

Confined Trials of FSB-R Eggplant and PRSV-R Papaya Completed



A project staff carries uprooted eggplant after harvesting for proper disposal. Inset: Extensive damage was observed on non-Bt eggplant but little or no damage on Bt eggplant fruits during the confined trial.

In May, 2008, after almost five months of studies, the Fruit and Shoot Borer-Resistant (FSB-R) Eggplant confined field trial in the experimental farm of the University of the Philippines Los Baños was completed. Non-transgenic and transgenic eggplants fruits were harvested during the third and fourth week of May. The transgenic eggplants were found to be already morphologically closely similar to their respective recurrent parents except in a few traits. Several individual lines were selected for further evaluation after considering yield performance and key horticultural traits. Overall, the EE-1 transgenic eggplants exhibited a high level of efficacy against the local population of EFSB, having a much lower damage due to the borer insects. The Bt negative eggplants were observed to have about 3-3.5 times more fruits with holes and larvae than in their Bt positive counterparts.

The confined trial of the Papaya Ringspot Virus-Resistant transgenic papaya which started in February 2007 was also completed during the first week of June 2008. It was

found that there was significant difference in the onset of infection observed between the transgenic lines and the inoculated non-transgenic control, but not among the transgenic lines. Within the first 16 weeks of observation period, the transgenic plants showed significant lower percent infection compared to the inoculated non-transgenic control. More than ten individual selections from the three transgenic lines were noted to have higher level of resistance due to delay of symptom development and/or milder virus symptoms observed. The selected transgenic plants were identified as promising in terms of vigor and ability to produce flowers and fruits. Seeds were harvested from these promising lines.

All recommended biosafety protocols of the National Biosafety Committee of the Philippines (NCBP) were followed during the confined trial experiments. The two crops will be advanced to the next stage of evaluation leading to seed production and subsequent multilocation trials. (ZB Juliano and VMV Cruz)

Papaya and Eggplant Junior Researchers Get DOST Scholarships



The grantees during the contract signing of the DOST Scholarship on June 30, 2008 at the Manila Hotel, Roxas, Boulevard, Manila (from left to right): Joedel A. de Guzman, Ann Mylalulex A. Magnaye, John Eric B. Canicosa, April N. Alviar, and Maricel C. Gonzales.

Five junior researchers of the Papaya Ringspot Virus-Resistant (PRSV-R) Papaya and Fruit and Shoot Borer Resistant (FSB-R) eggplant projects received scholarship grants from the Philippine Department of Science and Technology (DOST) to obtain Master of Science degrees at the University of the Philippines Los Baños (UPLB). The five grantees were Ann Mylalulex A. Magnaye, Maricel C. Gonzales and Joedel A. de Guzman of the PRSV-R Papaya project and John Eric B. Canicosa and April N. Alviar of the FSB-R eggplant project.

Dr. Desiree M. Hautea, ABSPII Regional Coordinator for Southeast Asia said that the scholarship was very competitive and she is glad that the five university research associates of the two projects were accepted.

The grantees signed the scholarship contract with the DOST in a ceremony held last June 30, 2008 at the Manila Hotel, Roxas Boulevard, Manila. The scholarship grant, which went into effect the first semester of school year 2008-2009 includes full payment of tuition fees, P12,000.00 monthly stipend, P5,000.00 book allowance per semester and thesis support of P30,000.00.

Except for Ms. Magnaye, the four junior researchers signified their intentions to conduct their thesis with the papaya and eggplant projects. (VRG Lee)

Two Papaya Ringspot Virus-Resistant (PRSV-R) papaya project researchers and a Fruit and Borer-Resistant (FSB-R) eggplant project former consultant were among this year's recipients of Awards from the National Academy of Science and Technology (NAST) of the Philippines.

Dr. Hayde F. Galvez, University Researcher of Institute of Plant Breeding (IPB), study leader of PRSV-R Papaya and former project leader of the ABSPII-funded MVR Tomato, is one of the 10 recipients of the 2008 Outstanding Young Scientists (OYS) Award. Dr. Galvez, the lone female awardee of this year's OYS, is recognized by NAST for her outstanding research contributions in the field of genetics and plant breeding specifically in the development and application of molecular techniques, which determine hybridity in coconut; thrips resistance in potato, and aschochyta blight resistance in chickpea. She is also credited with creating the first linkage map of chickpea (*Cicer arietinum* L.) and the location of six quantitative trait loci (QTLs) related to aschochyta blight resistance in chickpea. Dr. Galvez' research resulted in the establishment of segregating populations of tomato, useful in the development of breeding lines with resistance to tomato yellow leaf curl virus (ToLCV) and bacterial wilt.

Dr. Christian Joseph R. Cumagun, Secretary of the UPLB College of Agriculture (CA) and study leader of the PRSV-R Papaya project, received the Outstanding Scientific Paper Award for 2008 for "Population

NAST Awards Given to Researchers and Project Consultant

Genetics of Plant Pathogenic Fungi with emphasis on *Fusarium* species". Published in *The Philippine Agricultural Scientist* 90:244-256, the article provided tools and techniques in population genetics and an overview of five evolutionary forces that shape the genetic structure of *Fusarium* populations in order to predict their risks of evolution. It explained the reasons for the re-emergence of *Fusarium* diseases of the major food crops with local and foreign data. Dr. Cumagun's paper concluded that gene flow and reproduction/mating systems have the greatest impact on the evolution of *Fusarium* populations.

Dr. Eufemio T. Rasco, Jr. is the recipient of the 2008 Outstanding Book Award for "The Unfolding Gene Revolution: Ideology, Science and Regulation of Plant Biotechnology". Published by the International Service for the Acquisition of Agri-biotech Applications (ISAAA) and the SEAMEO Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA), the book comprehensively reviewed the basic sciences relevant to biotechnology and the art and science of genetic engineering in a simple and easy to understand manner. It highlighted important scientific discoveries and scientific facts, as they relate to the present understanding of science.

A photograph of Dr. Hayde F. Galvez, a woman with glasses and a white lab coat, working in a laboratory. She is smiling and looking towards the camera while holding a pipette. The background shows laboratory equipment and a clean, bright environment.

Dr. Hayde F. Galvez is a recipient of the 2008 OYS award.

The three researchers received their plaques and cash prizes during the 30th Annual Scientific Meeting of NAST held on July 9-11, 2008 at the Manila Hotel, Roxas Boulevard, Manila. NAST is the highest advisory body to the President of the Republic of the Philippines and the Cabinet on policies concerning science and technology. It is mandated to recognize outstanding achievements in science and technology and to serve as a reservoir of competent scientific and technological manpower for the country. (VRG Lee)

ABSP II Southeast Asia Impact Assessment Book Out Soon



Drs. Desiree M. Hautea, Jose M. Yorobe, Jr., and George W. Norton discuss impact assessment book.

A book that summarizes the projected level and distribution of costs and benefits associated with the adoption of biotech crops, particularly insect resistant (Bt) eggplant and virus resistant papaya and tomato in the Philippines, and insect resistant (Bt) and late blight resistant potato and virus resistant tomato in Indonesia is expected to be released before the year ends. The book will be jointly published by the International Service for the Acquisition of Agri-biotech Applications (ISAAA) and SEAMEO Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) and will complement the book released recently by ABSP II South Asia, in collaboration with India's Tamil Nadu Agricultural University (TNAU). The ABSP II South Asia-TNAU book presents the results of a series of ex-ante studies undertaken over the past four years assessing the potential impacts of biotech crops in South Asia, with particular emphasis on India and Bangladesh.

Dr. George W. Norton, Virginia Tech professor and ABSP II Impact Study Coordinator, who is editing and revising ten chapters of the book reports that there are two chapters remaining in the draft manuscript to be edited. Dr. Norton relayed the progress during his visit to Los Baños, Laguna on May 23, 2008. Norton met with Drs. Randy A. Hautea, ISAAA Global Coordinator, Jose M. Yorobe, Jr., economics professor at the College of Economics and Management, UP Los Baños and principal investigator for impact studies on biotech papaya in the Philippines, and Desiree M. Hautea, ABSP II Regional Coordinator for Southeast Asia. Dr. D. Hautea will also provide technical editing of some of the chapters, especially those that deal with biosafety regulation. (PG de Guzman)

Project Sponsors Participants to India Seed Program

Two participants from the Philippines attended the Seed Industry Executive Development Program held in Ooty, India through assistance from ABSPII SEAsia and the International Service for the Acquisition of Agri-biotech Applications (ISAAA). Ms. Norma Malimban, Supervising Agriculturist at the Bureau of Plant Industry of the Philippine Department of Agriculture, and Dr. Von Mark Cruz, Program Manager at ISAAA, attended the program on April 7 to 11, 2008 with 29 other participants from India, Bangladesh, Taiwan, South Korea, Malaysia and France.

The training program was organized by Cornell University and Sathguru Management Consultants to enhance participants' understanding of emerging issues in the seed industry and train them in developing strategic solutions. The training consisted of lectures and a case study in university agbiotech licensing where the participants decided on how to capture royalties and presented a technology development and commercialization strategy. Among the program faculty include Dr. Ronnie Coffman and colleagues from Cornell University, Dr. Yossi Shapiro of Monsanto India, Dr. K. Vijayaraghavan and Mr. K. Ragunathan of ABSPII South Asia, and Mr. Raju Barwale of Maharashtra Hybrid Seeds Co.

During the closing ceremonies, Vijayaraghavan reminded the participants that "to gain strategic leadership, companies should look beyond and out of the window and consider farmers as the end consumers". He also added that the acquisition of broad platform technologies is the best way, as it can be applied to various portfolio of crops. (VRG Lee and VM Cruz)



Ms. Norma Malimban and Dr. Von Mark Cruz. (Photo courtesy of NMalimban)

PRSV-R Papaya Poster is PMCP's Best Poster



Ms. Lolita M. Dolores receives her certificate and cash prize from PMCP President Dr. Teodora O. Dizon and Dr. Fe Dela Pena, President of Philippine Phytopathological Society. (Photo courtesy of LM Dolores)

"Biological and Molecular Characterization of Some Papaya Ringspot Virus (PRSV) Isolates in the Philippines" was awarded the Best Poster Paper during the 39th Anniversary and Annual Scientific Conference of the Pest Management Council of the Philippines, Inc. (PMCP) held last May 6-9, 2008 at the Asturias Hotel, Puerto Princesa City, Palawan.

The poster illustrated some biological and molecular properties of PRSV isolates obtained from the major papaya growing areas in the Philippines. It was co-authored by Ms. Lolita M. Dolores, Alvin Kristofer M. Dolores, Dr. Filomena C. Sta. Cruz, Dr. Pablito M. Magdalita and Dr. Desiree M. Hautea.

The research was a portion of the project entitled "Development and Commercialization of PRSV-R Papaya for Fresh Fruit and Papain Production" and part of the undergraduate thesis of Alvin Dolores. It was co-funded by the Philippine Council for Agriculture, Forestry and Natural Resources Research and Development, Agricultural Biotechnology Support Project (ABSP) II, the International Service for the Acquisition of Agri-biotech Applications (ISAAA) and Economic Modernization Through Efficient Reforms and Governance Enhancement (EMERGE). The study was conducted at the Institute of Plant Breeding (IPB), Crop Science Cluster, University of the Philippines Los Baños. (MC Gonzales)

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questions (FAQs) for the resource kit on the following topics was completed: general biotechnology; biosafety; PRSV-R Papaya; FSBP Eggplant; risk communication; and, interacting and building relationships with the media.

The two-day Writeshop 2 was held at Days Hotel, Tagaytay City. It was attended by 33 participants: 16 research staff; 4 UPLB-IBC members; 12 key partners on IEC and training activities, and one resource person.

Writeshop 2 aimed to develop a revised draft of the Information Resource Kit for Biotech Papaya and Eggplant by reviewing and evaluating the draft output from Writeshop 1. The methodology for review and evaluation of the Q&As developed by the EC and Training Activities Team was designed specifically to serve as pre-testing of the document.

The IEC and Training Activities team hope to finalize the resource kit and have it published before October 2008. (VRG Lee and SP Tababa)

Workshop and Writeshop Series Held to Develop Biotech Info Resource Kits



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Participants of Writeshop 2 held at Days Hotel, Tagaytay City.

Researchers and staff of the Papaya Ringspot Virus-Resistant (PRSV-R) Papaya and Fruit and Shoot Borer-Resistant (FSBR) Eggplant projects and members of the University of the Philippines Los Baños (UPLB) Institutional Biosafety Committee (IBC) participated in the Process Documentation Workshop and Writeshop series held in Los Baños, Laguna and Tagaytay City, Cavite. These workshops and writeshops were part of the continuing capability building activities for both the papaya and eggplant biotech projects to produce Information Resource Kits.

The Process Documentation Workshop which was held in Sam-Arng Room, SEAMEO Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA), Los Baños, aimed to impart to the participants the importance of process documentation in research management. It aimed to document selected biosafety practices by applying knowledge and tools in process documentation and to develop a working draft on biosafety practices during confined trials for biotech papaya and eggplant. This May 2 workshop was attended by 18 research project staff, three IBC members and seven partner-collaborators. Two resource speakers Dr. Lorna Malicsi and Bernadette Joven of SEARCA served as facilitators/resource persons.



Participants documented and detailed steps in doing a particular research activity.

A series of writeshops were conducted to package a draft information kit for biotech papaya and eggplant which can be used by potential IBCs in multi-location sites. Writeshop 1 was held at the SEARCA Residence Hall (SRH) on May 7. Eight researchers, seven information, education, and communication (IEC) and Training Activities Team members, and one resource person from SEARCA, developed and assembled thematic information on biosafety using the documented concerns/issues from participants and responses from resource persons on biotech papaya and eggplant from various seminars/workshops previously held. At the end of the Writeshop 1, the first draft of the frequently asked

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ABSP II is a USAID-funded consortium of public and private sector institutions that supports scientists, regulators, and the general public in developing countries to make informed decisions about agricultural biotechnology. Where demand exists, ABSP II focuses on the safe and effective development and commercialization of bio-engineered crops as a complement to traditional and organic agricultural approaches. The project helps boost food security, economic growth, nutrition, and environmental quality in East and West Africa, Indonesia, India, Bangladesh, and the Philippines.

Additional information about ABSP II projects can be found at <http://www.absp2.cornell.edu/>

This newsletter is also available at <http://www.isaaa.org/Programs/supportprojects/abspii/>