



# Central Institute of Post Harvest Engineering & Technology Ludhiana

Our Slogan: Produce, Process and Prosper

CIPHET E – Newsletter for February 2009  
Vol. 4 No. 2

## Director's Column



Dear All,

In India voluntary organizations such as SHGs and NGOs play a great role in all walks of life and some of them are especially for pursuit of traditional knowledge and science in the villages. These organizations are supported and encouraged by Science and Society division of Department of Science and Technology, Government of India. I happened to visit Wardha town in Maharashtra this month and seen the achievements of two such NGOs namely, Center of Science for Villages and the Dharamitra. Their works are in agreement with the Gandhian philosophy whose target was that villages should be self-sufficient. The use of these "appropriate technologies" would definitely bring independence to villagers and help them to live with dignity.

During this period CIPHET organized training for Horticultural Officers from Uttarakhand and specially formulated one week EDP on processing of guava into novel value added products for entrepreneurs from Shirdi (Maharashtra). The future rural managers of Rural Development Management Course from NIRD visited CIPHET. Awareness Seminar on Eurepgap Standards for Good Agricultural Practices for fruits and vegetable growers was organized by FICCI with the help of IFFCO and CIPHET Abohar.

We also organized a National Seminar on Cold Chain Management of Horticultural Commodities for better quality, increased food supply & export at Abohar during 27-28th February 2009. It was well attended by the delegates from various research organizations, officials from Government Departments, professionals from Industry, progressive farmers, students etc. working in the area of production and post harvest management of horticultural produce. Similarly CIPHET also hosted annual workshop of NAIP subproject on "Development of Non-Destructive Systems for Microbial and Physico-Chemical Quality Parameters of Mango". During the panel discussion it was recommended that a consortium of premier institutes of the countries who have worked or are interested in contributing in Non Destructive field should be formulated. It was also recommended to hold a National seminar next year on "Nondestructive Methods for Quality Evaluation of Food" to make the scientists and engineers of the country aware of the development for accelerated research in this field.

Another important event this month was 43<sup>rd</sup> ISAE Convention held at Ranchi. It was successfully organized by Dr. Anil Kumar and his team and they deserve our appreciation for that. The ISAE announced the commendation medal to Dr S N Jha PS, CIPHET for his outstanding contributions in Post Harvest Management of fruits and Distinguish Service Certificate to Dr. A. K. Thakor, Sr. Scientist, CIPHET, Abohar. Both these awards will be presented in the 44<sup>th</sup> ISAE convention to be held in February 2010. Dr. S.K. Nanda, PC (PHT), CIPHET received the Bioved Research Society Fellowship Award at the XI Indian Agricultural Scientists and Farmers' Congress at Allahabad.

The innovation which CIPHET is bringing out to end users this month is Cosmetics from Kinnow Peel which is an outcome of a project under emeritus scientists scheme of ICAR on "Value addition to non edible portion of fruits and vegetables for food and industrial use". The CIPHET is in the process of filing a patent on this technology and conduct entrepreneurship development programme especially for SHGs or women entrepreneurs for production of face scrub and toner from peels.

With best regards,

**R.T. Patil**  
Director

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**National Seminar on Food Processing at AAU Anand**

The Ministry of Food Processing Industries is organizing National Seminars in collaboration with different agricultural universities to popularize entrepreneurship

development in food processing in the country. One such seminar was organized at AAU Anand during Feb 9-10, 2009. The theme of the seminar at Anand was “Innovations in Food Processing & Entrepreneurship Development”. Anand Agricultural University is involved in the teaching, research and extension education in the field of agricultural sciences and allied disciplines. The university has faculties of Agricultural Engineering, Food Technology and Bio Energy and Agri-business Management. The faculty of Food Processing Technology, Bio-energy of AAU has academic programmes leading to the post-graduate degree of M. Tech and Ph. D. A good amount of research has been put in by the faculty resulting in development and releasing of more than 24 technologies/machines. A very unique integrated processing plant for production of bio-diesel from Jatropha seeds has been designed and installed in a specially designed building at the AAU campus. The processing plant has a capacity to handle 100Kg. seeds per hour. The process involves dehulling, separation, oil expelling and oil filtration. Further, process involves trans-esterification, settling, separation of bio-diesel and glycerol and then finally purification of the produced bio-diesel. The plant facility also includes a sophisticated laboratory for quality testing of the bio-diesel. Dr R T Patil, Director CIPHET was invited to deliver a lead paper in this seminar on Scope and potential of food processing enterprises in India.



**Pilot plant for Bio Diesel at AAU Anand**

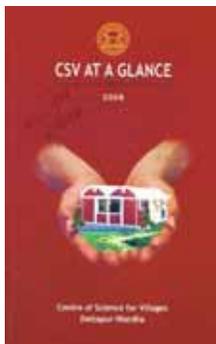
### **International Conference on “Grain Legumes: Quality Improvement, Value Addition and Trade”**

The International Conference on “Grain Legumes: Quality Improvement, Value Addition and Trade” was held at Indian Institute of Pulses Research, Kanpur, Uttar Pradesh during February 14-16, 2009. The ICGL 2009 as this conference was called was organized jointly by Indian Society of Pulses Research and Development (ISPRD) and Indian Council of Agricultural Research (ICAR). The themes on which sessions were organized were, Nutritional security and human health, Genetic resources and quality improvement, Genomics enabled quality improvement, Integrated crop management and Post-harvest management and value addition. The three-day International Conference on Grain Legumes: has opened new avenues for fostering linkage with international communities and developing collaborating projects on grain legumes in frontier areas of research. The legumes play a great role in nutritional security and human health and hence the programmes on bio-fortification of pulses, bio-active compounds and micro nutrients like zinc and iron and reducing the anti-nutritional need to be strengthened. During the conference, concern was expressed on shift of production base of the food legumes under the climate change as cool season legumes are expected to suffer the most and spectrum of the biotic and abiotic stresses will see a drastic change. The scientists assembled on this occasion felt need for development of improved

seed system at regional level, with active participation of farming community and fostering strong partnership to address the global and regional problems associated with food legumes. More than 500 delegates from India and abroad including Australia, Egypt, USA, Canada, Syria, Bangladesh, Sri Lanka, and South Africa attended the conference and deliberated on nutritional security and human health, legume production under the changing climate, biodiversity and genetic enhancement for yield and quality traits. A total 41 invited papers and more than 200 posters were presented under various themes. In the theme session on “Post Harvest Management, Value Addition and Policy Issues” held on 15<sup>th</sup> February, 2009, Dr. R T Patil presented invited paper on “Quality of grain legumes as influenced by storage conditions”. This special technical session was chaired by Dr. Nawal Ali, Ex-DDG (Engg), ICAR and convened by Dr R T Patil. The rapporteurs were Dr. Balasubramanian from CIPHET and Dr. M. S. Alam from PAU Ludhiana.

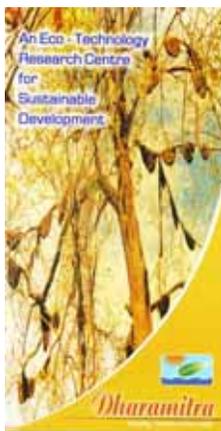
## Voluntary Organizations In Pursuit of Science

Dr R T Patil, Director, CIPHET visited Wardha, Maharashtra during 14-23 Feb as part of expert team constituted by DST to make on -the-spot Assessment of two NGOs namely Centre of Science for Village (CSV) and Dharamitra for evaluation of their present work and future programmes.



The Center of Science for Villages is a non government organization and its primary goal is to improve living conditions in the Indian rural areas. This organization was established by Mr. Devendra Kumar a disciple of Gandhi and who follows the philosophy developed by the Mahatma. The techniques developed by the CSV range from mud housing technology to various methods of energy production or food growing. Hygiene is also a preoccupation, as well as favoring the development of local alternate industries. These techniques are simple to use, costless and environment-safe, based on local materials. Training to villagers is provided in parallel, so they can pass their experience to others. This is in agreement with the Ghandhian philosophy whose target is that villages should be self-sufficient. The use of these "appropriate technologies" brings independence to villagers and helps them to live with dignity.

The Dharamitra was established by Dr. Tarak kate and his wife Chitra in 1991. Today, it is a team of eight people, six of whom are scientists. Each scientist/activist has evolved a bio-mass program and works with villages to plan the spread of the project. Tarak launched his work in a semi-tribal village in the district of Wardha. Tarak is working in conjunction with the Association of Sarva Seva Farms (ASSEFA), an organization operative in 120 villages in two districts—Wardha and Yaovatmal. He is using the infrastructure of this organization to set up Farmers’ Study Groups in each village. The Farmers Study Group is the intellectual wing of the Gram Sabha, or the traditional village council of all the residents of the village. Every Farmers’ Study Group with a membership strength of 20 to 45 farmers is an interactive forum of farmers. Discussions and debates are initiated by the facilitators of Dharamitra to create awareness among them of sustainable non-chemical agriculture and to equip them with the skills to create customized ways of leveraging bio-mass. Use of bio-dynamic kitchens, horticulture and sericulture plots, mulberry plantations, training programs for tribal honey-



hunters and experiments in rearing cattle to supplement the bio-resources of villages has gained momentum.

## **Brain Storming Session for B. Tech Course Curriculum in Process and Food Engineering at Gangtok, Sikkim**



**Experts with the faculty of CAEPHT, Gangtok Sikkim**

College of Agricultural Engineering and Post Harvest Technology, Ranipool, Gangtok is imparting agricultural engineering education to students belonging to hilly and mountainous areas of the states of North-Eastern Region which differ from plains in topography, elevation, physiographic features, land use systems and socio-economic conditions. The agricultural development in these states is constrained by lack of inadequate infra-structure, poor/low productivity, insufficient agricultural education, inadequate marketing

and knowledge about improved/modern farm technologies. Hence a brain storming session was organized and an expert team assembled at CAEPHT, CAU, Gangtok, to develop B.Tech. (Process and Food Engg.) and M.Tech. (Process and Food Engg.) syllabus. For M. Tech. course ICAR has already formulated the guidelines and also given the core and optional courses. On similar lines the course curriculum for B. Tech was finalized with greater emphasis on the courses required to meet the technological necessities of the region. Dr. R. T. Patil attended this brain storming The other members of the team were- Dr. R.P. Kachru, Ex-ADG (PE), ICAR, Dr. SP Agarwala, Head (Dairy Engg), NDRI, Karnal; Dr.(Mrs.) K. Sheela, Dean, Home Science, CAU, Tura; Dr. Armann U. Muzaddadi, Asstt. Prof. (SS), CAU, Tripura.

## **National Conference on Engineering for Food and Bioprocessing**

This conference was organized by Department of Post Harvest Process & Food Engineering for The Technical Education Quality Improvement Program (TEQIP) of the world bank. The major objectives of the conference are: i. to build liaison with other institutions, universities, R&D institutes and machinery manufacturers, ii. to evolve suggestions and feedback from producers, processors and consumer for future program plan, and iii. to share the knowledge expertise with students, academicians, producers and manufacturers in the area of, food and bio-process engineering. This conference provided a common platform to share the research and development in the area of engineering, food and bio-processing. The theme of the conference covered the following areas:

- Unit operations in Food and Bio Process Engineering
- Preservation and Processing of Food

- Application of Bio Agents in Food and Bio Processing
- Recent Advances in Food Processing
- Value Addition in Processing
- Process Controls and Instrumentation
- Modeling and optimization
- Industrial Management in Food & Bio Processing

Dr. R. T. Patil, Director and Dr. S. K. Nanda, PC(PHT) participated in the National Conference and delivered keynote addresses. They also chaired the Technical Sessions. On Nov 2, 2009, Dr R T Patil interacted with Dr. B.S. Bisht, Vice Chancellor, GBPUA&T, Pantnagar and also visited Tarai Seeds Corporation and the Centre for Medicinal Aromatic Plant of the university.

### **Training on “Post Harvest Management of Fruits and Vegetables”**

One week training programme was organized on Post Harvest Management of Fruits and Vegetables w.e.f. 2-8<sup>th</sup> February 2009 at CIPHET, Abohar for Horticultural Officers from Uttarakhand. Ten participants from Department of Horticulture, Udham Singh Nagar Government of Uttarakhand participated in the training programme. The training included various lectures including post harvest management of fruits and vegetables, role of cold chain in post harvest management of perishables, MAP including minimal processing of fruits and vegetables, plasticultural techniques for better productivity of fruits and vegetables, scope and uses of shrink packaging of fruits and vegetables and development of various value added products of fruits and vegetables. The training also included the practical classes on novel products from aonla, ber, guava, pomegranate etc. including demonstration of waxing plant. The participants were also exposed to different laboratory and field experiments going on different aspects of post harvest management of fruits and vegetables. The participants were also exposed to different field visits particularly multi-fruit juice plant, waxing and packaging unit of kinnow, hi-tech nursery and scientifically managed farmers orchards. The training was conducted by Dr. R. K. Gupta, HOD, HCP as Course coordinator and Shri V.K. Saharan, Technical Officer, as Co-course coordinator.

### **Entrepreneurship Development Programme On Guava Processing**

A specially formulated one week EDP on processing of guava into novel value added products was conducted during 9-15<sup>th</sup> February, 2009. Eleven entrepreneurs from Shirdi (Maharashtra) participated in this training programme. The training was organized in order to commercialize the technology developed for processing of guava into guava leather, guava bar, ready-to-serve beverages, squashes, jelly and intermediate moisture fruits. Participants were given hand on experience for preparation of these products and were evaluated through their simulation exercise for manufacturing diversified products from guava and other similar fruits. The participants were also exposed to machinery and tools required for planning small scale processing units for guava and other similar fruits. Dr. Ramesh Kumar, Scientist was Coordinator for the above EDP.



One week EDP on guava processing



Trainees with guava products

## Rural Development Management Students from NIRD Visit CIPHET

A group of students of Rural Development Management from National Rural Development Institute, Hyderabad visited CIPHET, Abohar and Ludhiana during 20-22<sup>nd</sup> February 2009. Dr. GV Krishna Lohi Das, faculty from NIRD accompanied the students during their field visit. Dr. R.K. Gupta, Head, HCP and Dr. D. Dhingra, Sr. Scientist, TOT Division have coordinated the visit. Students have been shown the various laboratories, pilot plants and fruit orchards at both the Campus. Besides, they have also visited Punjab Agro Juices Ltd, Abohar and High Tech Bharati Farm, Lodowal, Ludhiana.



NIRD Management students on visit at CIPHET

## Awareness Seminar on EUREPGAP Standards by FICCI

Awareness Seminar on Eurepgap Standards for Good Agricultural Practices for fruits and vegetable growers was organized by FICCI with the help of IFFCO and CIPHET on 24<sup>th</sup> February in the Conference Hall of CIPHET, Abohar. The EurepGAP standard is primarily designed to maintain consumer confidence in food quality and food safety. Other important goals are to minimize detrimental environmental impacts of farming operations, optimize the use of inputs and to ensure a responsible approach to worker health and safety. EurepGAP started in 1997 as an initiative by retailers belonging to the Euro-Retailer Produce Working Group (EUREP). British retailers in conjunction with supermarkets in continental Europe were the driving forces. They reacted on growing concerns by the consumers with product safety, environmental and labor standards and decided to take more responsibility for what happened in the supply chain. On the other side the development of common certification standards were also in the interest of many producers. Those with contractual relations to

several retailers complained that they had to undergo multiple audits against different criteria every year. On this background EUREP started to work on harmonized standards and procedures for the development of Good Agricultural Practices (GAP) in conventional agriculture. EurepGAP members include retailers, producers/farmers and associate members from the input and service side of agriculture. Governance is by a board which is chaired by an independent Chairperson. The Board also agrees on the activity plan of the organisation. Sector committees discuss and decide upon product and sector specific issues. All committees have 50% retailer and 50% producer/supplier representation and hereby creating an efficient partnership. The work of the Committees is supported by FoodPLUS, a not for profit limited company based in Cologne, Germany, fulfilling a secretariat function for EurepGAP.

Awareness Seminar on Eurepgap Standards was inaugurated by Sh. Surender Jhakar, Chairman IFFCO. On this occasion, Dr. R.K. Gupta, Head, HCP spoke to the group on importance of post harvest management of horticultural produce specially application of cool chain technology for enhancement of shelf life of perishables.



**Awareness Seminar on Eurepgap Standards by FICCI**

### **Inauguration of Drip System of Irrigation in New Orchard**

Drip System of irrigation in New Orchard was inaugurated by Dr. Nawab Ali, Ex. DDG (Engg.), ICAR on 27<sup>th</sup> February 2009 at CIPHET, Abohar. On this Occasion, Dr. R.T. Patil, Director was also present. The fruits namely, pear, peach and plum of about 5.0 acres are planted in new orchard. The orchard will provide known material for research in future and add in revenue generation of the Institute.



**Dr. Nawab Ali, Ex. DDG (Engg.), ICAR inaugurating Drip System of irrigation in New Orchard**



**Drip System of irrigation in New Orchard**

## **National Seminar on Cold Chain Management of Horticultural Commodities**

A National Seminar sponsored by National Horticulture Board on *Cold chain management of horticultural commodities for better quality, increased food supply & export* was organized at CIPHET, Abohar during 27-28<sup>th</sup> February 2009. The delegates from various research organizations, officials from Government Departments, professionals from Industry, progressive farmers, students etc. working in the area of production and post harvest management of horticultural produce have participated in the Seminar. The Chief Guest Dr. Nawab Ali, former Deputy Director General (Engg.) of the Indian Council of Agricultural Research (ICAR), said that India produced 230 million tones of grains, exceeding requirement of its whopping population, the diversification in agriculture should thus be routed through fruit, vegetable growing besides floriculture. Abohar is heading fast to emerge as California of India, he observed. Dr. Ali said the farmers should also be encouraged to adopt animal husbandry, fish farming and bee keeping as allied professions. Urban population had increased by 45 percent and 25 percent of the urban men and women have got jobs, this raises their purchasing power as well as the demand for fruits and milk based products. “We will have to ensure better conservation of agriculture and management of produce through modern system. Water management also deserves more attention”, he said. So far 38 post-harvest technology centers have come up in the country. Fertilizer giant IFFCO has sponsored such a project in Bangalore. Research has proved that cattle farms and horticulture have improved fertility of land.

Advocating more cultivation of Soybean, Dr. Ali claimed that one could get one kg of protein by spending just Rs. 75 on soybean or pulses while it costs Rs. 1200 to get same quantity of protein from animal meat. If one consumes 25 gm of soybean in the form of flour, milk, curd or cheese for six months regularly, one can bid adieu of diabetes and cardiac problem forever, he added quoting reports.

CIPHET Director Dr.R.T. Patil said even when the country leads in fruit production we hardly find a single blotless fruit. Washing system and appropriate pre cooling and cold storage systems are being developed to meet the indigenous cold chain requirements.

Other scientists, including M.V. Bera, Sudhir Singh, A.K. Thakur, D. Dhingra, D.B. Singh, Sangeeta Chopra, S.N. Jha, Jitendra Singh, B.S. Ghuman, R.K. Gupta, G. Mandal, D.V. Sudhakar Rao, B.V.C. Mahajan, Navjot, Harsimrat K. Bains and D.C. Sexana also presented their papers and discussed post harvest processing of fruits and vegetables, quality

maintenance, scope of blast chiller, hybrid cold storage system and microbial activities in harvested fruits and vegetables under cold chain conditions.

	
<p><b>Enlightening of the lamp during seminar</b></p>	<p><b>Inauguration of National seminar</b></p>
	
<p><b>Dr. Nawab Ali releasing the souvenir</b></p>	<p><b>Dr. Nawab Ali, visiting the exhibition stall</b></p>
	
<p><b>Demonstration of second version of hand tool for pomegranate aril extraction</b></p>	<p><b>Demonstration of Pomegranate aril extractor</b></p>

## Winter school on Extraction Technologies for edible colors and flavors from Agricultural crop and byproducts

The naturally occurring colors and flavours in the plants are gaining lot of importance in their use for dyeing cloths and also for coloring food materials in place of synthetic dyes which are not eco-friendly and also has carcinogenic effect. The bio colors are not only a better substitute for synthetic colors but in Indian context it would provide alternative

processing methods and use to traditional crops. The common bio colors are available in the market are red, yellow, green, blue and magenta. The red color is obtained from peels of red pomegranate and red rose petals, yellow is obtained from marigold flower, turmeric and besan, green is obtained from mint, spinach and mehandi, blue color is obtained from indigo berries and jacaranda flowers and magenta is obtained from beet root, onion peels. The jamun and berries like karonda, husk of black sesame and skin and pomace of violet grapes are also source of such natural colors. The traditional extraction technology followed mainly involves soaking, pasting, drying etc in unscientific manner. Hence the colors obtained are not natural bright and not stable for long-term use and storage. Scientific and standardized extraction technology is therefore essential to make this industry efficient and viable. India due to its favorable agro climatic conditions is a large storehouse of above natural dye sources and such natural product has tremendous scope of its export.

To train a human resource in this important area a 21 days winter school on Extraction Technologies for edible colors and flavors from agricultural crop and byproducts was organized at CIPHET during 2<sup>nd</sup> to 22<sup>nd</sup> February 2009. Dr.S.M. Ilyas, Director NAAR, Hyderabad, and Former, Director, CIPHET inaugurated the winter school on 2<sup>nd</sup> February 2009 and it was concluded on 21<sup>st</sup> February 2009. Dr. M.P. Tyagi, Ex-Chairman, Central Pollution Control Board, New Delhi was the Chief Guest for closing ceremony of winter School. The school was coordinated by Dr. SK Tyagi and Dr. Dilip Jain.



### **CIPHET NAIP Sub Project Launch Workshop at IIT, Kharagpur**

CIPHET is a lead center for the NAIP project on Cryogenic Grinding of spices. The launch workshop of this project as well as that of on High Pressure Processing of Perishables Product with Lead Centre IIT, Kharagpur was organized at Indian Institute of Technology, Kharagpur during February 19-20, 2009. The launch workshop was inaugurated by the Director of IIT Kharagpur. Dr. K.K. Singh, Lead Centre PI and Head and Dr. D.M. Kadam, Scientist(SS) of the Food Grains and oilseeds Processing Division attended this launch workshop. Dr. K.K. Singh presented the brief introduction of the project in the inaugural session and presented detailed technical programme of the project. The Consortium Advisory Committee (CAC) meeting was held under the chairmanship of Prof. S. Sarangi. Other members of the CAC for Cryogenic Grinding project were Prof. M. Kulshreshtha and Prof.

N.J. Thakor, Dr. Bandyopadhyay, National Coordinator and Dr. D.M. Kadam, Co-PI and Dr. T.K. Goswami (IIT, Kharagpur), Dr. T. John Zachariah (IISR Calicut) and Dr. S.N. Saxena (NRCSS), PIs of different centres attended the meeting.

### **International Conference on “PLASTINDIA” 2009**

Shri Bhavarlal Jain, (Chairman, Jain Group of Industries) formally launched PLASTINDIA 2009, the 7th International Plastics Exhibition and Conference, one of world's largest exhibitions on plastics. Shri B. P. Pandey (Joint Secretary, Department of Chemical & Fertilizers, Government of India), was the Guest of Honour on the occasion. Also present on the occasion were Shri Arvind Mehta, President PLASTINDIA Foundation (PF); Shri Mahendra Patel, Chairman National Executive Council (PF); Shri Nikhil Meswani, Chairman, National Advisory Board (PF) and Shri Amar Seth, Vice President (PF).

This was followed by the International Conference on “PLASTINDIA 2009” organized at Hotel Intercontinental, New Delhi during 6-7 February, 2009. The inaugural session was chaired by Mr. Sapan Ray and Chief Guest was Sh. Bijoy Chattarji, Secretary (Chemicals and Petrochemicals), Ministry of Chemicals and fertilizers, Govt. of India. The technical presentation of this conference was for the two days. First day has Business session and second day Technology day. The first day of presentation in three sessions had Industry Overview, Indian Industry and Trade and Regulatory Environment and second day have Emerging Technology in Material, Specialties Additives for Polymers and Emerging Technologies in Polymer Processing. In this Conference, it was highlighted that the use of plastics in India is only 5.2 kg/capita as compared to 30 kg in China and 25 kg world average. Hence, there is a scope of work for enhancing the use of plastics in the country to benefit the society. Dr. P. R. Bhatnagar PC (APA) from CIPHET participated in this international conference.

### **Workshop on “Novel Sheet Material for Conservation and Control of Water**

Water is a very precious commodity but huge quantity of water is lost through seepage in canals, ponds, tanks and reservoirs. This becomes critical for pond used in aquaculture. To overcome these problems, impermeable sheet materials such as HDPE are used internationally, but due to their large thicknesses these tend to be very expensive and are not used in the country. The IIT Delhi has developed novel sheet materials, with thickness of around 0.6mm and are comparable in puncture resistance to HDPE sheets of 1.5mm. These sheets have been successfully tested for water seepage control for several years at IARI Delhi, IIT Delhi, WTCER Bhubaneswar, CARI Port Blair and by an NGO at Karjat, Maharashtra. Thus, these sheets may thus prove very effective in water conservation. These may also be very useful for creating barriers for water storage. These sheets are effective for housing and construction, specially for roof and basement, as a water barrier element and can make their designs much less expensive.

The aim of this workshop was to provide information on current trends developments and applications of impermeable sheet materials for water seepage control. The target participants of the workshop are Ministry Officials of Central/State governments, Senior Engineers of public works division involved in water management works of canals, dams & ponds as well as NGO's related with water management. The broad topics to be covered in the workshop were sheet materials for seepage control. Dr. P. R. Bhatnagar PC (APA) from CIPHET participated in this workshop organized at IIT, Delhi on 14 February 2009.

## **43<sup>rd</sup> ISAE Convention and Symposium on “Engineering Interventions for Sustainable Rainfed Agriculture”**

The 43<sup>rd</sup> Convention and Symposium of Indian Society of Agricultural Engineers on “Engineering Interventions for sustainable rain fed agriculture was organized at BAU, during 15-17 February, 2009 at BAU, Ranchi during 15-17 February, 2009. This symposium was chaired by Er. Amar Singh President ISAE and Shri G. Krishnan, IAS and Advisor to HE Governor, Jharkhand was the chief guest. Dr. N.N. Singh, VC, BAU was the Guest of honor and addressed to delegates about the needs of the state of Jharkhand and expectations from the symposium. Dr. KK Singh, Head FGOP, Dr. P. R. Bhatnagar PC (APA), Dr. S. N. Jha Principal Scientist from CIPHET participated in this event. Dr. Bhatnagar chaired the technical session on “Pressurised irrigation” under Soil and Water Engineering Section. He also presented the paper on “Multiple Uses of Water in Waterlogged areas of Canal Command in Eastern India” in the session on “Integrated Water Management”. Dr. Jha presented a paper entitled “Milling characteristics of popped makhana (*Eurale ferox*)”.

## **Indian Agricultural Scientists and Farmer’s Congress**

The 11<sup>th</sup> Indian Agricultural Scientists and Farmer’s Congress, at BRCS, Allahabad (UP) during 15-17 Feb 2009. The inaugural session chaired by Dr. B.K. Dwivedi, Director of Bioved Research and Communication Society and G. Singh, VC, CGVV, Satna (MP), was the chief guest and Dr. Anoop Sinha, Advisor, DST, Govt. of India was the guest of honors. Theme paper presentation started in second session has chaired by Dr. G. Singh, VC, CGVV, Satna (MP). Dr. Mukund Narayan, technical CIPHET participated and presented a paper entitled “Conserving the water through Post-harvest and Plasticulture Interventions Techniques. Dr. S. K. Nanda, PC(PHT) also attended this event.

## **CIC meeting of NAIP subproject on “Development of Non-Destructive Systems for Microbial and Physico-Chemical Quality Parameters of Mango”**

The 5<sup>th</sup> CIC meeting of NAIP sub-project on “Development of non-destructive systems for microbial and physico-chemical quality parameters of mango” under component-4 was held at CIPHET, Ludhiana on 05.02.09 under chairmanship of Dr. R. T. Patil, Director, CIPHET, Ludhiana. Other member presented in the meeting were, Dr. S. N. Jha, CPI and member secretary CIC, Dr. K. Narsiah, Co-CPI at lead center, Dr. Ramesh Kumar, Co-CPI at lead center, Dr. Abhijeet Kar, CCPI, IARI, New Delhi, Dr. Raman Suri, CCPI, IMTECH, Chandigarh, Dr. Swaranjeet Singh, Co-CCPI, IMTECH, Chandigarh, Er. Neeraj Seth, RA, CIAE, Bhopal, Mr. Vijay Kumar, AF&AO, CIPHET, Ludhiana. Dr. S. N. Jha Consortium PI and member secretary CIC presented the action taken report (ATR) on the recommendation of 4<sup>th</sup> CIC meeting. Chairman asked from the members about any constraints in achieving the set target under this project and issue raise by members were discussed and resolved. Dr. Narsaiah, Co-CPI, Lead centre presented the salient achievements such as screening of potential NIR wavelengths for analyses of TSS, acidity and dry matter content; design and fabrication of mango sample holder; bio-chemical tests of isolated microbe samples and sending 42 bacterial and 9 fungal isolates along with results to IMTECH, Chandigarh for final identification. Dr. Abhijeet Kar, presented progress of his centre and elaborated the methods and techniques employed to standardize biochemical and anti-oxidants parameters of mango. Dr Raman Suri, presented the technical progress of

IMTECH centre. He pointed out that the detection of a new microbial strain near the stone has been established however its recurrence near the stone cells or pulp would be reconfirmed in the coming season. Er. Neeraj Seth, RA, CIAE, Bhopal narrated the progress made at his centre on X-ray tube parameter that has been identified through preliminary experimental trial.

### **CAC meeting of NAIP subproject on “Development of Non-Destructive Systems for Microbial and Physico-Chemical Quality Parameters of Mango”**

The 3<sup>rd</sup> CAC meeting of NAIP sub-project on “Development of non-destructive systems for microbial and physico-chemical quality parameters of mango” under component-4 was held at CIPHET, Ludhiana on 06.02.09. Dr. Suresh Parsad, Professor Emeritus, IIT, Kharagpur chaired the meeting and the members presented in the meeting were: Dr. E. S. Rajagopal, Prof. Emeritus, IISc, Bangalore, Expert member CAC, Dr. A. Bandopathyay, National Coordinator for NAIP component-4, Dr. R. T. Patil, Director, CIPHET, Ludhiana, member CAC, Dr. S. N. Jha, CPI and member secretary. Dr. S. N. Jha Consortium PI and member secretary presented the action taken report (ATR) on the recommendation of 2<sup>nd</sup> CAC meeting. The member secretary also briefed about the over all progress of the project before the committee. The CAC appreciated the entire project team for some tangible output and Dr. Bandyopadhyay; National Coordinator applauded the Director CIPHET for conducting all CIC, CAC meetings and workshop on time.

### **Annual workshop of NAIP subproject on “Development of Non-Destructive Systems for Microbial and Physico-Chemical Quality Parameters of Mango”**

The first annual workshop of NAIP sub-project on “Development of non-destructive systems for microbial and physico-chemical quality parameters of mango” under component-4 was held at CIPHET, Ludhiana on 07.02.09. Dr. Pitam Chandra, ADG (Process Engineering.), ICAR, New Delhi was the Chief Guest on this occasion. Scientists and engineers from different ICAR institutes, SAUs, CSIR laboratories, IIT, BARC and IISc attended the workshop. Dr. A. Bandyopadhyay, National Coordinator (component 4), NAIP briefed the objectives of the annual workshop. Dr. R. T. Patil, Director, CIPHET, Ludhiana addressed the gathering on the outcome and output of the project and preferred to have a larger group of technical expertise to address the challenge ahead. Dr. Pitam Chandra, the chief guest highlighted the importance of holding such workshop and energized the gathering to come up with some good recommendations for accelerated development in this field in our country. The workshop was divided into two technical sessions: the first session was chaired and co-chaired by Dr. Pitam Chandra and Prof. E. S. Rajagopal, Prof Emeritus, IISc, Bangalore, respectively. The second technical session was chaired by Dr. Suresh Prasad, Prof, Emeritus, IIT, Kharagpur and co-chaired by Dr. R. T. Patil, Director, CIPHET. Three papers were presented in each of these two sessions. During the panel discussion it was recommended that a consortium of premier institutes of the countries who have worked or are interested in contributing in this field should be formulated. It was also recommended to hold a National seminar next year on “Nondestructive Methods for Quality Evaluation of Food” to make the scientists and engineers of the country aware for accelerated development in this field. At the end of the workshop all the participants showed their willingness to work

together to accelerate the R & D in the field of nondestructive methods of quality evaluation of food in India.



**Annual Workshop of NAIP Project on Non-Destructive Systems for Microbial and Physico-Chemical Quality Parameters of Mango**

### **CIPHET Celebrates National Science Day**

National Science Day was celebrated on 28<sup>th</sup> February, 2009 at CIPHET. It was organized by the institute in association with CIPHET Unit of Indian Society of Agricultural Engineers. Dr. Dominic Ghonsalvis, ex MLA and Chairman Vasai Agricultural Produce Market Committee was the Chief Guest and Dr K.K. Singh, Head (FG&OP) & I/c Director presided over the program. On this occasion an elocution contest for school children was held on topics 'Expanding Horizons of Science' and 'Advantages of Science'. Eight students participated in the contest and deliberated on the topics. Cash awards and certificates were given to the winners. The awareness of Science and impact in newer fields as also in our day-to-day life was emphasized.



**Inaugural session of National Science Day**



**Participants for elocution contest**

## Honors and Awards

### ISAE Awards



**Dr S N Jha**

The ISAE announced the commendation medal to Dr S N Jha for outstanding contributions in Post Harvest Management of fruits and Distinguish Service Certificate to Dr. A. K. Thakur. Both these wards will be presented in the 44<sup>th</sup> ISAE convention to be held in February 2010.



**Dr. A. K. Thakur**

### Bioved Fellowship



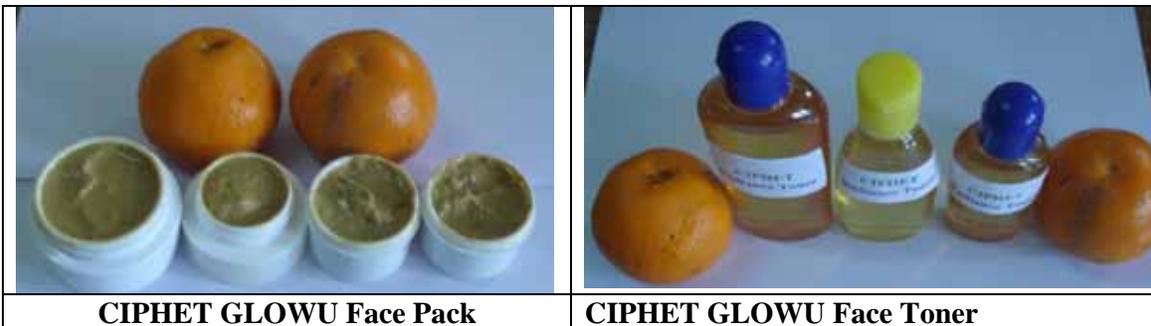
**Dr. S.K. Nanda**

Dr. S.K. Nanda, PC (PHT) received the Bioved Research Society Fellowship Award on 14.02.2009 at the XI Indian Agricultural Scientists and Farmers' Congress at Allahabad.

### Technology of the month

#### CIPHET “GLOWU” :Face Care System

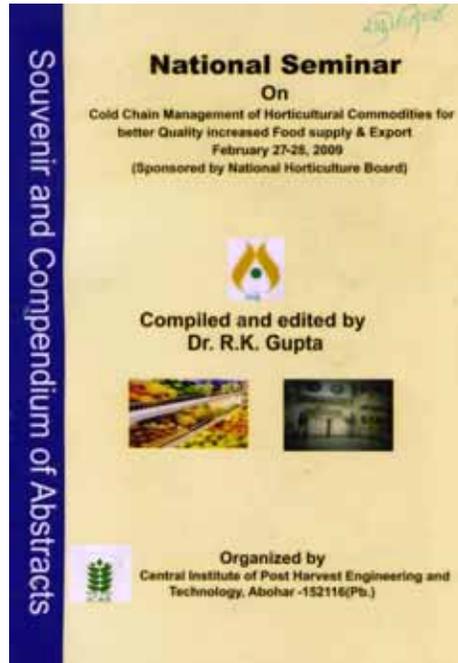
Kinnow is a major citrus fruit of northern states of India during the winter months and it is processed into juices by the industry & fruit vendors. Thus Kinnow peel is a major (30-34 %) processing waste generated during Kinnow processing which can be used to make facial care systems.



Scientists of CIPHET (Dr. D.S. Uppal & Associates) have developed a natural & inexpensive facial care systems from dried Kinnow peel powdered extracts. CIPHET Face mask/pack and Face toner are a rich blend of major concentration of Kinnow peel powdered extracts and other minor components as preservatives and sticking agents. CIPHET Mask /Pack and Toner possesses very effective deep cleansing properties along with stringent, disinfectant and antiseptic action to protect facial skin from unwanted blemishes because Kinnow peel is a rich source of Vitamin C, Carotenoids, limonene, antioxidants, micronutrients and antibacterial limonoids as compared to the peels of other citrus fruits. Upon regular usage CIPHET of GLOWU: Face Care System enhances and improves the

complexion of the skin & keeps it soft & free from other skin disorders. The Face glitters with extra brightness & lustre. The CIPHET is in the process of filing a patent on this technology and conduct entrepreneurship development programmes especially for SHGs or women entrepreneurs for production of face pack/scrub and toner from peels.

### **Publication of the month**



**Souvenir released on the occasion of Cold Chain Seminar**

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