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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FOUR AFRICAN PRESIDENTS OK BIOTECH

Four West Africa Presidents, Amadou Toumani Toure of Mali, Mamadou Tandja of Niger, John Kufuor of Ghana, and Blaise Compaore of Burkina Faso, have given their approval to the use of biotechnology to improve food security in the continent.

Speaking at the "Ministerial Conference on Harnessing Science and Technology to Increase Agricultural Productivity in Africa" held in Ougadougou, Burkina Faso, the four Presidents called on the participants to come up with clear recommendations on how West Africa can quickly gain from the technology.

President Blaise Campaore of Burkina Faso said "The continent should increase food production 12 fold in order to satisfy needs of its population. To meet this challenge, Africa must acquire and adapt biotechnology to the agricultural sectors."

The three-day conference, which attracted over 400 participants, focused on four main themes of critical importance to West Africa, and the entire continent. They included biotechnology and biosafety; regulatory policies and frameworks that will support efforts to increase agricultural productivity; technology transfer and marketing of African crops; and water management and conservation./ Kenya Biotechnology Information Center

In related developments, USDA reported that the West African ministers adopted a resolution calling for greater research and investment in agricultural biotechnology and recommended the creation of a West African center for biotechnology. They also agreed to meet again in Bamako, Mali to discuss the development of a regional action plan to strengthen research, testing, technology transfer and scientific training.

The USDA release is available online at http://www.usda.gov/Newsroom/0271.04.html.

Presentations and other materials from the conference are being posted on the Web at http://www.fas.usda.gov/icd/stconf/event6.html.

AFRICABIO DEMONSTRATES POTENTIALS OF BIOTECH

AfricaBio joined forces with the Agricultural Research Council (ARC) and the National African Farmers Union (NAFU), which represents the interests of small scale farmers in South Africa, to inform key decision makers, scientists and small scale farmers on the role of modern biotechnology for sustainable development. This is part of an ongoing strategy to promote the safe, responsible and ethical use of biotechnology in South Africa.

Dave Keetch, President of the Board of Governors of Africabio, said that the role of biotechnology in the region can better be appreciated if regional policy makers can see for themselves the practical benefits of the technology to small scale farmers.

In 2003/2004, AfricaBio established 1 ha plots of genetically modified (GM) and conventional white maize at two sites in South Africa. About 60 participants from eight countries participated in a two-day program that involved presentations and discussions on the role of biotechnology for regional maize farmers. In addition, the two demonstration sites were visited and a planting of conventional white maize was compared with GM white maize of the same variety.

At the site in Northwest Province, yield data indicated an increase of 35% for GM white maize over non-GM white maize. In addition, the Bt white maize showed significantly less stem borer damage to the cobs, 1% versus 19% for the non-GM maize.

For more of AfricaBio, visit http://www.africabio.com.

EU COUNCIL DISAPPROVES GM CORN

The Environment Council of Ministers did not reach a majority vote to approve genetically modified (GM) corn (NK603) for import, feed use, and industrial processing in the European Union. Simon Barber, Director of the Plant Biotechnology Unit at EuropaBio, the European association for bioindustries, said that “Since April this year the EU GM regulatory framework has been in place meeting the earlier demands of EU Member States; the European Food Safety Authority has already provided a positive safety assessment after reviewing the

science; yet the Council remains unable to approve this product." The application will now be passed back to the EU Commission.

EuropaBio reported that NK603 is corn genetically modified to tolerate glyphosate herbicide and provides farmers with additional options of weed control management. It is approved for food use in Australia, Canada, Japan, Korea, and the United States and was first approved in 2000.

Visit EuropaBio at http://www.europabio.org.

ISSUES AFFECTING AGRI-BIOTECH SECTOR IN INDIA

India's agricultural biotechnology industry has the necessary policy and regulatory support to promote research and development. However, product development and commercialization needs attention. So says A. Damodaran, professor of economics at the Indian Institute of Plantation Management in Bangalore, India.

In an article in Asian Biotechnology and Development Review, Damodaran said that the multi-tiered regulatory framework could seriously affect the performance of start-up companies that would like to run through the entire life cycle of biotechnology product development. He added that partnerships and strategic alliances should be encouraged between start-up ventures and established companies that have high product development capabilities.

Damodaran explained that a transgenic plant would have to undergo multi-stage regulatory checks and clearances before finding commercial application. The challenge, he said was to take products through the regulatory processes. In addition, market development and appropriate pricing of transgenic seeds are formidable issues to confront.

The full article is in the March 2004 issue of Asian Biotechnology and Development Review published by the Research and Information System for the Non-Aligned and Other Developing Countries. Visit its website at http://www.ris.org.in/abdr.html. Contact A. Daamodaran at a_damodaran@hotmail.com.

INDIA AND US TO LINK ON AGRIC AND BIOTECH

Asia Pulse reported that India has signed a letter of Intent on Agricultural Biotechnology Research and Development with the United States. The agreement hopes to boost the country's food production through the adoption of "environment friendly" technologies.

Federal Minister for Science and Technology Kapil Sibal said the program would bring together Indian and US institutions to conduct agricultural biotechnology research projects and address problems faced by Indian farmers. Both traditional plant breeding and modern techniques would be used to achieve a twofold increase in food production by 2025.

See the full article at http://asia.news.yahoo.com/040629/4/1k6f2.html.

'TREATY ON PLANT GENETIC RESOURCES' BECOMES LAW

Last July 29, the International Treaty on Plant Genetic Resources for Food and Agriculture has entered into force after being ratified by 55 countries. One of the provisions of the treaty is its Multilateral System for Access and Benefit Sharing. This system ensures easy access and exchange of plant genetic resources, and the fair and equitable sharing of benefits incurred - which include exchange of information, access and transfer of technology and capacity building. The Multilateral System includes 35 food crops and 29 forage crops that are considered important worldwide. Access to these plant genetic resources will be given to plant breeders, farmers, and research institutions (public and private) under standard conditions.

Another important element of the Treaty is the creation of the “Global Crop Diversity Trust” which will establish an endowment fund that will provide support for gene bank conservation and capacity-building for developing countries. This fund is targeted at $260 million - approximately $45 million, of which, has already been pledged. Benefiting the members of the Consultative Group on International Agricultural Research (CGIAR) Centers, the said trust was set up by the Food and Agriculture Organization (FAO), and the International Plant Genetic Resources Institute.

Says Jacques Diouf, FAO director-general, "The Treaty brings countries, farmers and plant breeders together and offers a multilateral approach for accessing genetic resources and sharing their benefits. Humankind needs to safeguard and further develop the precious crop gene pool that is essential for agriculture. The agreement recognises that farmers around the world, particularly those in the South, have developed and conserved plant genetic resources over the millennia. It is now up to countries to make the Treaty fully operative.”

Read the news release from FAO at http://www.fao.org/newsroom/en/news/2004/47027/index.html.

NEW IAC REPORT ON AFRICAN AGRICULTURE

The InterAcademy Council recently published a report entitled “Realising the Promise and Potential of African Agriculture” wherein scientists urged African countries and international donor agencies to implement science- and technology-based initiatives to answer the continent's food needs. However, the same experts warned that it is far-fetched to believe that a “green revolution,” similar to that of Asia during the 1970's and 1980's, would similarly take place due to the ecological and climatological diversity of conditions.

The 18-man panel, most of whom came from Africa, was co-chaired by Speciosa Wadnira Kazibwe, former minister of agriculture, animal industry, and fisheries in Uganda; Rudy Rabbinge, dean ofWageningen Graduate School in the Netherlands; and M. S. Swaminathan, past president of the National Academy of Agricultural Sciences. The panel's report is based on a series of workshops and expert analyses, and illustrates the elements of science and technology strategies that

are needed to achieve long-term improvement in agricultural productivity and food security in Africa.

Specifically, the recommended measures include the following:

* Creation of a network of centers of research excellence across Africa;

* Prevent the brain drain of newly-qualified agricultural scientists;

* Provide an 'enabling environment' in which agricultural research can flourish;

* Increase significantly the amount of money allocated to agricultural research in Africa, and double the current level of expenditure on this sector.

* Use genetically modified (GM) crops as an essential element to develop foodstuffs that can be productively grown in less hospitable conditions of the continent.

The full report is available at http://www.interacademycouncil.net/report.asp?id=6959.

MORE STUDIES ON GM FOOD EFFECTS ENCOURAGED

According to the paper entitled “In Vivo Studies on Possible Health Consequences of Genetically Modified Food and Feed -with particular regard to Ingredients Consisting of Genetically Modified Plant Materials,” by Ian F. Pryme, Department of Biochemistry and Molecular Biology, DepUniversity of Bergen, Norway; and Rolf Lembcke of Oplysning om Genteknologi, Hvidehusvej, Denmark, more scientific researches are needed to ensure that consuming genetically modified (GM) food will not likely cause any health problems. Pryme and Lembcke added that it is “essential to adequately test in a transparent manner each individual GM product before its introduction into the market.”

Reviewing data made available on ten studies that have been published on the health effects of GM-foods and feeds, the authors reviewed published in vivo studies on possible health consequences of GM food and feed where the ingredients in question have consisted of GM plant materials. These, however, did not include studies on: ingredients consisting of genetically modified microorganisms or parts of animals/fish; ingredients produced by/from genetically modified organisms but without any DNA present; studies on consequences for the environment or biodiversity; and in vitro studies or computer simulations.

Pryme and Lembcke, likewise, suggested that future studies be conducted on: effect of GM modification process by comparing the developed GM plant with the non-GM parent plant having the “empty construct;” and close electron microscopic observation of intestine tissues, chemical analysis of intestinal tissue and luminal contents of the intestines, and immunological studies to further assess the long term health effects of GM food and feed products.

For more information, email Ian F. Pryme at ian.pryme@ibmb.uib.no. The full article may also be viewed at http://www.soilassociation.org/web/sa/saweb.nsf/0/80256cad0046ee0c80256d66005ae0fe/$FILE/NutritionHealthstudy.pdf.

ISAAA DEVELOPS VIDEOS ON BT CORN STORIES

The International Service for the Acquisition of Agri-biotech Applications has developed two videos on the Bt corn experiences in the Philippines. The country is the first Asian country to approve the commercial planting of a genetically modified feed/food crop. The first 7-minute video is entitled “Better Choices: The Lagao Farmers Story” and documents the testimonies of small farmers from a village in Mindanao who have planted Bt corn for the first time. The second 15-minute video “Asia's First: The Bt Corn Story in the Philippines” focuses on the seven year process that brought to fruition Bt corn in farmers' fields, particularly the role of government, the public and private sectors, as well as nongovernment organizations and media. For more information on these videos, email m.navarro@isaaa.org.

ANNOUNCEMENTS

NEW BIOTECH WEBSITE IN RUSSIA

The website of the Russia Biotechnology Information Center (RuBIC) can now be seen at http://www.rubic.ru/. The RuBIC is one of the newest network member of the Global Knowledge Center on Crop Biotechnology of the International Service for the Acquisition of Agri-biotech Applications (ISAAA).

BIOSAFETY SYMPOSIUM

The 8th International Symposium on the Biosafety of Genetically Modified Organisms will be held in Montpellier, France from September 26-30, 2004. Registration and related symposium information are available at http://www.inra.fr/gmobiosafety/. Online instructions for poster submission is at http://www.inra.fr/gmobiosafety/posterandspeakers.php

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