



Central Institute of Post Harvest Engineering & Technology Ludhiana

OUR SLOGAN: PRODUCE, PROCESS AND PROSPER

**CIPHET E – Newsletter for July, 2010
Vol. 5 No. 7**

Director's Column



Dear All

The institute participated in many important events during the month. In Entrepreneur's Meet organized by Ministry of Food Processing Industries (MOFPI) at New Delhi a presentation on Post Harvest Management and Value Addition was made and the importance and opportunities in the area of food processing were highlighted. The setting up of three new national boards to promote processing fisheries, soybean and guar gum were announced by Hon' be Minister Sh. Subodh Kant Sahai.

The report on Post Harvest Loss Assessment conducted by AICRP on PHT was discussed in detail under the chairmanship of Dr. S. Ayyappan, Secretary DARE & Director General, ICAR. On the occasion of foundation day of ICAR, Hon'ble Union Minister of Agriculture, Consumer Affairs, Food and Public Distribution, Sh. Sharad Pawar urged the scientific community to take up research in frontier areas to ensure sustainable agricultural growth. He also stressed on the need to develop strategies for backward regions, dry land areas and specific categories of farmers. Prof. K. V. Thomas, Minister of State for Agriculture, Consumer Affairs, Food and Public Distribution suggested that new agro-technologies be delivered at the door-steps of farmer. Prof. M.S. Swaminathan highlighted the importance of agro bio-diversity management for sustainable food security.

I also had the opportunity to visit the Institute of Himalayan Bioresource Technology (IHBT) Palampur (HP) and a modern poultry processing unit in Haryana. IHBT has developed a versatile mobile essential oil distillation unit, suitable for most of the aromatic crops of the region. My interactions with entrepreneurs and faculty of IHBT will open up linkages and collaboration between IHBT and CIPHET. The poultry processing unit in Haryana is an excellent example of entrepreneurship. In my opinion we should support local manufactures to downsize important poultry processing machinery for small scale units, conduct training programmes for primary poultry processing and work on utilization of processing waste and byproducts.

The participation of the institute in ICAR Industry Meet was a grand success. An exhaustive presentation on Overview of Post Harvest Engineering and Value Addition Technologies developed by ICAR institutes was delivered to the gathering. The institute also exhibited products and technologies during the ICAR- Industry Meet and the efforts of CIPHET were applauded.

In our effort to develop entrepreneurship, around seventy women were trained on preparation of value added products from fruits at Village Ghallu, Fazilka in collaboration with IFFCO and seven farmers from district Gurdaspur, Punjab were trained on processing and value addition of soybean and groundnut.

With best regards

**R.T. Patil
Director**

In this issue

[**Entrepreneurs Meet by MOFPI At New Delhi**](#)

[**IHBT-Industry Interactive Meet at Palampur \(HP\)**](#)

[**Meeting on Post Harvest Loss Assessment, Directors Conference and ICAR Foundation Day**](#)

[**Modern Poultry Processing**](#)

[**Participation in ICAR Industry Meet 2010**](#)

[**Tamarind Processing at Production Catchment**](#)

[**Awareness Camp for Rural Women on Food Processing**](#)

[**Training Programme on ‘Processing and Value Addition of Soybean and Groundnut’**](#)

[**Technology of the Month**](#)

[**Publications of the Month**](#)

[**Walk-in-Interview**](#)

Entrepreneurs Meet by MOFPI at New Delhi

Dr R T Patil attended “Entrepreneurs Meet” organized by Ministry of Food Processing Industries at New Delhi on July 2, 2010 and represented ICAR. In this meeting about 250 entrepreneurs funded and supported by Ministry of Food Processing Industries had participated. The presentation on Post Harvest Management and Value Addition generated lot of interest among the delegates and dignitaries. The grants for setting up and up gradation of Food Processing enterprises were distributed to the entrepreneurs by Hon’ble Minister Shri Subodh Kant Sahai Ji. In his address he said that the government is planning to set up three new national boards in the next two months to promote fisheries, soybean and guar gum processing. The ministry has already set up the National Meat and Poultry Processing and Indian Grape Processing Board. Regarding the need for a national fisheries processing board, Sahai said: ‘Fishery is a huge sector with India having a coastline of over 8,500 km. We have (till now) not really focused on the coastal line. As of now, we are just exporting prawns. The new board will help boost more processing activities along the coastline.’ ‘Soybean, a highly nutritional food, had not been given priority for long which was why an exclusive board for this product is being planned,’ he said.

IHBT-Industry Interactive Meet at Palampur (HP)

The Institute of Himalayan Bioresource Technology is located in picturesque town of Palampur (32 degree N,76 degree E, and 1300m above msl) perched in the lap of majestic snow clad Dhauladhar range of Himalayas in the state of Himachal Pradesh. The mandate of the institute is Providing R&D services on economic bioresources in western Himalayan region leading to value added plants, products and processes for industrial, societal & environmental benefit.



Dr R T Patil, Director CIPHET was invited by a special invitee in IHBT-Industry Interactive Meet under Technology and Innovation Management Centre. This invitation from Director, IHBT was in recognition of our effort in the area of developing appropriate post harvest technologies. The programme included a workshop in the morning addressed by Director, IHBT, Dr. P. S. Ahuja, Director, CIPHET and Head of Divisions of IHBT followed by visit to the tea factory and laboratories. The

interaction with entrepreneurs in the area of herbal crops, food processing and also with the faculty of IHBT was highly useful to develop further linkage between our two institutions.

The IHBT has developed a mobile essential oil distillation unit. The distillation unit has capacity of 2 quintal per batch. The components of the unit are built-in water head tanks, distillate/coolant transfer pumps, furnace, vertical condenser and oil receiver-separator and a DG set to take care of power problem. The unit can be taken up by small entrepreneurs to distil the produce from small land holdings on custom processing in remote areas. The distillation unit is mounted on truck in such a way that it can be removed as and when required, so that the truck can be freed and used for other purposes during off season. Unit can perform water distillation, water-steam distillation and also steam distillation. The unit can distil most of the aromatic crops very efficiently.



IHBT Mobile Essential Oil Distillation unit

Meeting on Post Harvest Loss Assessment, Directors Conference and ICAR Foundation Day

Dr R T Patil attended the meeting of presentation on the report of Post Harvest Loss Assessment conducted by AICRP on PHT on 13th July under the chairmanship of Hon'ble Director General, ICAR. The presentation was given to select Govt. officials from other ministries. Dr. Pitam Chandra made a presentation on the report. The officers from CWC, APEDA, FCI, DOAC, Sh. Rajiv Mehrishi, Secretary (ICAR) & Additional Secretary (DARE) and DDGs namely Dr. M. M. Pandey, Dr. H.P. Singh, Dr. S.K. Dutta attended the meeting. The suggestions received from the DDGs and also external members will be useful in preparing the report for final submission to Parliamentary Standing Committee on Agriculture. During 15th and 16th July, Dr R T Patil also attended the Directors' Conference

and ICAR Foundation Day and award ceremony. On 16th evening there was a brief meeting of SMD to sort out the issues if any faced by the Institute.

On the occasion of foundation day ICAR honored 122 Scientists, 5 Institutions and 3 Farmers. Hon. Union Minister of Agriculture, Consumer Affairs, Food and Public Distribution Sh Sharad Pawar urged the scientific fraternity to leapfrog to frontier areas of research. This would give us necessary technology interventions to enable us to ensure sustainable agricultural growth in agriculture, he added. To sustain food security in 2030, we need to bridge the investment and credit deficit, the infrastructure deficit, the market accessibility deficit, and knowledge and research deficit, he emphasized. In addition we need viable and credible strategies for the more backward of our regions, dryland areas, specific crops and specific categories of farmers, he suggested. Prof. K.V. Thomas, Minister of state for Agriculture, Consumer Affairs, Food and Public Distribution emphasized that new agricultural technologies must be delivered at the door-steps of farmers to accelerate productivity and enhance growth in agriculture. We must involve private sector in all strategic areas to harness potential of this sector, he added.

Prof. M.S. Swaminathan delivered a foundation day lecture on Agro Bio-diversity Management for Sustainable Food Security. He urged the scientists to develop awareness regarding locally available agro bio-diversity among the members of neighborhood community to encourage the in-situ conservation. He reiterated that participation of local community in all conservation efforts is an essential component for success of any effort. Further, a bio-diversity literacy movement may be initiated to educate people regarding the importance of genetic resources in their future. He said that ICAR has the competence and capability to address this issue at national level with emphasis on local participation. In the current climate change scenario the importance of gene banks is mounting, hence, ICAR may take up creation of gene banks in various agro-climatic zones of the country.

Modern Poultry Processing

Dr. R. T. Patil Director CIPHET along with Mr. Rakesh Bhardwaj, Editor of Poultry Express visited the modern poultry processing plant as well as feed mill manufacturer in Rai, Sonipat, Haryana on July 14, 2010. The poultry processing plant is owned by Skylark Group and dressed chicken pieces are sold under the brand name NUTRICH. It is a small, well maintained and in very good working condition plant. It is only such unit in Haryana which has imported machinery from Netherlands and owners are Jagbir Singh Dhull and Surinder Singh Dhull. The plant manager of the Nutrich, Mr. Harinder informed that the Group is having a good number of broilers units integrated with them all over North India and they have a tie-up at a fixed rate. This backward linkage is good for both the parties and also provides very well processed chicken to consumers. From the visit following researchable issues emerged which can be taken up in collaborative mode by institute and these industries

- 1) Need to conduct research on utilisation of processing waste and byproducts such as leg pieces, fat, cleaning waste etc in value added products.
- 2) The local manufacturer should be supported and encouraged for scaling down this imported machinery as it will help to save the foreign exchange on one hand and suit to the plant size according to the requirement of the local processors. (1000 to 3000 chicken per day)
- 3) The training programmes to small scale poultry processors (primary processors) be organized and their visits may be arranged to such modern plants to improve the overall hygiene of their operations.



Chopping of chicken legs manually



Cleaning of birds hygienic way



Dressed chicken storage



Secondary cleaning at finishing stage



Cutting of chicken pieces



Safety gloves to be used during cutting operation

Participation in ICAR Industry Meet 2010

The institute participated in ICAR-Industry meet 2010 at NASC Complex, New Delhi on July 28-29, 2010. During the interface meeting the representatives from Institute Technology Management Unit (ITMU), Division of Transfer of Technology and Co-PI (NAIP mass media project at CIPHET) also participated in the exhibition. The main theme of this meet was ICAR–A Destination for Innovative Agro-Industry and Entrepreneurs. On the first day it was inauguration of meet by Hon'ble Agriculture Minister, Hon'ble Minister of State and Director General, ICAR followed by presentations from industry representatives on following themes.

- 1) Seed, Planting Material and Plant Biotechnological Products
- 2) Diagnostics, Vaccines and Other Animal Biotechnological Products
- 3) Farm Implements and Machinery
- 4) Post-Harvest Engineering and Value Addition

Following industry participants, who have directly benefited from CIPHET technologies, attended the meet:

1. Sh. Bachitter Singh Garcha
2. Sh. Kishor Navale
3. Sh. Diwakar Jha
4. Sh. Kailash Chaudhary
5. Sh. Piyush Vyas

Dr R T Patil, Director CIPHET presented the overview of post harvest engineering and value addition technologies developed by various ICAR institutes and promoted by ZTMC-BPD units located at different places. In the afternoon in the sessions held concurrently presentations on post harvest technology for crops, horticultural and dairy industries were made. CIPHET stall exhibited technologies of pomegranate aril extractor, banana comb cutter, processing of groundnut for milk, curd and cheese, value added meat products, green chilli powder, guava bars, extruded products from pulse and rice broken, modified atmosphere packaging for minimally processed vegetables, etc. Hon. Union Ministers showed keen interest in the stall of CIPHET.

Dr. R.T Patil, Director CIPHET, gave presentation on post harvest technologies and value addition revealed about various technologies developed by CIPHET and Indian Council of Agricultural Research Institutes across the country. He stressed that entrepreneurs could play crucial role in post harvest processing and value addition by utilizing technologies developed by the ICAR institutes, which would result in increasing income level of farmers. Head Transfer of Technology Dr Deepak Raj Rai, Senior Scientists Dr D.M Kadam, Dr Anil Dixit and Scientist Dr Nilesh Gaikwad were also present on the occasion.



Union Minister of Agriculture Sh. Sharad Pawar and Minister of State for Agriculture Prof. V. K. Thomas visiting the CIPHET stall

The meet gave an opportunity to the industry and entrepreneurs to get a glimpse of the ICAR Technologies, their profiles and Technology Transfer Pursuits of ICAR. The exhibition organized on this occasion show-cased technologies on Seed and Planting Material; Diagnostics, Vaccines and Biotechnological Products; Farm Implements and Machinery; and Post-Harvest Engineering and Value Addition. The event gave an opportunity to share ideas on bridging the gap between research output to commercial technology product to a greater extent. The industry representatives registered themselves with one or more ICAR institutes for receiving priority information on new products and services from time to time. On the second day, the industry participants provided their observations/reactions and future expectations in relevant fields.

Tamarind Processing at Production Catchment

Dr. S.K. Nanda, Project Co-ordinator AICRP on Post Harvest Technology, CIPHET, Ludhiana visited Indira Gandhi Krishi Viswa Vidyalaya, Raipur centre during 20-22 July 2010. The centre is carrying out adaptive evaluation of the Tamarind dehuller-cum- deseeder (originally developed by UAS Bangalore centre). It is a composite unit which separates the shell from mature tamarind fruits as well as removes seeds from the dehulled fruits. Production of tamarind fruits/pods, a non-timber forest produce, are produced per year, is about about 3 lakh tonnes in India, especially in AP, Bihar, Chhattisgarh, Karnataka, Kerala,

MP, Maharashtra and Tamil Nadu. India exports tamarind products (pulp, juice, concentrated juice, sauce) to USA, Europe and West Asian countries.

The sheller unit consists of dehulling rings mounted on two parallel shafts rotating in opposite directions. Small pins welded on to the surface of the rings act as beaters to break and separate the brittle shell. The deseeder unit consists of a serrated stainless steel roller and an adjoining stationary rasp bar and the seeds are squeezed out when the dehulled fruits are pushed between the steel roller and the rasp bar. The capacity of the machine is 600 kg/h for dehulling and 45 kg/h for deseeding when operated with a 2.5 kW motor. Dehulling is 8 times faster and seed expulsion is 11 times faster than the traditional method. Tamarind pulp can be pressed and packed for marketing and tamarind seeds can be used to manufacture tamarind kernel powder (TKP).



Tamarind Dehuller-cum-Deseeder Machine



Tamarind Pulp



Tamarind pulp making:
Traditional method

Awareness Camp for Rural Women on Food Processing

One day awareness programme on Food Processing was organized by IFFCO with the technical support of CIPHET, Abohar for rural women. The camp was organized at Village Ghallu Tehsil Fazilka, Distt. Ferozpur on 30th July 2010. In this training programme 70-80 rural women have participated. The hands on training was given to prepare value added products such as mixed fruit jam of apple, mango and papaya, lemon squash, lemon pickles, etc. Besides, group has also been explained the process for preparation of value added products from aonla, Ber and Jamun.



Training Programme on ‘Processing and Value Addition of Soybean and Groundnut’

A training programme on ‘Processing and value addition of soybean and groundnut’ was held for the farmers from ATMA Gurdaspur for 5 days from 26 – 30 July, 2010. The training was given on processing and value addition of groundnut into milk, paneer and yoghurt and soybean into soya milk and tofu. The participants were given hands on training and demonstration of the pilot plants and were exposed to the nutrient value and the economics of the value added products

Technology of the Month

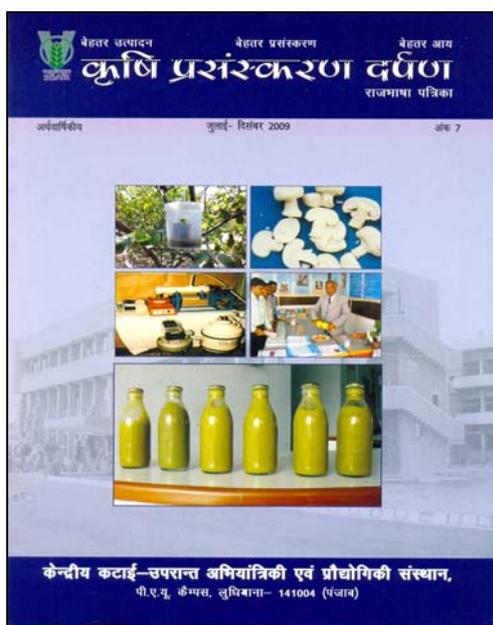
Coriander Splitter

Coriander (*Coriandrum sativum* L.) is the seed of an annual crop belonging to the *Umbelliferae* family and refers to the spice and medicinal use. The seeds of coriander are almost ovate globular and there are many longitudinal ridges on the surface. The length of the seed is 3–5 mm and color, when dried, is usually brown, but may be green, straw-colored or off white. Generally, the seed is sun dried and made available for both whole and ground. The most important constituents of coriander seeds are the essential oil and fatty oil. The essential oil content of dried coriander seeds varies between 0.03 % and 2.6 %, fatty oil content varies between 9.9 % and 27.7 %. Other constituents, crude protein, fat, crude fiber and ash contents vary from 11.5 % to 21.3 %, 17.8 % to 19.15 %, 28.4 % to 29.1 % and 4.9 to 6.0, respectively India is the largest producer of coriander, which is used extensively in curry powder. Main coriander producing regions are Rajasthan, Gujrat, Andhra Pradesh and MP.

The seeds of coriander are required to be splitted into two halves before sowing for good seed germination and also processing it as mouth freshner. Traditionally the seeds are splitted manually and this operation involves drudgery and more time beside post harvest losses in terms of seed damage. The mechanized operation is therefore essential. Hence a machine to split the coriander was designed and developed at CIPHET. The machine is powered by 1 hp motor with capacity 60-80 kg/hr. The machine was equipped with two rollers of 6.5 cm dia and 10cm long. The differential speed was provided in two rollers so that coriander would break in two halves. The gear type metering device was provided in the splitter. The machine was able to split the coriander at moisture content up 14.2 %.



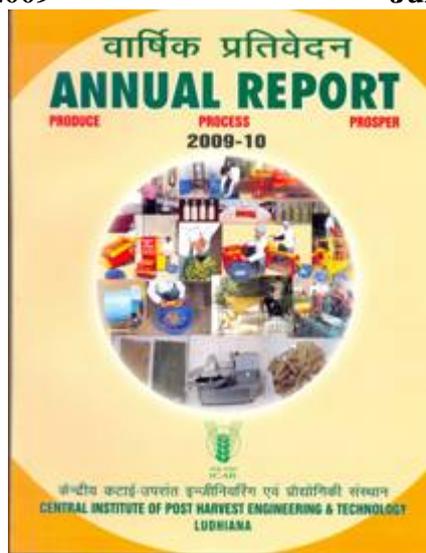
Publications of the Month



**Krishi Parsanskar Darpan
July-December 2009**



**CIPHET Newsletter
July-December 2009**



CIPHET Annual Report-2009-10

Walk-in-Interview

Applications are invited for one post of Senior Research Fellow (SRF) under DBT sponsored project on **Development of technologies for pelletization, delignification and saccharification of cellulosic biomass such as rice straw, cotton stalk, sweet sorghum, switchgrass, *Prosopis julifera* and *Lantana camara*** at Central Institute of Post-Harvest Engineering and Technology, Ludhiana (Punjab). The appointments will be purely temporary on contractual and co-terminus basis, following the prescribed procedure for a period of six months or till completion of the project. The appointment may be terminated at any time without notice or assigning any reason thereof.

Position	No. of positions	Qualification	Date and venue of interview
Senior Research Fellow (SRF)	One, CIPHET, Ludhiana	i) Essential : Master degree in Agricultural Engineering/ Biochemical Engineering/ Food Engineering or any related field ii) Desirable : Experience in different aspects of biomass handling, logistics, utilization and conversion. Working knowledge of Computer.	08.09.2010 11:00 am at CIPHET, Ludhiana

Terms and Conditions:

1. Emoluments for SRF (Senior Research Fellow) Rs. 12000/- (consolidated) + HRA as per ICAR rules.
 2. Age limit for SRF is 35 years for men and 40 years for women (relaxation in age in case of SC/ST/OBC as per Government norms).
 3. The appointment will be purely on a temporary under contractual and continuous basis, following the prescribed procedure till completion of project. The appointments may be terminated at any time without notice or assigning any reasons thereof.
 4. No TA/DA will be paid for attending the interview.
 5. The applicants must bring with them original documents at the time of interview and No objection certificate from the employer in case he/she is employed elsewhere.
 6. Canvassing in any form will lead to cancellation of candidature.
 7. The decision of Director, CIPHET would be final and binding in all aspects.
- Eligible candidates may send their application through Mail/Registered post on plain paper along with bio-data with attested passport size photograph affixed on it and copies of certificates if any, to Dr. Harinder Singh Oberoi, Principal Investigator, CIPHET, P.O. – PAU, Ludhiana – 141 004 (Pb.) and attend the WALK-IN-INTERVIEW as per above schedule at Central Institute of Post Harvest Engineering and Technology, Behind Radhaswami, Satsang, Hambran Road, PAU Campus, Ludhiana
Mail: hari_manu@yahoo.com, vkbciphet@gmail.com, Tel: 0161-2313126

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