

CROP BIOTECH UPDATE

A weekly summary of world developments in agri-biotech for developing countries,
produced by the Global Knowledge Center on Crop Biotechnology,
International Service for the Acquisition of Agri-biotech Applications
SEAsiaCenter (ISAAA), and AgBiotechNet

August 13, 2004

DATELINE INDIA:

International Conference on Agricultural Biotechnology Ushering in the Second
Green Revolution, New Delhi, India, August 10-13, 2004

In This Issue:

- * Indian Govt to Create Enabling Environ for Agri-biotech
- * Inter'l Speakers Stress Positive Experiences with GM Crops
- * Partnerships Key to Deliver Biotech Benefits to Agriculture
- * Bt Cotton has Future in India, Says Agric Commissioner
- * Predictive Regulatory System to Assure Food Safety of GMF

INDIAN GOVT TO CREATE ENABLING ENVIRON FOR AGRI-BIOTECH

"My Ministry would do its best to create an enabling environment for biotechnology to flourish in our country", said Science and Technology Minister Sh Kapil Sibal, during his inaugural speech at the International Conference on Agricultural Biotechnology Ushering in the Second Green Revolution held at the Federation House, Indian Chambers of Commerce and Industry (FICCI) in New Delhi, India. Sponsored by the International Service for the Acquisition of Agri-biotech Applications (ISAAA), FICCI, and the MS Swaminathan Agricultural Research Foundation, the three-day conference attracted over 200 local and international participants.

The Minister explained that India has been undergoing a paradigm shift in terms of policy, regulatory as well as trade regimes. "New technologies can only flourish under a futuristic tripartite arrangement among research and development (R&D) institutions, industry and regulatory bodies," he said. However, he did stress that that all these efforts would fail should the consumers' interest not be taken into consideration.

The advancement in biotechnology, the Minister added, will entail public private collaboration at two levels. First, a mechanism needs to be made to facilitate R&D in biotech between publicly funded research institutions and industry. Secondly, a system has to be in place to transfer crop biotechnologies generated

by publicly funded R&D institutions in industry. The Secretary emphasized that government support and approval would complete the partnership.

Sh Kapil Sibal likewise announced that by January 2005 a single window regulatory system will be in place to facilitate approval or rejection of biotech-derived products to bring in additional choices for the farmers as soon as possible. This system must be transparent in order to gain the confidence and trust of consumers. He concluded by saying that India is now moving towards "a collaboration with nature" and it was important the science community take on this challenge to make this a reality.

Aside from Minister Kapil Sibal, the Secretary of the Ministry of Agriculture, Government of India, Radha Singh, also expressed support for agricultural biotechnology and stressed "the moral imperative of making genetically modified crops available to small scale farmers who need them the most." She noted that India should consider all possible interventions and that the country was at the moment streamlining procedures for biotechnology so it can be used as an instrument to contribute to increased food production particularly in agricultural crops such as rice, wheat, oil seeds and pulses.

INTER'L SPEAKERS STRESS POSITIVE EXPERIENCES WITH GM CROPS

The global experiences of using genetically modified (GM) crops have demonstrated the benefits that countries can reap from using the technology. This was the consensus of international speakers including Dr. Clive James, chair of the International Service for the Acquisition of Agri-biotech Applications (ISAAA), Eduardo Trigo of Argentina, and Anderson Gomes of Brazil.

Global Status of GM Crops

Clive James stressed that a crop improvement strategy that integrates conventional and biotechnology/GM crop approaches to optimize productivity along with population control and improved food distribution systems can contribute to food, feed and fiber security. He said that 18 countries have adopted biotech crops which are now planted on 67.7 million hectares. This is an increase in 15 percent over 2002 figures. Among the attributes of Bt biotech crops for instance, have been the effective control of targeted insect pests, less use and exposure to insecticides, higher yields, better health from reduced mycotoxins in corn, and higher economic returns to more than six million farmers.

Argentina Experience

Eduardo Trigo, director of Grupo CEO in Buenos Aires, Argentina, narrated his country's dramatic increase in grain production which saw an increase from 28 million tons in 1988/89 to over 75 million tons in 2002/03. Among other factors, "probably one of the most important was the introduction of new GM technologies, particularly herbicide-tolerant soybeans". Trigo reported on the economic benefits that accrued to producers and other participating actors as well as social and environmental impacts associated with the introduction of the technology. He highlighted the role of institutional factors such as the early availability of a reliable biosafety mechanism and a special intellectual property rights situation that favored the introduction of new technologies. However, he mentioned that developments as the Cartagena Protocol, and labeling and traceability concerns point to a more complex market situation and now

demands a different approach for the domestic handling of this innovation. Argentina, he concluded, needs to undertake a much more proactive policy path.

Brazil Experience

Another positive experience was discussed by Anderson Gomes, director of Celeres, a consulting company in Minas Gerais, Brazil. He noted that "the continuous development of biotechnology in Brazil is seen an important tool in maintaining its competitiveness in grain, fibers, and meat production over the next years. Besides soy production, there is a great expectation ... for biotechnology in Brazilian agriculture to improve the indicators in corn and cotton production beside other import food such as fruits and edible beans." Gomes said that Brazilian farmers quickly adopted herbicide tolerant soybean for example, and is now planted on over 18.6 million hectares. Nevertheless, he highlighted the need for legislative measures that would provide a positive environment for GM technologies so that they would guarantee that direct benefits would spread not only to farmers but to the rest of society as well.

Briefs on the Argentinean and Brazilian experiences will soon be made available online at <http://www.isaaa.org/kc>.

Knowledge Sharing Initiative in India

During the same conference, Dr. Clive James, took the opportunity to formally launch ISAAA's knowledge sharing initiative in India. An ISAAA South Asia office, co-hosted by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), is now part of the network of Biotechnology Information Centers located in Asia, Africa, and Latin America. James mentioned that the initiative in India would allow the country to share with the rest of the world its experiences in agricultural biotechnology. In response, Dr. William Dar, ICRISAT director general, said that "partnership is the key strategy to cover more ground in efforts to let India benefit first from all the technologies that are becoming available to improve the quality of life". Dr. Mangla Rai, director general of the Indian Council for Agricultural Research, forged the partnership by assuring that the Indian government would fully support the knowledge initiative in India.

PARTNERSHIPS KEY TO DELIVER BIOTECH BENEFITS TO AGRICULTURE

Without formal, dynamic, and synergistic interfaces between the public and private sectors, much of the benefits of crop biotechnology will not reach those who need them most. The sharing of information and experiences across sectors is crucial to facilitate the flow and process that technologies undergo from the laboratory to the farm. This was the common view of speakers during the discussion on technology transfer of agri-biotechnology.

The delivery of Bt cotton into farmers' hands would never have been possible without collaboration between the public and private sectors. This was clearly highlighted by representatives from the two leading seed companies responsible for developing Bt cotton, Sh Raju Barwale and Sh Ramasami of Mahyco and Rasi Seeds, respectively. Bt cotton was a "national collaboration but implemented by the private sector," involving many local institutions at various stages of the process", according to Sh Raju Barwale of Mahyco.

This sentiment was shared by other speakers in the session. Dr S. Nagarajan, Director of the Indian Agriculture Research Institute stressed that a better working relationship with the private sector is needed if biotech products are ever to reach the market This involves "changing the mindset for research and credit sharing; a reorientation of priorities; and a strong networking mechanism to share genetic resources." Similar lessons were also shared by Dr Randy Hautea, global coordinator of the International Service for the Acquisition of Agri-biotech Applications, who described the papaya network project, a collaborative endeavor of five Southeast Asian countries in Indonesia, Malaysia, Philippines, Thailand, and Vietnam. ISAAA served as a broker in getting the technology developed by a private sector partner to these countries and in the process developing in-country capability to address other issues such as regulations, biosafety, and intellectual property rights.

Dr. Purvi Mehta Bhatt of Science Aschram summed up the discussion by posing the challenge of "bringing the technology to where it belongs". This can only be done, she said, by cultivating meaningful relationships among various stakeholders.

BT COTTON HAS FUTURE IN INDIA, SAYS AGRIC COMMISSIONER

Bt cotton in India is all set on a growth path with 1.3 million acres to be planted this year. It is already accounting for 40 percent of the total hybrid market value in the country.

Dr. CD Mayee, Agricultural Commissioner, Government of India, gave this optimistic view in his presentation on the status of Bt cotton and future of biotechnology in India.

Mayee noted that India has presently the highest acreage in cotton, approximately 24 percent in the world. Ironically, the country has the lowest yield in the world. The challenge for India, Mayee said was "to increase competitiveness and overcome key constraints like bollworm losses, dependence on rain, historical indebtedness among farmers, and unorganized farming and lack of education." Hence, the need to explore other options particularly in the use of new varieties is necessary.

The agricultural commissioner gave the example of the experience of the State of Madhya Pradesh where farmers grew 10 times more Bt cotton in 2003 and six times more in 2004. A survey revealed that less than 2 percent of farmers who were aware of the technology said they would not try Bt cotton.

Since 80 percent of the Bt cotton growers were planting the crop for the first time, Mayee opined that their experience would be the key for growth in 2005. He also stressed the need to address crop performance issues particularly as it relates to agronomic constraints as well as issues related to high expectations of a crop's potential, price and institutional support mechanisms. Mayee also added that to meet market demand, it was necessary to aim for the approval of more and new hybrids.

PREDICTIVE REGULATORY SYSTEM TO ASSURE FOOD SAFETY OF GMF

Various international documents are now available to provide a harmonized framework to assess the safety of genetically modified food (GMF). However, it is important that each information or data requirement submitted to food safety assessment should be biologically significant or that they address specific safety issues. Only then can a "decision to approve or not approve a product be made based on sound science within a transparent, efficient and responsive regulatory environment while still assuring food, feed and environmental safety." Dr. Morven McLean of Agbios, Canada stressed this point during her talk on food safety during the international conference on agricultural biotechnology organized by FICCI in New Delhi, India.

It is a strong regulatory framework in a country, which would protect people's health and safety. McLean clarified that the framework must provide a predictive environment for industry, and build public confidence. A predictive regulatory system is one that is clear and defines the different activities and division of responsibilities among those involved in the process of evaluation. As such however, it requires developing systematic approaches to evaluation.

In the same forum, Dr. V. Prakash, Director of the Central Food Technological Research Institute (CFTRI) in Mysore, Karnataka, India, said that a national database on GM foods is needed to adequately address food safety issues. At present, CFTRI is the only agency in India, which is the reference food analysis center for detection of GM in processed foods.

For more information about the international conference, email bhagirath@ficci.com or knowledge.center@isaaa.org.

To stop receiving this newsletter, please send an e-mail message to knowledge.center@isaaa.org and write, "unsubscribe newsletter" in the subject box.

Do not hesitate to tell other colleagues/contacts about this mail list. If they wish to join, they should send an e-mail message to knowledge.center@isaaa.org leaving the subject blank and entering the one-line text message as follows:
SUBSCRIBE Crop Biotech Network

Please visit CropBiotech Net web pages (www.isaaa.org/kc) to view previous issues of this newsletter and see other available resources for download.