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

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KNOWLEDGE SHARING ON CROP BIOTECH IN INDIA

The International Service for the Acquisition of Agri-biotech Applications (ISAAA) has added India to its network of Biotechnology Information Centers (BICs) located in Asia, Africa, and Latin America. ISAAA's network of BICs and institutional links in the developing world comprises the Global Knowledge Center on Crop Biotechnology (KC), the core center being based at the ISAAA Southeast Asia Center in the Philippines.

ISAAA believes that knowledge sharing activities in crop biotechnology in India would allow India to share with the rest of the world its experiences in this area. The potential for the technology and the resulting economic, environmental and social benefits in India is enormous and promotion of first hand experience could serve as powerful example for other developing countries.

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) has agreed to co-host the India Office at its liaison office in New Delhi. Its first major project is the international conference on "Agricultural Biotechnology Ushering in the Second Green Revolution" to be held jointly with the Federation of Indian Chambers of Commerce and Industry, and the MS Swaminathan Foundation from August 10-12, 2004. For more information on the India knowledge sharing initiative, email knowledge.center@isaaa.org. Details of the international conference can be viewed online at http://www.ficci.com/ficci/events/events-ahead/aug/aug10-agri.htm

INDIA DEVELOPS LOCAL GM COTTON

Swarna Bharat Biotechnics Private Ltd (SBBPL), in Hyderabad, India, a consortium of seven Indian seed companies, has received licenses for two genes derived from Bacillus thuringiensis (Bt), which protect cotton against bollworm and tobacco caterpillar.

P. Janaki Krishna of the Biotechnology Unit, Institute of Public Enterprise in Hyderabad, India, reported in the Information Systems for Biotechnology News Report that the genes are licensed from the National Botanical Research Institute (NBRI), Lucknow, India, over a three year period and a royalty of three percent. SBBPL will also likely to get license for a third gene (LecGNA 2) that directs production of lectin, a protein lethal to sucking pests such as aphids, from the publicly funded Centre for Plant Molecular Biology (CPMB), Osmania University, Hyderabad, India.

Krishna added that the consortium's aim is to toward self-sustaining agribiotech development. The profit generated by public sector institutes through licensing will help support reinvestment in developing more agri-biotech products to serve local needs. The technology access fee will be shared by members of the consortium. In addition, Indian partners help with the regulatory process to obtain product approval.

See the full article online at http://www.isb.vt.edu/news/2004/news04.aug.html#aug0405. Contact P. Janaki Krishna at jankrisp@yahoo.com.

COMMITTEE RECOMMENDS NEW FRAMEWORK TO ASSESS GM FOODS

A committee of scientific experts convened recently to outline science-based approaches for assessing genetically modified (GM) foods. Findings and recommendations were published in a July 2004 executive summary, in response to a request by the United States Department of Agriculture, the US Food and Drug Association, and the Environmental Protection Agency, among other government agencies.

Led by Bettie Sue Masters of the Department of Biochemistry at the University of Texas Health Center in San Antonio, the committee recommended that, although no adverse health effects have been found for GM foods, current methods in assessing their safety should be improved to further study any unintentional changes made in them.

A new framework for safety assessment was likewise formulated, involving comparing the genetically modified food to its conventional counterpart; the use of more precise scientific tools for assessing genetically modified foods; making all assessment results available to the public; deepening the extent of pre-market and post-market evaluation; and studying populations with potentially more adverse reactions to modifications in food products. The committee, however, recommended that the framework be implemented only with foods found to have a novel component, or with higher or lower concentrations of components than in their conventional counterparts.

The report also stressed that all foods with novel components or altered composition should be subjected to the same rigorous assessment, whether or not they have been developed by genetic modification.

The report in brief is available online at The report in brief is available online at http://books.nap.edu/openbook/0309092094/html/index.html.

DECLARATION ON BIOTECH FROM LATIN AMERICA

Participants of the 5th Latin American and Caribbean Meeting on Agricultural Biotechnology (REDBIO 2004) declared their support for the responsible and rational use of biotechnology to improve the quality of human life. In the participants' declaration of support, they mentioned the need to use the applications of biotechnology in the context of a sound regulatory framework. Other concerns that countries needed to address were the following: strengthen communication efforts across various sectors of society, particularly in disseminating the benefits of the technology; foster greater investment in biotechnology especially in the access, development and validation of technological packages; and highlight the need for a critical mass of scientists in the biological sciences.

For the full declaration in Spanish, visit http://www.redbio.org/rdominicana/redbio2004rd/Memoria_REDBIO_2004/index.htm

ICRISAT'S AGRI-BUS INCUBATOR STARTS GM COTTON INITIATIVE

The Agri-Business Incubator (ABI) at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in Hyderabad, India is now collaborating with private sector clients.

Bioseed Research India Pvt. Ltd., a part of the DCM Shriram Group, is working on research projects related to the application of agricultural biotechnology for the development of superior cotton hybrids. ICRISAT provides technology assistance for using molecular markers, gene marker identification, and genetic transformation. In addition, the seed company can make use of ICRISAT's greenhouse space, biotechnology labs and agricultural land for testing of their material.

Dr William Dar, Director General of ICRISAT, said that "The ABI is an important institution for partnering with the private-sector companies, where entrepreneurs can develop commercial ventures using ICRISAT technologies". The other project under the agri-business concept, is with Rusni Distilleries Pvt. Ltd., on generating extra-neutral alcohol (ENA), a raw material for producing potable alcohol, and fuel alcohol that can be added to petrol from sweet sorghum varieties developed by ICRISAT. According to ICRISAT scientist Kiran Sharma, the collaboration will generate better value for sorghum, a crop of the semi-arid regions, through its use for generating alcohol. ICRISAT will help further increase the sugar content in the sorghum varieties.

For further information, contact Dr. Kiran Sharma at k.sharma@cgiar.org. Visit the ICRISAT website at http://www.icrisat.cgiar.org.

PASS BIOSAFETY LAW SAYS UGANDA MINISTER

Uganda's outgoing minister for agriculture, animal industry and fisheries, Dr. Wilberforce Kisamba-Mugerwa, has challenged the country's parliament to pass the national biosafety law to facilitate the use of biotechnology to ease problems faced by the country's agriculture sector.

Speaking to reporters in Kampala, Kisamba who has been appointed to head Ethiopia-based International Service for National Agricultural Research (ISNAR), said delay in passing the law has hindered the introduction of Bt cotton and other genetically improved crops into the country. He lamented that two government projects aimed at improving banana and cotton productions in the country have been put on hold due to lack of biosafety regulations.

Meanwhile, the executive director of Kampala-based Advocates Coalition for Development and Environment (ACODE), Mr Godber Tumushabe, has urged the business community in East Africa to take keen interest in biotechnology and biosafety policy developments in the region, reminding them that such policies "may in future affect your business"/Kenya Biotechnology Information Center

ARS SCIENTISTS STUDY GENES FOR FERTILIZATION

Research work is being done to enable scientists to alter the activity of genes that block fertilization of certain wild species with their domesticated counterparts. Scientists led by Shiela McCormick of the Agricultural Research Service (ARS) at the US Department of Agriculture are studying the genes and proteins that may be key players in fertilization.

According to Marcia Wood of ARS, until such barriers are overcome, the prized genes that the wild relatives harbor cannot, in many cases, be easily moved into cultivated species. Wood explained that genes cue plants to form proteins called ligands and partner molecules called receptor kinases, which might be essential to fertilization. McCormick and colleagues used tomato pollen kinases, discovered in their earlier experiments, as baits for floral ligands. This discovery enabled them to identify many potential new ligands.

For more information about this research, see the August issue of Agricultural Research magazine at http://www.ars.usda.gov/is/AR/archive/aug04/puzzle0804.htm.

ANNOUNCEMENT

The Agricultural Biotechnology International Conference (ABIC) 2004 will be held in Cologne, Germany on September 12 to 15, 2004 with the theme "AgBiotech goes Europe". The conference will take place for the first time outside Canada. The conference and an Agbiotech Trade Fair will take place at the localities of the CongressCenter West at the KölnMesse.

For further information, please visit ABIC at www.abic2004.org. Online registration is at http://www.abic2004.org/registration.

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