Agricultural Biotechnology Support Project II
Southeast Asia

ABSP II Newsletter

VOL VI NO 2 JUNE 2010

FSB-R Eggplant Harvested in Three Sites

Harvesting of marketable fruits of the 5 BC_3F_4 lines (2 lines of DLP x EE-1 and 3 lines of Mara x EE-1) and 3 non-transgenic varieties for the first cropping season of variety trial was done in the three Bureau of Plant Industry (BPI)-approved field trial sites namely, University of the Philippines Los Baños (UPLB); Central Bicol State University for Agriculture (CBSUA), Pili, Camarines Sur; and a farm site of the Regional Agriculture and Fishery Council (RAFC), Sta. Maria, Pangasinan. The trials for open-pollinated varieties were conducted to assess yield performance and evaluate horticultural traits as required by the National Cooperative Testing (NCT) for Vegetables as well as compare the efficacy of the Bt eggplant lines against the eggplant fruit and shoot borer (EFSB), *Leucinodes orbonalis* Guenee with non Bt parentals and National Seed Industry Council (NSIC) check variety across three locations.

Comparison of marketable fruits of BC_3F_4 D3 x EE-1 without damage by FSB (rightmost) and damaged fruits on non-Bt DLP (middle photo) and NSIC variety (leftmost) showing larval feeding tunnels (red arrows).

The first harvest was conducted 37 DAT (days after transplanting) in UPLB and 35 DAT in CBSUA and Pangasinan trial sites. The frequency of harvesting was every 4 days following the traditional farmer practice. Fruits were sorted into marketable and unmarketable classes with fruit curvature and EFSB damage as the criteria. Fruits were then examined for the presence of entry/exit holes produced by the EFSB. The fruits were cut open and observed for larval feeding tunnels. Lengths of fruit and larval feeding tunnel were measured. The number and age of EFSB larvae (estimated through body size and color) recovered were also recorded. There will be 14 harvests in each trial site. In UPLB, the plants will be ratooned and harvesting will be extended to measure ratoon crop yield, bioefficacy and the expression of Cry1Ac protein at different plant parts.

Concurrent with the open pollinated variety (OPV) trial, another experiment required by the BPI was set up in the UPLB and Pangasinan field trial sites to compare the effectiveness of the Bt technology with the application of insecticide against the EFSB. Two BC_3F_4 lines and two non-transgenic varieties were used in the experiment. All insecticide treatments were given Initial Environment Examination (IEE) clearance by USAID.

At the end of each harvest, fruits including those in the pollen traps were chopped, boiled and buried in a pit within each trial site. Regulatory officers from the local Institutional Biosafety Committee of each site and BPI-Post Entry Quarantine Service monitored every harvesting and disposal activities. *(LD Taylo)*

DA Biotech Program Funds Bt Eggplant Multiloc Trial

FSB-R eggplant seedlings planted inside the CBSUA trial site.

Activities for the conduct of the multilocation field trial of Bt eggplant got financial support from the Department of Agriculture Biotech Program Fund with the Bureau of Agricultural Research (DA-BAR). Funding support amounting to nearly PhP1.5 million will cover activities for one year starting May 2010 and shall principally support activities on: 1) the conduct of the multilocation trials to complete the breeding and regulatory activities required for commercialization; 2) market and supply chain study; 3) development of production and distribution plans; 4) capacity building on product stewardship; and 5) IEC and product promotion. Project funds will be managed by the International Service for the Acquisition of Agri-biotech Applications (ISAAA) under a Memorandum of Agreement with DA-BAR.

The DA Biotech Program is a principal Philippine government initiative promoting modern biotech research and development activities consistent with the DA Agricultural Biotechnology Roadmap. The DA Biotech Program aims to utilize the tools of biotechnology as an alternative means to improving productivity of local agriculture towards food security and sustainable development. *(PG De Guzman)*

Media & Key Stakeholders from Bicol Learn Biotech, Get Updates on FSB-R Eggplant

Workshop participants outside the perimeter fence of the field trial site in CBSUA, Camarines Sur (photo above).

The Agricultural Biotechnology Support Project II (ABSP II) recently joined the Central Bicol State University of Agriculture (CBSUA), International Service for the Acquisition of Agri-biotech Applications (ISAAA), Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) Biotechnology Information Center (BIC) and the Asian Farmers Regional Network-Philippines (ASFARNET-Phils) in the successful conduct of the Media Workshop on Creating Awareness, Knowledge and Understanding of Biotech Crops held last 19 May 2010 at CBSUA, Pili, Camarines Sur. Thirty-three media practitioners, academic personnel, and local government officers from the Bicol region participated in this event which was also sponsored by the Philippines Department of Agriculture Biotechnology Program Office (DA BPO) and the United States Agency for International Development (USAID).

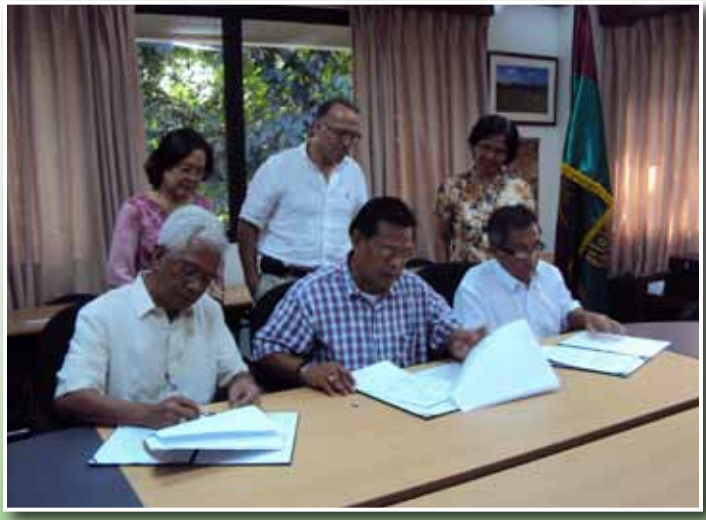
The workshop is a sequel of biotech outreach activities that started in 2005 which aims to enhance the awareness and understanding of key stakeholders on the principles and benefits of agri-biotechnology; update them on the R&D status of public-sector GM/biotech products; and share farmers' experiences in adopting GM/biotech crops. Specifically, the workshop aimed to promote science-based and responsible reporting of biotechnology issues by media practitioners as well as to establish a network of media and other key stakeholders in the Bicol region.

Prof. Joel Batanes, vice-president of CBSUA Research, Extension and Enterprise Development, emphasized the importance of media practitioners in conveying factual and science-based information on biotechnology to the general public. Dr. Batanes regarded the media as a credible source of information on agricultural biotechnology. He underscored CBSUA's square stand in adopting scientific programs, such as biotechnology, that will benefit farmers and complement with the national food sufficiency program. CBSUA is one of the leading agricultural state universities in the Bicol region and is one of the project collaborators in the multi-location field trial of FSB-R eggplant.

Participants to this activity were able to visit the ongoing multi-location field trial site in CBSUA campus in Pili, Camarines Sur.

Dr. Desiree M. Hautea, product development manager of the fruit and shoot borer resistant (FSB-R) eggplant discussed the updates on this public-sector research endeavor being implemented and led by the Institute of Plant Breeding, University of the Philippines Los Baños. Dr. Hautea shares that "the promising lines of FSB-R eggplant are currently being assessed for efficacy against the fruit and shoot borer pest under multi-location field trials in Bicol, Los Baños and Pangasinan". She added that the trials show initial positive results where the biotech eggplant shows high resistance to the eggplant borer.

Experiences from planting biotech corn were also shared by multi-awarded farmer Rosalie Ellasus of Pangasinan. Ms. Ellasus highlighted the benefits she experiences in adopting biotechnology, which include increased yield and reduced production costs. As a progressive farmer, she foresees the need for better post-harvest facilities, broadened marketing linkages, and new biotech crops that will be able to cope up with the changing climate. She also looks forward to planting the FSB-R eggplant in her farm soon as she foresees that the crop has huge potential benefits such as increased yield, reduced pesticide use, reduced labor costs and increased net profits. *(JA Panopio)*



ISAAA, CBSUA, UPLBFI Sign MOU

Dr. Randy A. Hautea (seated, leftmost), International Service for the Acquisition of Agri-biotech Applications (ISAAA) Global Coordinator; Atty. Marito T. Bernales, Central Bicol State University of Agriculture (CBSUA) President (middle) and Dr. Cecilio R. Arboleda (rightmost), UPLB Foundation, Inc. (UPLBFI) Executive Director sign the memorandum of understanding for the multilocation field trials of FSB-R eggplant project in CBSUA. The MOU covers the biosafety assessment, variety accreditation and Fertilizer and Pesticide Authority (FPA) registration activities of the project. The signing ceremony was held at UPLBFI in April 2010. Witnesses include Ms. Felicitas H. Almasan (standing, leftmost), ISAAA Officer-Administrative Coordination, Dr. Frank A. Shotkoski (middle), ABSPII Director and Dr. Desiree M. Hautea (rightmost), ABSPII-SEAsia Regional Coordinator. *(VRG Lee)*

ABSPII Supports ASFARNET Biotech Outreach in Bicol

Participants avail of publications on biotechnology and Bt eggplant.

The Asian Farmer's Regional Network (ASFARNET)–Philippines recently conducted the second Regional ASFARNET Agri-Biotech Conference with the theme Agri-biotechnology in Biodiversity and Sustainable Agriculture last May 20, 2010 at the People's Hall, Provincial Capitol of Albay, Philippines.

The conference was attended by 72 participants composed of farmer leaders, media practitioners, members of LGUs, agricultural technicians and extension workers, researchers and scientists and other members of the academic community in the Bicol region.

The conference provided information on the basics of agri-biotechnology, current status and applications to Philippine agricultural development, and to multi-stakeholders. Participants learned about the role of agri-biotechnology in biodiversity for sustainable Philippine agriculture. The different local studies conducted in relation to the effect of agri-biotech to biodiversity were also shared to the participants as well as the ongoing support of the Department of Agriculture to different biotech R&D initiatives. Highlight of the seminar was the sharing of the first hand experiences of biotech farmers Ms. Rosalie Ellasus from Pangasinan and Engr. Raul Careras of Camarines Sur on the benefits and impact of adopting biotech crops in their lives.

The event was part of a series of information, education and communication efforts of the ASFARNET Phils. ASFARNET supports the sharing, exchange, transfer or adoption of information, knowledge, skills and technologies in agriculture and other relevant fields of disciplines to enhance traditional farming, improve agricultural productivity, safer environment,and promote rural development.

The International Service for the Acquisition of Agri-biotech Applications (ISAAA) and SEARCA Biotechnology Information Center (BIC) co-organized the implementation of the activity with support coming from the Provincial Government of Albay, Agricultural Biotechnology Support Project (ABSPII), Philippines Department of Agriculture Biotechnology Program (DA BPO) and the United States Agency for International Development (USAID). *(JA Panopio)*

Pangasinan farmer Rosalie Ellasus shares her experiences on planting Bt corn.

Study Looks Into Insecticide Residues in Eggplant

A new study commissioned by the International Service for the Acquisition of Agri-biotech Applications (ISAAA) with funding from the Agricultural Biotechnology Support Project II (ABSPII) looks into insecticide residues in eggplant. Dr. Jinky Lu, an expert in the field and a researcher with the National Institute of Health, University of the Philippines Manila, will spearhead the study which aims to determine and quantify left over residue of common insecticides used in eggplant particularly in controlling fruit and shoot borer (FSB) and other chewing insect pests. Under the study, insecticide residues in eggplant will be determined in three stages: at the farm, at post harvest, and in the market. Residue levels will be compared with maximum residue level (MRL) set by local and international bodies. The initial study area consists of identified farms and farmers in Sta. Maria, Pangasinan, a major eggplant growing province in the Philippines.

Previous studies on eggplant production show the intensive and often non-judicious use of insecticides in controlling insect pests. Under extreme circumstances, farmers spray every other day to control insect pests, often using a concoction of insecticides. Data that will be generated from the new study can provide information on the extent of insecticide use of eggplant farmers and consequent health effects to farmers and consumers. *(PG De Guzman)*

Dr. Jinky Leilani Lu of the National Institute of Health, University of the Philippines Manila, will undertake the study assessing left over residue of common insecticides used in eggplant.

1st Season of Luzon Multilocation Trials for FSB-R Eggplant Starts

April 2010 marks an important phase in the FSB-R Eggplant project – it was during this time that three trials of the multilocation study took off in Luzon.

The FSB-R eggplants were transplanted in three sites: the Institute of Plant Breeding at the University of the Philippines Los Baños (IPB-UPLB) in Laguna; Central Bicol State University for Agriculture (CBSUA) in Pili, Camarines Sur; and Sta. Maria, Pangasinan. The materials were transplanted in UPLB on April 7, 2010, followed by CBSUA on April 15, 2010, and in Pangasinan on April 23, 2010.

UPLB Entomologist Lourdes D. Taylo (second from left) looks at the planted seedlings in Sta. Maria, Pangasinan. (Photo: DM Hautea)

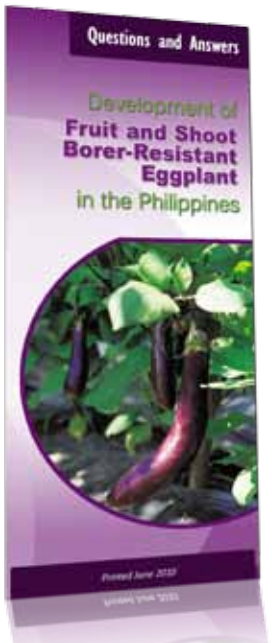
The seeds of the FSB-R eggplants for the three sites were sown inside the BL2 greenhouse facility in IPB last March 2010. After a month, the seedlings were transported to their respective sites for transplanting. By the directive of Administrative Order 8 of the Department of Agriculture (DA AO 8), any movement of viable materials, such as the transport of seedlings from one place to another, must be done in the presence of a Post Entry Quarantine Officer (PEQO) from the Bureau of Plant Industry (BPI). In the case of the FSB-R Eggplant multilocation trial, transport and transplanting of the seedlings were done in the presence of two PEQOs. Moreover, representatives from the respective Institutional Biosafety Committee (IBC) also monitored the transplanting.

The three areas were selected as trial sites since they are among the top ten eggplant producing provinces in the country. Pangasinan ranks first while Camarines Sur is seventh, based on the Bureau of Agricultural Statistics 2008 data. Laguna on the other hand, represents the adjoining province of Quezon which ranks fourth.

The sites have been previously inspected and approved by the BPI. Each site has restricted access, protected by wire fences and locked gates and only accessible to authorized personnel.

Prior to the trials, public information sheets, or PIS, were posted in municipal halls, barangay halls, and barangay health centers. This was done in order to inform the public of the upcoming trial in their area. Likewise, everyone who has read the PIS was also invited to submit their comments to the BPI.

The trials will go on for four months, enabling the FSB-R eggplants to finish its 120-day plant cycle. This will allow the researchers to evaluate the FSB resistance of the FSB-R Eggplants under various field and agro-climatic conditions. *(ZJ Bugnosen)*



Updated FAQs on FSB-R Eggplant Launched in ABSPII SEAsia Website

The updated brochure on the questions and answers on the development of the fruit and shoot borer-resistant (FSB-R) eggplant in the Philippines is now available and freely downloadable from the ABSPII Southeast Asia section hosted by the International Service for the Acquisition of Agri-biotech Applications (ISAAA) website.

The education material provides information on the importance of eggplant in the Philippines, the major constraints to its production, the control and management of fruit and shoot borer pest, and the biotechnological intervention to control the pest. The brochure also shares information about the status in the development of the FSB-R eggplant, and the partners and project collaborators involved in this public-sector biotech product.

The electronic version of this FAQ can be downloaded at http://www.isaaa.org/programs/supportprojects/abspii/download/Eggplant/Eggplant%20Q&A%20(June2010).pdf. *(JA Panopio)*

ABSPII
SOUTHEAST ASIA
Newsletter

VOL VI NO 2 JUNE 2010

Editorial Team
Randy A. Hautea
Desiree M. Hautea
Mariechel J. Navarro

Writers/Contributors
Zabrina J. Bugnosen
Panfilo G. De Guzman
Virma Rea G. Lee
Jenny A. Panopio
Lourdes D. Taylo

Design and Layout
Clement Dionglay

SOUTHEAST ASIA OFFICE
Dr. Desiree M. Hautea
Regional Coordinator
Institute of Plant Breeding
University of the Philippines Los Baños
College 4031 Laguna Philippines
Telefax: +63 49 5365140

US OFFICE
International Programs
213 Rice Hall, Cornell University
Ithaca, New York 14853 USA
Tel.: +1 607 2556357
Fax: +1 607 2558186
Email: absp2@cornell.edu

ABSPII 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, ABSPII 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 ABSPII projects can be found at http://www.absp2.cornell.edu/

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