USDA Foreign Agricultural Service
GAIN Report
Global Agricultural Information Network

Voluntary _ Public

Date: 11/20/2015
GAIN Report Number: SZ 15-02

Switzerland

Post: Geneva WTO Mission

Summary of Post-Organized Biotechnology Seminar at the World Trade Organization

Report Categories:
Biotechnology - GE Plants and Animals
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Report Highlights:
FAS Geneva organized a biotechnology seminar entitled “The Impact of Biotechnology on Developing World Agriculture, Nutrition, and the Environment” on September 22, 2015 at the WTO. Experts in the field of agricultural biotechnology from India, Uganda, Philippines, and the United Kingdom gave informative presentations. The capacity audience, primarily country representatives to the WTO and UN, heard persuasive and passionate arguments in favor of agricultural biotechnology as a tool to fight poverty and malnutrition in developing countries.

General Information:

Purpose:

While Switzerland may not initially seem to be an important location for agricultural biotechnology, it is home to a wide and diverse number of businesses and institutions that play an important role in global biotech policy. Switzerland is home to the world's leading grain and oilseed event (Geneva Global Grain), one of the world's largest cereals events (Cereals Europe), and two of the world's largest food and crop protection producers (Nestlé and Syngenta). In addition, Geneva is home to many of the largest grain and oilseeds companies and has traditionally been at the center of the global grain trade. Switzerland is also home to a host of globally influential organizations central to the GMO debate, including the United Nations (Geneva), the World Trade Organization (WTO), the World Health Organization (WHO), as well as over 100 international organizations. This concentration of globally influential organizations and institutions provided a unique platform from which to hold this seminar to promote U.S. positions on genetically engineered (GE) crops, fighting climate change, and promoting food security.

Activity Description:

U.S. Embassy Bern and FAS Geneva received funding from the State Department Bureau of Economic and Business Affairs' Ag Biotech Outreach fund to host a series of agricultural biotechnology seminars in Switzerland. U.S. Embassy Bern organized an event in Bern in cooperation with the University of Bern while FAS Geneva organized an event at the WTO. The Geneva event held on September 22 attracted about 85 participants to a full capacity room at the WTO and was moderated by the Economic Counsellor of the Brazilian Mission to the WTO. Roughly 60 percent of those in attendance were developing countries representatives to the WTO or UN working on agricultural issues. Three of the four presenters were from developing countries and provided a strong argument for GE crops as a means to fight food insecurity. Participants asked insightful questions and appreciated the very informative presentations. Participants came away with better appreciation of the potential GE crops have to improve the lives of producers and consumers in developing countries – a message rarely heard in Europe and particularly in Geneva. Many of the participants were developing country representatives on the WTO SPS (Sanitary and Phytosanitary) and TBT (Technical Barriers to Trade) Committees.

Presentation Summaries:

Dr. Kiggundu, head of the Biotechnology Research Center at the National Agricultural Research Organization in Kampala, Uganda, discussed the severe malnutrition prevalent in Uganda and explained the importance of banana in the Ugandan diet. Banana is the most important food crop (per capita consumption 500 kg) and the second most important cash crop. Ugandan farmers have identified diseases as their top challenge including the banana bacterial wilt. The public research institute that Dr. Kiggundu manages has developed both a GE bacterial wilt resistant banana as well as a GE "Pro Vitamin A" banana. Dr. Kiggundu discussed surveys conducted among producers that indicate a strong willingness to plant these GE bananas. In fact, 90 percent of women producers say they would adopt the technology. Other GE crops under development in Uganda include cotton, corn, rice, sweet potato, potato, and groundnut. However, current biotech policy in Uganda prohibits commercialization as there is no national regulatory law. Additionally, the public in Uganda is generally opposed to GE crops. Dr. Kiggundu gave a very compelling argument on how bacterial resistant GE bananas could improve the incomes of poor farmers and fight hunger.

Dr. C.D. Mayee, President of the Indian Society for Cotton Improvement and President of the South Asia Biotechnology Center in Nagpur, India, discussed the social and environmental impacts of GE cotton on small scale agriculture in India. Dr. Mayee was a compelling speaker as, in addition to discussing what GE crops can do for developing country agriculture, he forcefully showed what biotechnology has actually done for small-scale producers in India. After explaining the vulnerable situation of cotton farmers in India – most of the 7 million cotton farms are very small-scale – he reviewed the damaging impact of the bollworm on Indian cotton in the late 1990s up to 2001. During this time yield loses were great and chemical applications skyrocketed. In fact, 50 percent of agricultural chemical use in India was in cotton, which occupies just 5 percent of agricultural land. In 2002, Bt cotton was approved for use in India and even now is the only GE crop commercialized in the country. Today about 90 percent of producers use Bt cotton.

Dr. Mayee demonstrated that as Bt cotton use increased so did production – with a strong correlation. Yields increased from 5-10 kg lint/ha to 20-35 kg lint/ha following adoption of Bt cotton and production doubled in just a few years. India also transformed from an importer to the world's largest cotton exporter following adoption. Among the benefits to India from Bt cotton were additional farmer income, rural employment, and dramatically less pesticide use. In fact, the number of applications dropped to half after adoption of Bt cotton. Finally, Dr. Mayee cited studies that showed that incomes of cotton producers increased following the adoption of Bt cotton and 9 out of 10 producers who used Bt cotton seed returned to plant it again the next season.

Tony Lambino, Head of Communication at the International Rice Research Institute in Los Baños, Philippines, discussed the 2nd green revolution in rice, including biotechnology, nutrition, and climate-smart technology diffusion in developing countries. Mr. Lambino discussed future demand and how projected yield increases in rice will not be able to meet demand. Land, labor, and water constraints will all impact rice production prospects. Climate change, in particular, will reduce rice productivity and thus rice varieties are needed to address drought, salinity, heat, and submergence challenges. Rice was discussed as one of the most important crops for food security, with consumers in much of S.E. Asia obtaining more than 50 percent of calories from rice. Micronutrient deficiencies were also discussed in depth as the hidden hunger affecting most of the developing world. Vitamin A deficiency (VAD) is particularly devastating as 19 million pregnant women suffer from VAD, 670,000 children die from VAD, and 350,000 children go blind each year from VAD. Vitamin A rice or "golden rice" can

help address this problem, but use of this GE crop is still delayed with no prospects for release in the near future. Dr. Mayee commented in the question and answer portion of the program that blocking the commercialization of Vitamin A rice is immoral given the benefit potential to so many in poverty.

Dr. Matina Tsalavouta, Head of Communications & Public Engagement at Rothamsted Research addressed public engagement in biotechnology research with implications for developing countries. Dr. Tsalavouta discussed ways to communicate the importance of research on the solutions that biotechnology can offer and how to communicate this to the public, with a strong focus on science and evidence for informed debates and discussions. She recommended that officials in developing countries focus on being proactive in engaging the public on agricultural biotechnology. In particular, she advised that both policy makers and scientists should encourage public dialog. Dr. Tsalavouta shared several examples from England where both poor and effective communication has occurred. Dr. Tsalavouta's presentation was useful in conveying to the participants from developing countries how openness and transparency regarding research outcomes, thorough assessment and communication of both benefits and risks, as well as inclusive engagement in debates, can play a pivotal role in acceptance of GE crops in their countries.