



SCIENCE BASED ANSWERS TO SUSTAINING FARMERS, SOLVING HUNGER AND SECURING OUR PLANET



The Biotechnology Potato Partnership provides late blight resistant potato varieties to local small holder farmers in Bangladesh and Indonesia with the goals of :

- Reducing malnutrition and improving health
- Reducing the use of harmful pesticides
- Reducing pre and post harvest losses
- Improving social and economic standing of women
- Catalyzing economic growth

Late Blight is a disease of solanaceous plants that is caused by the fungus *Phytophthora Infestans*, and is characterized by decay of stems, leaves, and potatoes with the capability of decimating entire crops.

Feed the Future Biotech Potato Partnership Co-Hosts International Communications Workshop

Biotechnology and communication experts emphasized the importance of stewardship and coordinated communication strategies with genetically engineered crops in Bangladesh during a workshop held in Dhaka on August 28. Although the participants focused on stewardship and science-based communications for the development of Bt brinjal and late blight resistant (LBR) potato specifically in Bangladesh, the conclusions and strategies can be applied to biotech applications across the globe.

Responsible biotechnology efforts require diligent stewardship and communication with coordinated efforts by all partners. Communication is key to bringing all components of a project together, especially between international partners. "Sometimes communication is easy and sometimes it's difficult. Many poems are written on one moon by many people so it depends on the conceptualization and perception. The appropriate ways of communication need to be identified and implemented to make the information sharing effective," says Dr. Abul Kalam Azad, Director General Bangladesh Agricultural Research Institute (BARI) and chief guest of the inaugural session.

Organizers plan on implementing a focused internal and external communication plan that ensures all partners are maximizing each other's unique position in the partnership, while reaching all stakeholders with key consistent messages. The group will establish a regular meeting schedule to stay on track with meeting goals. Mr. David Westerling, Deputy Director and the Feed the Future

team lead, Economic Growth office, USAID Bangladesh said, "In order to see it to adulthood and capitalize on its potential with the ultimate commercialization of Bt eggplant and LBR potato, we need to continue to develop a comprehensive communications strategy and policy framework and educate the public on biotechnology's contributions to creating an environmentally sustainable agricultural sector and food secure Bangladesh."

The workshop was attended by over 40 participants including representatives from numerous Bangladesh governmental agencies, USAID, Feed the Future Potato Partnership led by Michigan State University and Feed the Future South Asia Eggplant Improvement Partnership led by Cornell University. The event was covered by Bangladesh National Television (BTV) who produced a special segment on the biotechnology projects and workshop which aired nationally Wednesday, August 30.



Dr. Abul Kalam Azad, BARI Director General addresses participants during the Inaugural Session of the Communication Coordination Workshop.



G M O Scientific Fact Check

Statement: Some people believe that the spike in food allergies is linked to genetically modified foods????

Fact: Harvard University study finds no evidence that genetically modified foods increase food allergies (sitn.hms.harvard.edu). In addition the Food and Agriculture Organizations of United Nations (FAO) and the World Health Organization (WHO) require GM foods to be tested for their ability to cause allergic reactions. According the Mayo Clinic none of the GM foods currently on the market have been found to have allergenic effects.

In Your Kitchen...

Potatoes are versatile and nutritious! This edition's featured recipe has you making your own delicious potato chips at home. They're fast, easy and a much healthier version of what you find at your local grocery. Give them a try today.

Homemade Potato Chips

1. Preheat oven to 375 degrees F. Spray the bottom of a baking sheet with extra virgin olive oil.
2. Use a mandoline to get your chip slices to your desired thickness.
3. Sprinkle with your favorite powdered seasoning or rub. Try curried potato chips by sprinkling with curry, cumin powder and a little chili powder.
4. Bake for 10-15 minutes then remove from oven, flip each chip and sprinkle the other side with desired seasonings. Continue to bake until desired crispness, about another 10-15 minutes



Did You Know??...

The United Nations Food and Agriculture Organization estimates that about 795 million people of the 7.3 billion people in the world, or one in nine, were suffering from chronic undernourishment in 2014-2016. Almost all the hungry people, 780 million, live in developing countries, representing 12.9 percent, or one in eight, of the population of developing counties.

Building Capacity Through Scientific Training

Scientists from Bangladesh and Indonesia traveled to Michigan State University in August for a multi week training session. The session included workshops, field visits and laboratory training designed to provide the participants with enhanced skills and experiences. These skills will not only support the FtF BPP project, but also build capacity within the partner countries.

The group visited Michigan State University confined field trials in Clarksville and traveled to MSU's Agronomy Farm in Montcalm County, MI. In Montcalm, the scientists learned harvesting of potato tubers using the Nutrient Film Technique (NFT) method to obtain clean seed tubers. This seed propagation method will directly benefit the FtF BPP project as it can be used to provide seed tubers for contained field trials in both Bangladesh and Indonesia.

In the laboratory, the scientists worked side by side with MSU faculty including FtF BPP Technical Project Assistant, Kelly Zarka and Project Director, Dr. Dave Douches. "The opportunity to travel to MSU and have face to face meetings and hands on training strengthens the in-county research teams and helps build relationships and connect the teams between Indonesia, Bangladesh and the US. We will now be better positioned to conduct research for the product development and regulatory trials as well as manage the regulatory aspects." said Dave.

All the trainees participated in experiments focusing on Detached Leaf Bioassays (DLB) for LB resistant potato lines from the MSU potato-breeding program in the MSU potato pathology lab. In addition, they participated in the genotyping of the LB pathogen strains using SSR and allo-enzyme techniques. These technique will assist the teams to determine the LB pathogen strains in their countries, information critical for the project. Dr. Douches gave a presentation on Potato breeding Strategy and Dr. Phil Wharton spoke on Managing the Late Blight disease.

The scientists also traveled to Boise, Idaho to visit FtF BPP private sector partner, J.R. Simplot Company. The Simplot plant sciences team is responsible for development of Innate technology, an innovative biotechnology platform for improving potatoes. While at Simplot, the team learned stewardship strategies to ensure the integrity of the project. Stewardship is a critical component of any biotech project, understanding how Simplot has

managed this responsibility provided the scientists with proven strategies to implement and share in their home countries.

The regulatory workshop was conducted by project regulatory lead, Dr. Karen Hokanson, University of Minnesota, and Dr. Peter Raymond of Ag Sci Consulting. An emphasis was placed on the development and implementation of standard operating procedures (SOP) to ensure scientifically accurate data and reporting. The step by step procedures are critical in verifying test results and validating quality product production. SOP recording confirms that each step of the procedure is performed properly. Following all directions completely, observing all safety guidelines, using instruments correctly and recording accurate details in scientific notebooks are all basic SOP guidelines.



Scientists from Bangladesh and Indonesia visit the MSU trial fields to learn new techniques and methods.

The project's Human and Institutional Capacity Lead, Dr. Cholani Weebadde, ensured the training was designed to not only educate the scientists for work on the current FtF BPP project, but also to be brought back to Bangladesh and Indonesia as a capacity building component. Capacity building is a goal of the FtF BPP. The "train the trainer" concept was introduced to facilitate the sharing of new skills with fellow colleagues in their home country.

Five scientists traveled from Indonesia, Dr. Alberta Dinar Ambarwati, Dr. Edy Listanto, and Dr. Tri Joko Santoso from the Indonesian Center for Agriculture Biotechnology and Genetic Resource Research and Development (ICABIOGRAD); Mr. Kusmana and Ms. Ineu Sulastrini from the Indonesian Vegetable Research Institute (IVEGRI). The two Bangladesh scientists, Mr. Shafiqul Islam and Md. Mushfiqur Rahman are with the Bangladesh Agriculture Research Institute (BARI).

In Country Partnerships

The Biotechnology Potato Partnership could not exist without the focused support from our partners abroad; ICABIOGRAD in Indonesia, and BARI in Bangladesh. These dedicated women and men are bringing our collaborative vision to life, as we work together to provide biotech potato varieties to small hold farmers.


About ICABIOGRAD...



Indonesian Center for Agricultural Biotechnology and Genetic Resources Research and Development (ICABIOGRAD) is located in Bogor, Indonesia. ICABIOGRAD is one of the institutions under coordination of Indonesian Agency for Agricultural Research and Development (IAARD), Ministry of Agriculture of the Republic of Indonesia. ICABIOGRAD has a vision of becoming a center of excellence in research and development of biotechnology and agricultural genetic resources capable of supporting sustainable food security and highly competitive agribusiness. Research programs in ICABIOGRAD are designed and formulated to tackle major agricultural problems which are difficult or impossible to solve using conventional methods.

The mission of ICABIOGRAD is to: 1. Increase the number of high-quality human resources in the field of biotechnology and agricultural genetic resources. 2. Manage and harness agricultural genetic resources to support research in the field of biotechnology and plant improvement. 3. Develop a strong research program on genetic improvement of plants and microbes, and components of cultivation technology through biotechnological approaches as a means to increase the competitiveness of technology and products. 4. Contribute through the growth of national agricultural development by expanding and disseminating relevant technology to improve the competitiveness of Indonesian agricultural products in national and global marketplace.

About BARI...



Bangladesh Agricultural Research Institute (BARI) is a large multi-crop research institute conducting research on a large number of crops, such as cereals, tuber, pulses, oilseeds, vegetables, fruits, spices, flowers, etc. Besides variety development, BARI also carries out research on non-commodity areas, such as soil and crop management, disease and insect management, irrigation and water management, development of farm machinery, improvement of cropping and farming system management, post-harvest, handling and processing, and socio-economics studies related to production, marketing and consumption.

The institute functions through three major wings, Research Wing, Support Service Wing, and Training and Communication Wing. The Research Wing executes and monitors all the research programs through 7 special crop research centers, 14 research divisions, 6 regional research stations and 28 sub-stations. The Support Service Wing provides all the logistic support in research management as well as personnel management. BARI was founded in 1978.

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