



Our Mission

To provide demand driven industrial R&D and internationally competitive technical services to catalyse rapid industrialization for the benefit of the people of Sri Lanka

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ITI's FOOD TECHNOLOGY HEAD WINS NATIONAL S&T AWARD

Senior Researcher and Head of the Food Technology Section of ITI, Dr Jaanaki Gooneratne, won the National Science and Technology Award under the category of 'Locally developed new technologies which have resulted in a successfully marketed product or service.' The award ceremony was held on 16th November 2010 at the Cinnamon Lakeside, Colombo. The Chief Guest was the Prime Minister Hon. D. M. Jayaratne.

National Science and Technology Awards were first launched in the year 2005 by the Ministry of Technology and Research and the National Science Foundation. The awards recognized those who have significantly contributed towards sustainable economic development through the application of Science and Technology. Individuals and organizations are eligible for this award. This year's ceremony was for contributions made during 2009 and 2008 and awards

were given under 15 different categories.

Dr Jaanaki Gooneratne won this award for the development and technology transfer of a natural lime based sports drink named 'Isotonic Lime Blast'.



Dr. Gooneratne accepting the award from Hon D M Jayaratna

Dr Gooneratne developed a new process for the debittering of lime juice. When lime juice is extracted under normal conditions a bitter taste develops with time. This limits the use of lime juice in the fruit juice industry. The precursor of the bitter component, limonoid, which undergoes a structural change under acidic conditions,

when juice is extracted, forms the limonic acid that causes the bitterness.

The debittering processes at industrial level involves very high costs for the use of immobilized enzyme technology or resin column and ultra-filtration techniques. In comparison to these methods the process invented by Dr. Gooneratne, is simple, cost effective and hence can be applied at medium scale and as well as large scale operations. The challenge she faced next was the formulation of a sports drink which was appealing to the palate, quenched thirst and rehydrated the body, using the debittered lime juice. She was successful in producing an isotonic drink which retained the original flavor and texture of lime juice, with no bitter taste. The product contains only natural ingredients and is also (cont pg 4)

MINIMIZING FRESH PRODUCE LOSSES

The postharvest technology team of the ITI, lead by Dr. Shanthi Wilson (DD- R&D), organized a stakeholder workshop on "New trends in minimizing losses via safe and environment friendly methods of handling fresh produce" on 12th August 2010, at the Galle Face Hotel. This was organized in order to share the experiences and findings of the scientists involved in the project "Postharvest quality maintenance and disease control in Mango and Papaya" with the other stakeholders in the postharvest field. The project was funded by the USAID HortCRSP. Thirty participants from the stakeholder group participated in this seminar.



Participants of the seminar

Various aspects of fresh produce handling were discussed at the seminar.

Prof. Robert Paull of University of Hawaii, Manoa, one of the chief guests, made his presentation on

"Quality and export market access". As he explained, with the supermarket dominance in the retail sector, quality requirements have become stricter considering that safety and seasonality has changed due to global sourcing. The essence of his presentation was that the improvement of the quality and addition of value to the fresh produce are the key factors in meeting the customer needs.

Dr. K. H. Sarananda of the Department of Agriculture presented the audience with the Sri Lankan scenario of postharvest handling of fresh produce. He explained to the participants different "fresh

produce handling chains which are being practiced in our country and the pros and cons in each of them. In his presentation he further explained the shortcomings in the research area and the major drawbacks were, as he pointed out, repetition and duplication of activities due to lack of coordination among research groups.

Ms. Dawn Austin of Nidro Exports Ltd. elaborated on the technological problems faced by the exporters in her presentation. According to her only 10 % of the fruits and vegetables produced in the country is exported leaving room for the producers to undermine this small but important

amount. The difficulties were discussed on the fresh produce exports by Ms Austin, combining the problems with the steps in the supply chain.

Dr. Nancy Chen, from the University of Hawaii, Manoa, was the



Seminar in progress

other chief guest who shared her experiences in Hawaii with the local stakeholders. She discussed about minimizing postharvest losses due to postharvest diseases. It was evident from her presentation that the postharvest losses in developing countries occur mostly during the "production to retailer" step and account for 5 to 50% loss of fresh produce. Having explained the figures on losses she elaborated on various causes of loss, especially loss of papaya due to postharvest diseases. Finally she explained the biological control methods of postharvest diseases as well as the strategies and interventions that should be made to minimize the post harvest losses of fresh produce.

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CELEBRATING NATIONAL QUALITY WEEK - 2010

National Quality Week was celebrated at ITI from 11th to 19th October 2010. In the view of this national event, the Quality Assurance Department of ITI organized a series of special events to enhance the awareness on quality management systems among ITI staff. Further, these events improved the focus of the individuals and the institution on quality and the benefits of having a quality management system established in the institution.

Throughout the quality week "Quality flag" was hoisted in front of both the Main & S.F. Laurentius buildings of ITI by the staff of ISO 17025 accredited or ISO 9001 certified sections.



"Quality Star" accepting his prize from Director-CEO, ITI, Dr A M Mubarak

The major event organized was the "Quality Star" quiz competition. Staff members from almost all sections participated for this event very enthusiastically. It was an enjoyable event, as well as being educational and thought-provoking. After several highly competitive rounds of questions related to quality, Mr. A. M. N. Mubarak of Chemical and Microbiology Laboratory secured the first place in the competition for which he was awarded a valuable gift.

The final event of the series was a guest lecture on "Improving productivity through improvement in quality" conducted by

Mr. M. Thilakasiri, Senior Consultant of SLIDA. This was held on 19th October at the main auditorium of the ITI.

Mr. M. Thilakasiri delivering the lecture



Minimizing fresh produce losses
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Postharvest technology team of the Food Technology Section of the ITI has been developing a variety of methods to reduce the fruit and vegetable postharvest losses for the past 18 years. Deputy Director (R&D) of the ITI and the team leader of the project, Dr. Shanthi Wilson, in her presentation described some of the methods they have developed. Among them are various wax treatment methods (ITI Wax, Chitosan, Cold wax treatment), hot

water treatment, etc. which are consumer as well as environment friendly. Other than these methods, the Postharvest Team has developed the necessary postharvest protocol for export of a variety of perishable products either by air or as sea shipments.

Further they have developed the maturity indices for fruits such as rambutan, Embul banana and lime. These indices are useful in commercial agriculture where harvest and packing procedures are important components of the

supply chain for these fruits. The team train exporters, farmers etc. on proper ripening techniques of popular fruits such as banana and mango and many other postharvest technologies.

At the panel discussion many problems faced by the exporters were surfaced and the solutions were discussed at length.

For further details please contact Dr. Shanthi Wilson, Deputy Director (R&D), Industrial Technology Institute. Tel: 0112379800 Ext. 310, e-mail: shanthi@iti.lk

SHARING KNOWLEDGE ON GREENING ELECTRICAL AND DOMESTIC APPLIANCE MANUFACTURING

The environmental pollution and natural disasters triggered due to environmental pollution have alerted people to rethink about their activities. Using green technologies to reduce the carbon footprint in the manufacturing processes is a strategic method recommended to protect the environment in the present context.

China, being one of the largest electronic manufacturers in the world



Mr. Premathilake delivering his

and one of the countries with highest

carbon dioxide emission, is in the process of greening their technologies. As a step forward in this process China National Electric Apparatus Research Institute organized a seminar "2010 International Conference on Green and Low Carbon Strategies for Chinese Electrical and Electronics Sectors" on 16 September 2010 in Guangzhou, China. Megaskills Research UK and the Thailand Electrical and Electronics Institute were the international partners of the conference.

Mr. Asanka Premathilake, Research Officer of the Materials Technology Section of the ITI and an EEPEX expert in materials technology was one of the key presenters at this international conference. Mr. Premathilake received training from Megaskills Research UK under project EEPEX and is a Trainer on Carbon Footprinting. He presented a paper on "Green House Gas emission - hot points and best practices

for reducing emissions", covering case studies on Sri Lankan and Chinese companies.

Over 150 were participants from the middle and top management of electrical industrial sector in China at-



The audience

tended the seminar.

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the only locally produced isotonic sports drink. ITI has already transferred this technology to a local industrialist with exclusive rights to manufacture the product. It has already gained its popularity among children and adults engaged in sports activities, and is a successful product competing well with the other artificially formulated imported drinks in the market. For more information contact Dr. Jaanaki Gooneratne, Head, Food Technology Section, Industrial Technology Institute. T.P. 0112378900 Ext. 430. E mail: jaanaki@iti.lk

