrepreneurs with CIPHET assistance.

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