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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CIMMYT RELEASES GUIDING PRINCIPLES ON GM USE

The International Maize and Wheat Improvement Center (CIMMYT) has released guiding principles on the use of genetically modified (GM) maize and wheat varieties. While the CIMMYT promotes plant breeding that utilizes non-transgenic approaches, it does not exclude GM technology, and recognizes its potential to contribute to CIMMYT's principal goals.

The Center sets out a list of 11 CIMMYT-wide guidelines. These state that CIMMYT will (1) engage in research into goods appropriate for the use of resource-poor farmers, with (2) priority given to wheat and maize research, (3) using as many options (GM, conventional, etc.) as possible with (4) the highest standards of safety in all its research activities. (5) The center will continue to develop and implement measures that are feasible, given current technology and funding, to protect the genetic integrity of incoming (and already held) accessions, and to maintain them according to international standards. It will (6) promote and use GM varieties only in countries where biosafety regulations are in place, and will (7) coordinate with local authorities to perform safety testing of its products. (8) CIMMYT will continue to abide by the letter and spirit of its 1994 agreements with the FAO concerning the management of collections of maize and wheat germplasm held "in trust." (9) All data will be posted on the CIMMYT website, in its aim for scientific transparency, and the center will continue 10) to acknowledge the importance of an open and informed discussion and 11) conduct research into the social, health, and environmental implications of the use of GM varieties.

The press release can be viewed online at
http://www.cimmyt.org/english/wps/transg/gmo_stmt.htm

INDIAN COUNCIL OF AG RESEARCH OPTIMISTIC ABOUT GOLDEN RICE

Rice fortified with iron and Vitamin-A will be ready for use in two years time, Dr Mangla Rai, secretary of India's Department of Agriculture Research and Education in the Union Agriculture Ministry, said, at the 'From Green Revolution to Gene Revolution' symposium in Hyderabad.

At present, Dr. Rai stated, the Indian Council of Agricultural Research (ICAR) is concentrating on two varieties of rice fortified with iron and Vitamin A. ICAR is mandated to coordinate agricultural research and development programs, and has established various research centers to meet the agricultural research and education needs of the country.

Noted rice scientist Gurdev S Khush, also a speaker at the symposium, said the development of Golden Rice would take time, as it is a transgenic variety and needs to be tested for environment and food safety. He added that there was no need for environment and food safety tests for rice fortified with iron as it was already being grown through conventional methods.

ICAR, in association with the Directorate of Rice Research (DRR), Hyderabad, and the Central Rice Research Institute (CRRI), jointly organized the three-day symposium, which addressed issues such as whether rice can ensure food and nutritional security in low-income food-deficit countries, and if developments in biotechnology can translate into useable technologies to meet the future challenges of rice demands.

Learn more about the ICAR's activities at http://www.icar.org.in

BANGLADESH PRIORITIZES BIOTECHNOLOGY

Bangladesh has given top priority to the use of biotechnology to help solve the twin problems of hunger and food security. "New technologies should be adopted by Bangladesh to attain self sufficiency in food," said the country's Minister of Agriculture Abdul Halim during his keynote talk at a biotechnology conference in Dhaka.

Halim, who is also the chair of the National Committee on Crop Biotechnology, said that Bangladesh has drafted the country's first-ever National Biotechnology Policy. The draft policy calls for the increased use of biotechnology in agriculture and other fields. It will serve as the basis for a 20-year strategic government plan that will encourage greater public-private participation.

The Federation of Bangladesh Chamber of Commerce and Industry (FBCCI) President Abdul Awal Mintoo added that, "Bangladesh for its own sake should go on with the technology. The country has to move fast, particularly in the implementation of biosafety guidelines to hasten the transfer of appropriate technology."

The conference on "Harvesting the Benefits of Agricultural Biotechnology in Bangladesh" was conducted by the Agricultural Biotechnology Support Project II (ABSPII) led by Cornell University, in partnership with Bangladesh Agricultural Research Council and FBCCI. ABSPII is helping partner institutions in Bangladesh, as well as India, Indonesia and the Philippines, on the safe and effective development and commercialization of bio-engineered crops as a complement to conventional agricultural approaches.

For more information about the conference, contact Dr. K.Vijayaraghavan, South Asia Regional Coordinator of ABSP II, at vijay@sathguru.com or G.P. Das, ABSP II Country Coordinator, at gpdas@agni.com.

BANGLADESH INITIATIVES IN BIOTECHNOLOGY

Research initiatives are currently being undertaken for the establishment of protocols for in vitro culture and micropagation of different crops like cereals, vegetables, fiber and horticultural crops in Bangladesh. This was reported by Dr. Haseena Khan of the Dhaka University during the conference on "Harvesting the Benefits of Agricultural Biotechnology in Bangladesh" held at Pan Pacific Sonargaon in Dhaka.

Bangladesh is focusing its research on four genetically modified crops to help the country improve its agricultural productivity. These are drought and saline tolerant rice, late blight resistant potato, Bt eggplant, and Bt chickpea.

Drought and salinity problems in rice cause 38% and 25% yield losses, respectively. Dr. Nilufer Hye Karim of the Bangladesh Rice Research Institute said that there is potential for transforming Bangladesh's high yielding varieties with abiotic stress-tolerance genes to improve productivity where the present yield is less than two tons per hectare. She added that the target production of 37 M tons of rice could be achieved by 2020 if Bt rice is eventually commercialized.

Potato production in Bangladesh is affected by the potato late blight disease. Up to half of total crop area has been damaged, causing an annual loss of US$43 M. Dr. K.V. Raman of ABSP II said that work on late blight resistant Bt potato will hopefully help change this scenario.

Eggplant is a common and key crop in Bangladesh grown by resource-constrained marginal farmers, Farmers use toxic chemicals to control a major pest, the fruit and shoot borer. With Bt eggplant, less pesticide use is expected, as it is tolerant to the said borer. Two streams of field trials for the technology by public and private sectors are being carried out, said Dr. K. Vijayaraghavan of the Agricultural Biotechnology Support Project II (ABSPII).

Chickpea is a leading pulse crop and an important part of the Bangladeshi's cereal diet. The pod borer problem, however, is causing as much as 48% yield loss. A pod borer resistant Bt chickpea, which was developed by the International Crops Research Institute for the Semi-Arid Tropics, is being verified under local conditions for possible transfer into acceptable cultivars. The Bangladesh Agricultural Research Institute is backcrossing lines in contained/limited field trials. After a series of limited field trials and

multi-locational field trials, regulatory expert Dr. Partha Das Gupta projects Bt cowpea to be available by 2010.

For more information, contact Dr. K.Vijayaraghavan, South Asia Regional Coordinator of ABSP II, at vijay@sathguru.com or G.P. Das, ABSP II Country Coordinator, at gpdas@agni.com.

STRATEGIC PLAN IN PROGRESS FOR SCIENTIFIC RESEARCH IN EGYPT

Egypt has formulated a strategy to link development of scientific research and higher education. Using a plan drawn up by the Supreme Council of Universities (SCU), the country aims to strengthen research capacity, improve the quality of scientific research, and foster innovation and promote public understanding of science. These include plans to create science parks and develop policies for protection of intellectual property rights, as well as to set up and run a scientific research development fund.

According to Amer Ezzat Salama, minister of higher education and scientific research and president of SCU, the strategy includes plans to bring existing universities into the Information Age, and build 11 new, science-focused universities within three years. A distance learning university and four technical colleges will also be established in the same period, and existing and planned universities will all be linked to the Internet.

Salama says the strategic plan will be evaluated and updated at a national conference for higher education in June 2005.

Visit the SCU at http://www.scu.eun.eg/eng/scu-eng.htm

SYSTEMIC RISKS REPRESENTED BY GREEK MYTHS

Using the findings of the German Scientific Advisory Council for Global Environmental Change, Ortwin Renn and Andreas Klinke expound on six risk clusters that need to be addressed when performing risk analysis and management.

The ultimate aim of classifying risks is to draft feasible and effective strategies for risk management and to provide measures for policies on different political levels, Renn and Klinke write in the latest issue of EMBO reports. Ultimately, these strategies pursue the goal of transforming unacceptable risks into acceptable risks, by moving them into the normal area where routine risk management is sufficient to ensure safety and integrity.

The six risk clusters were illustrated with characters from Greek mythology, chosen from stories that reflected the transition from an economy of small subsistence farmers and hunters to organized agriculture and animal husbandry, an advancement reflected in agriculture today.

These are Damocles, representing a threat coming from the possibility that a fatal event could take place any time, even if the probability is low; Cyclops, where only one side of the risk equation can be ascertained while the other

remains uncertain; Pythia, a blind seer famous for her ambiguous prophecies, who represents risks for which neither the maximum amount of damage nor the probability of certain damaging events can be estimated at the present time; Pandora, representing risks whose damages are discovered only after the ubiquitous spread has occurred; Cassandra, representing risks where the probability of occurrence as well as the extent of damage are high and relatively well known, but because there is a considerable delay between the triggering event and the occurrence of damage, such risks are ignored or downplayed; and lastly, Medusa, where such phenomena have a high potential for psychological distress and social mobilization that make them frightening or unwelcome, although they are rarely assessed as a threat.

To read more about the clusters, as well as the mythological figures that represent them, download the full article in PDF format at http://www.nature.com/cgi-taf/DynaPage.taf?file=/embor/journal/v5/n1s/full/7400227.html&filetype=pdf

SCIENCE JOURNALISTS 'PLAY CRITICAL ROLE IN DECISION-MAKING'

Science journalists have a "critical role" to play in informing communities and influencing policymakers in the developing world, Maureen O'Neil, president of Canada's International Development Research Centre (IDRC), said at the opening of the 4th World Conference of Science Journalists in Montreal, Canada. The IDRC is a Canadian public corporation that works in close collaboration with researchers from the developing world in their search for the means to build healthier, more equitable, and more prosperous societies. O'Neil announced that the IDRC has decided to welcome applications for support for projects that will seek to strengthen science journalism in developing countries, particularly in the areas of training and course development. "We are supporting this conference because we would like to ensure that the work of scientists in the South is recognized and put into practice," said O'Neil. "Their discoveries deserve to be given as much attention in developed countries as in the developing world."

In addition, she said, the citizens of developing countries need to understand and celebrate the work of scientists living in their own communities, and the ways that they contribute towards building stronger economies and societies. Visit the IRDC at http://web.idrc.ca/ev_en.php.

DOCUMENT REMINDERS:

UN DRAFT REPORT OF THE MILLENNIUM PROJECT ON SCIENCE
The draft Report of the Task Force on Science, Technology and Innovation of the Millennium Project commissioned by United Nations Secretary General Kofi Annan is now available for public comment at http://www.cid.harvard.edu/cidtech/TF-10FinalDraft10-4.pdf

MABIC RELEASES BICNEWS REPORT
The Malaysian Biotechnology Information Center (MABIC) released the 7th issue of its BICnews report. Titled "Genetic Modification - Boon or Bane?" the issue

discusses the many controversies surrounding the use of Genetic Modification (GM) techniques in agriculture. What are the arguments for and against this technology? Has there been great acceptance of GM crops by growers? If so, why?

The report also addresses purported environmental concerns raised by GM crops. Case studies are used to highlight specific points and arguments, both for and against the employment of this technology. BICnews also looks at Malaysia's position in agriculture biotechnology using a selection of the country's current research work in the field.

To download your free copy of the report, visit http://www.bic.org.my/resources_body_downloads_BIC7.html.

ANNOUNCEMENT: DHAKA INTERNATIONAL BIOTECH CONFERENCE

The fifth International Plant Tissue Culture and Biotechnology Conference will be held at the Department of Botany, University of Dhaka, Bangladesh on December 4 to 6, 2004. It is organized by the Bangladesh Association for Plant Tissue Culture and Biotechnology and is co-sponsored by the Ministry of Science, Information and Community Technology, and University of Dhaka.

The conference theme is "Sustainable Biotechnology for Developing Countries." For more information, contact Dr. R.H. Sarker of the University of Dhaka at bhsarker2000@yahoo.co.uk or baptcb@bd.drik.net.
