



First International Banana Congress held in Penang, Malaysia

Small-scale farmers from around the world cultivate banana with limited expenses on inputs and labour. This often leads to plant loss and lower yield, which is also complicated by farmers' inadequate knowledge on pests and diseases management. Can more timely pest management strategies be developed consistent with the low risk-low input strategy that makes *Musa* production a useful commercial and home consumption complement in rural livelihoods? This issue was discussed in one of the keynote lectures in the First International Congress on *Musa* held in Penang, Malaysia from 6 to 9 July 2004.

Carrying the theme, 'Harnessing banana research to improve livelihoods,' the congress gathered banana researchers from all over the world to provide a venue for the integration of the latest results, information and new technologies from all aspects of banana research. This is the first banana congress to use a multi-disciplinary approach, involving production at all scales, learning from both public and private sectors and placing emphasis on the resource base of products and solutions.

Recent advances in breeding, biotechnology, germplasm management, agronomy and plant protection were all tackled in the congress which was divided into 4 sessions. Session 1 started off with lectures and oral presentations on genetic resources and improvement. New hybrids from popular varieties were presented and approaches to reinforce and enhance the promising results of conventional breeding were discussed. Meanwhile, the 4th international symposium on the molecular and cellular biology of banana was also incorporated in this session where molecular scientists presented their latest findings on *Musa* genome and genomes of disease organisms.

Pests and diseases are among the major enemies of banana production. This was reviewed, examined and discussed in Session 2, whose theme was about plant protection. The keynote lecturer reported on the worldwide destructive epidemic

of the fungus *Mycosphaerella fijiensis* on banana, which started just recently but nevertheless has caught the attention of a number of scientists and researchers already.



Opening ceremonies of the Congress

Session 3 focused on sustaining natural resources base in *Musa* cropping system. Most lectures on this part showed the importance of synthesizing and exchanging knowledge of ecologically-based agriculture between cropping systems. The presentors believe that although *Musa* researchers and producers around the world work in different ecological contexts, the underlying biological processes in the cropping system are all the same.

Postharvest and processing of bananas for the diversification of income was the highlight of Session 4. This session was conducted with the hope of providing *Musa* producing countries and their farmers a unique opportunity to use diverse research solutions and address the challenges that face them.

In his keynote address, INIBAP Director Richard Markham mentioned the enterprise development dimension of the workshop, explaining that "the farmers' search for cost-effective solutions provides our entry points as researchers, allowing us to translate better scientific knowledge of bananas into improved livelihoods and a healthier environment".

There were 8 keynote lectures, 84 oral presentations and approximately 140 poster presentations in the 4-day congress that was attended by around 300 *Musa* researchers worldwide including distinguished officials like Yang Berhomat Dato' Sri Kerk Choo Ting, Malaysian Deputy Minister of Agriculture and Agro-based Industry.

ProMusaNem in Action in Asia Pacific

During the last few months, several nematological working activities have taken place in Asia and the Pacific.

In December 2004, a regional training-cum-workshop on 'Enhancing the Capacity for Nematode Management in *Musa*' was organized at the Institute of Plant Breeding (IPB), University of the Philippines Los Baños (UPLB) Philippines. The 5-day activity was attended by 16 participants from 10 Asian countries who all presented a report on the status of nematode R&D in their country. The training consisted of lectures and practicals on nematode survey and collection, extraction, processing and mounting, identification and culture, screening for nematode resistance, conservation and management of *Musa* germplasm and tissue culture of banana.

IPB's *Musa* field genebank and tissue culture laboratory were visited and a workshop on the establishment of a regional network on nematode R&D was held to promote collaboration participating institutions and scientists.

This training-workshop was jointly sponsored by IPB/UPLB, Flemish Interuniversity Council and INIBAP. Resource speakers came from IPB, Department of Plant Pathology and National Crop Protection Center in UPLB, Catholic University Leuven and the International Network for the Improvement of Banana and Plantain.

As a result of the workshop, a Cambodian participant formulated a request for a grant from the Cambodian Agricultural Research Fund for a project

on 'Assessment on the Occurrence and Damage Potential of Root Nematodes on Banana in Cambodia,' while another participant from Micronesia wrote a project proposal on 'Survey of Plant-Parasitic Nematodes of Major Food Crops in Yap.'

In March 2004, a follow-up training-cum-workshop on 'Recent Advances for Eco-Friendly Management of Nematodes in Bananas' was organized by the National Research Centre for Banana (NRCB) and Indian Council of Agricultural Research, under the coordination of two Indian participants. This was participated in by 15 delegates from several parts of India.

Lectures and practicals during this 3-day workshop were partly based on the training-workshop in the Philippines, only focusing more on the bio-control and eco-friendly management of nematodes.

The activity was sponsored by Flemish Office for Development Cooperation and Technical Assistance. Resource speakers came from NRCB, Tamil Nadu Agricultural University and INIBAP.

All these activities are a proof that networking between scientists from different countries in the region is not just about having nice ideas that are then shelved and never used. It is about people communicating with each other, brainstorming about new ideas, joining hands and forces and taking initiatives. It is aimed that this example of successful networking will encourage other scientists to develop new forms of collaboration in the future.



Nematode training in the Philippines



Nematode training in India



First International Banana Congress.....

The congress was organized by INIBAP in cooperation with the Malaysian Agricultural Research and Development Institute. Major sponsors include Synergy Farm, Universiti Malaya, Universiti Putra Malaysia, Banana Asia Pacific Network, Malaysian Institute of Nuclear Technology Research and Malaysia Airlines.

INIBAP-AP
exhibit during the
Congress
in Penang,
Malaysia



NRMDP: A Unified Banana R&D Program in the Philippines

INIBAP-Asia Pacific and the Philippine government, through the Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD) and the Bureau of Agricultural Research (BAR) agreed on a project that will distribute improved banana cultivars in Luzon regions.

The project, called the National Repository Multiplication and Dissemination Programme (NRMDP), is set to rehabilitate the banana industry which is presently devastated by pests and diseases, most particularly by the banana bunchy top virus (BBTV). NRMDP involves the evaluation and use of introduced/improved varieties together with popular local cultivars maintained as virus-free foundation stocks and the development of an integrated banana production system that will enable small-scale farmers to grow BBTV-susceptible but popular local cultivars.

BBTV is by far the most serious viral disease affecting popular cultivars such as Lakatan, Bungulan and Latundan. Infected plants show stunted growth and rarely produce fruit. BBTV is very aggressive and hard to contain at the farm level, demanding a concerted effort from the entire community. The disease situation has reached the point where, on the island of Luzon, the demand for 'Lakatan' is being met by large commercial plantations rather than by the small-scale farmers who traditionally supplied the local market.

According to Dr. Agustin Molina, INIBAP-AP regional coordinator, this problem could be solved through the use of disease-free tissue-cultured planting materials, which are being supplied by National Repository, Multiplication and Dissemination Centres (NRMDC). NRMDCs were established to provide a ready access to improved hybrids and local cultivars at the national level. The collection is maintained as *in-vitro* plantlets and a foundation stock is planted in an insect-proof greenhouse to protect it from the viruses transmitted by insects. In the Philippines, the Bureau of Plant



LOA signing of Banana RDE projects by Dr PS Faylon, PCARRD Executive Director, and Dr AB Molina, Regional Coordinator of INIBAP-AP, with SUC Presidents as witness.

Industry of the Department of Agriculture and the Institute of Plant Breeding of the University of the Philippines in Los Baños were designated as the NRMDCs.

At present, more than 32 000 virus-indexed tissue-cultured planting materials (consisting of 5 improved and 2 local varieties) have been distributed to 6 state universities and colleges (SUCs) in the Philippines.

These materials are now in the farmers' fields as well as in the demonstration plots of the following cooperating SUCs: Don Mariano Marcos Memorial State University (DMMMSU), Cavite State University (CvSU), Quirino State College (QSC), Ilocos Sur Polytechnic State College (ISPSC), Southern Luzon Polytechnic College (SLPC) and Pampanga Agricultural College (PAC).

The NRMDP in the Philippines is successful so far due to the unwavering support of the local NARS, the Bureau of Agricultural Research under the Department of Agriculture (DA-BAR) and PCARRD both in funding and implementation. The Philippine government's grant, through the INIBAP-AP, covers the cost of planting materials, field establishment and other related training to enhance the capacity of project personnel and farmer cooperators. In addition, INIBAP provides *Musa* technical information and publications and necessary trainings for nursery and field management. More importantly, INIBAP facilitates the procurement of the planting materials either as meriplants or in field-planting stage. This programme has also encouraged the participation of the private industry in the production of meriplants and empowered the farmers to grow these in nurseries until ready for field planting.

On the other hand, cooperating institutions are expected to provide counterpart funding to directly implement the project and share its research results as stated in the Letter of Agreement (LOA). This also involves the provision for personnel, facilities and related resources necessary for the implementation of the project. INIBAP provided the guidelines for data gathering and project implementation.



Improved banana cultivars at CvSU nursery



Disease management and data collection training/workshop



Nursery management training

Banana germplasm curator trains Manivovo students

A knowledge unshared is worthless, or so they say.

Dorothy Tamasia, who was recently trained by INIBAP on *Musa* Germplasm Information System (MGIS) to describe the botany of bananas by international standards, is a classic example of what knowledge-sharing is all about. Tamasia, a curator of two highland collections, is now passing on what she has learned by training girl students at the Manivovo Training Centre at Makira, Solomon Islands in the Pacific, to recognize features of banana plants, flowers, leaf shapes and colour, trunk, etc.

To date, Tamasia's students have contributed to the collections by bringing in banana suckers from their villages on their return from annual holidays. Each variety is named and tagged with its origin, local name, donor's name and utilization. These varieties are valued for bride price, others at different ceremonies and feasts. Some particular varieties are chosen for making rafts for transport. During the training course, Tamasia's students also discovered that Makira bananas look and taste a lot different from the commercial Cavendish banana that is consumed in the West. Furthermore, they found out that these bananas have a more complex flavour.

Regarding the activities done for the highland collections, Tamasia visited farmers from her language group in isolated villages. She encouraged farmers to donate their local banana varieties and deliver suckers wrapped in woven coconut fronds and banana leaves.

Source: Excerpts from a report of The Savers' Foundation of Byron Bay, Australia.



New Publications

- **Banana Improvement: Cellular, Molecular Biology, and Induced Mutations**

S. Mohan Jain and Rony Swennen (eds)

February 2004; 392 pages, 210 X 297 mm
US \$ 110.00@

The book is based on the research and development of tools, devised under a Coordinated Research Project of the Plant Breeding and Genetics Section of the Joint Division FAO/IAEA, to address the problems facing banana and plantain cultivation. The book comprises 30 chapters by the experts and renowned scientists.



- **INIBAP Annual Report 2003**

- **Pohnpei Bananas**

A Photo Collection
Cartenoid-Rich Varieties
L. Englberger and A. Lorens
US\$7@

Published on behalf of the Island Food Community of Pohnpei, Federated States of Micronesia by the Secretariat of the Pacific Community



Announcements

- **Regional Workshop on Sustainable Banana Production through the Use of Healthy Seeds, 4-8 October 2004, Ho Chi Minh, Vietnam**

Organized by FFTC, INIBAP, SOFRI and TBRI (by invitation)

This workshop is organized as part of the FFTC-INIBAP-BAPNET Collaborative Project involving the establishment of pathogen-free banana repositories of important *Musa* cultivars and a seedling propagation system

- **Workshop on Banana Disease Identification, Management and Production of Healthy Planting Materials, 26-30 October 2004, Kandy, Sri Lanka**

Organized by the Horticultural Crop Research and Development Institute, Department of Agriculture, Sri Lanka (by invitation)

- **First Indian Horticulture Congress 2004 6-9 November 2004, New Delhi, India**

Organized by The Horticultural Society of India Congress; Website: www.nhsc2004.com

- **3rd BAPNET Steering Committee meeting 23-26 November 2004, Guangzhou, China**

Organized by INIBAP, the Banana Asia Pacific Network (BAPNET) and the Guangdong Academy of Agricultural Sciences (GDAAS) as local host (by invitation)

This is an annual meeting of country/institution representatives to discuss regional priority areas/directions and possible areas of collaboration.



Inibap is a programme of the International Plant Genetic Resources Institute (IPGRI)

RISBAP - Regional Information System for Banana and Plantain is a regional mechanism of improving the dissemination, utilization and access of information on banana and plantain in the Asia and the Pacific region. The *RISBAP Bulletin* is published by the INIBAP - Asia Pacific Network. Write us at: INIBAP-AP, c/o IRRI, Khush Hall, College, Laguna 4031 Philippines; Tel/Fax. (63) 49-536-0532; E-mail: inibap.bapnet@cgiar.org; <http://www.inibap.org>.