CROPBIOTECH 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)

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In This Week's Issue:

NEWS

Global
- ICRISAT, Univ Florida Launch Partnership
- Brazil, Botswana Sign Accord for Tech Transfer

Africa
- New NERICA Introduced
- AIDS, Hunger Connected, Experts Warn
- Malawi to Formulate National Biotech Policy
- IITA Hosts Workshop on Public Awareness of Biotech

The Americas
- GM Rice Safe, USDA Says
- USDA Announces PCN Survey Fund
- Biotech Maize Approved For Sonora, Mexico

Asia and the Pacific
- Vietnam to Develop Biofuels
- New Biotech Crops Approved for Philippines
- Korea Approves GM Canola for Food
- Jordan Discusses Biotech Crops and Biosafety

Europe
- EC Requires Certificate for US Rice Imports
- Article Explores Poplar for Bioremediation

RESEARCH
- Plant Genome Changes Pass to Offspring in New Research
- Novel Construction Method in Vector Helps in Brassica Insect Resistance

ANNOUNCEMENTS

DOCUMENT REMINDERS

NEWS

Global

ICRISAT, UNIV FLORIDA LAUNCH PARTNERSHIP

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and the University of Florida (UFl) at Gainesville, Florida have launched a partnership with a short course on applications of Geographic Information Systems (GIS) in land resource management. The course is designed for practicing professionals, extension officers, and students in developing countries, and is part of a series that will allow participants to accumulate credits at their own pace, for fees that are affordable in their respective national currencies.

The partnership aims to develop collaborative educational programs , which will cover activities such as watershed management, ground water remediation technologies, integrated pest management; agricultural communication, agribusiness, techniques in molecular biology and bioremediation.

For more information on the courses, contact Dr. V Balaji at v.Balaji@cgiar.org, S Gopikrishna Warrier at w.gopikrishna@cgiar.org. Visit ICRISAT at http://www.icrisat.org.

BRAZIL, BOTSWANA SIGN ACCORD FOR TECH TRANSFER

The Brazilian Agricultural Research Corporation (EMBRAPA) signed this week an accord with the government of the Republic of Botswana for a five year initiative aimed at the transfer of technology and the training of experts in the African nation. The transfer of technology will focus on two main areas: cattle husbandry and agricultural production in very arid areas, which comprise a large proportion of the territory of Botswana, located in the proximity to the desert of Kalahari. The calendar of training courses for Botswana scientists is currently being drafted.

Read more at:
http://www.embrapa.br/noticias/banco_de_noticias/folder.2006/agosto/foldernoticia.2006-08-01.1366936549/noticia.2006-08-23.0189333440/mostra_noticia

Africa

NEW NERICA INTRODUCED

According to Kenya's The East African, a new high-yielding NERICA (New Rices for Africa) Rice variety has been introduced to the country, and is likely to turn Kenya into a leading rice exporter. The variety, a cross-breed between an African and Asian rice species, withstands pests and diseases unlike the commonly grown Basmati and Sindano varieties. Basmati and Sindano, moreover, thrive well under flood irrigation, while the new NERICA can grow on dry land.

The new variety was first developed in West Africa by the Africa Rice Center (WARDA). Experts predict that the NERICA will boost rice production from the current 70,000 tonnes, and save the country up to Ksh7 billion ($97.2 million) that is used in importing the deficit.

For the complete story, read http://allafrica.com/stories/200608220095.html. Visit WARDA at http://www.warda.org.

AIDS, HUNGER CONNECTED, EXPERTS WARN

AIDS is part of a vicious cycle that drains families of their financial resources, as well as the labor communities need to grow food. This was the conclusion of a study of 15,900 households in southern Africa, presented by Robin Jackson of the World Food Program at the AIDS 2006 conference in Toronto, Canada.

Other experts presented similar findings on the subject of AIDS and hunger. According to Stuart Gillespie of the International Food Policy Research Institute, food insecurity not only creates greater biological susceptibility to HIV by weakening the immune system, but encourages people to move to higher prevalence areas in order to earn money.

The Food and Agriculture Organization (FAO) has been running agricultural training programmers for AIDS orphans who have missed the opportunity of learning these skills from their parents. The goal is to move from short-term interventions, such as the distribution of food aid or nutritional supplements, to helping affected communities restore agricultural production and develop alternative livelihoods.

Read the complete article at http://www.irinnews.org/AIDSreport.asp?ReportID=6279&SelectRegion=Africa&SelectCountry=AFRICA.

MALAWI TO FORMULATE NATIONAL BIOTECH POLICY

According to the African News Dimension, Malawi is in the process of formulating its own national biotechnology policy, as “it is imperative for Malawi as a developing nation to put much emphasis on biotechnology research and development.” This was stated by Patrick Kachimera, Malawi's secretary for science and technology, as he spoke before a recently concluded meeting for stakeholders.

According to Kachimera, a policy is already under development. He reiterated that the government wants to ensure that all caution is exercised, and that biosafety will be given utmost consideration. Malawi’s National Research Council is in the process of drafting the policy, which will regulate the use, importation, export, and research on biotechnology in the country.

Subscribers to the African News Dimension can read the article at http://science.andnetwork.com/index;jsessionid=B372CFF8FF0E2DBB7E3DF9601CEAB18E?service=direct/1/Home/story&sp=l49481. Visit the National Research Council of Malawi at http://www.nrcm.org.mw.

IITA HOSTS WORKSHOP ON PUBLIC AWARENESS OF BIOTECH

A one-day public awareness workshop on biotechnology was held recently in Ibadan, Nigeria. The workshop was aimed at disseminating biotechnology-related information to a broad range of stakeholders, including farmers, public officers, and the media. The event was organized by the International Institute of Tropical Agriculture (IITA) and was attended by over 100 people.

Professor J. D. Amin, Vice Chancellor of the University of Maiduguri, said that the University has established a Biotechnology Center, which would be a center of excellence for the northeast zone of the country. Another speaker at the workshop, Dr. Christian Fatokun, said that research is advancing Cassava Mosaic Disease (CMD)-resistant cassava, and pest-resistant cowpea. Other speakers, such as Professor Babatunde Solomon, Director General of the National Biotechnology Development Agency (NABDA), and Dr. Danaladi Kuta of the Sheda Science and Technology Complex (SHESTCO) highlighted the importance of biotechnology in producing better crops and higher yields.

For more information, contact Taye Babaleye, Public Relations Manager, at t.babaleye@cgiar.org. Read more about IITA at http://www.iita.org.

The Americas

GM RICE SAFE, USDA SAYS

The United States Department of Agriculture (USDA) and the Food and Drug Administration (FDA) have declared that there are no human health, food safety, or environmental concerns associated with the biotech rice reportedly found in rice shipments. This follows an announcement made recently by Bayer CropScience, which stated that the company detected trace amounts of LLRICE 601, a regulated biotech rice line, in samples taken from commercial long grain rice.

After reviewing all available scientific data, both the USDA and FDA have concluded that two deregulated rice lines, LLRICE 62 and LLRICE 06, have been through thorough safety evaluations and have been deemed safe for use in food and safe in the environment, although these lines have not been commercialized. The presence of the biotech rice, therefore, should pose no safety concerns.

The USDA is now in the process of validating a test to provide the marketplace with a tool to detect the presence of the Liberty Link protein in rice. As the biotech rice in question was regulated, the USDA's Animal and Plant Health Inspection Service (APHIS) is conducting an investigation to determine the circumstances surrounding the release and whether any violations of USDA regulations occurred.

Read the complete press release at http://www.usda.gov/wps/portal/!ut/p/_s.7_0_A/7_0_1OB?contentidonly=true&contentid=2006/08/0306.xml. More information on biotechnology and the USDA regulation of biotechnology can be found at: http://www.aphis.usda.gov/publications/biotechnology/index.shtml

USDA ANNOUNCES PCN SURVEY FUND

The United States Department of Agriculture (USDA) will provide about US$13 million in emergency funding to support survey efforts of the potato cyst nematode (PCN). This was announced by USDA secretary Mike Johanns as he delivered his remarks to the recent World Potato Congress.

PCN is a major pest of potato crops grown in cool-temperate areas, and affects other plants in the potato family, including tomatoes and eggplants. If left unmanaged, PCN can cause significant yield loss.

Read the complete press release at http://www.usda.gov/wps/portal/!ut/p/_s.7_0_A/7_0_1OB?contentidonly=true&contentid=2006/08/0312.xml.

BIOTECH MAIZE APPROVED FOR SONORA, MEXICO

César Salazar Platt, the Agriculture Undersecretary of the state of Sonora, Mexico, has announced that permits allowing the commercial planting of biotech maize are being granted in the state of Sonora, Mexico. “We can’t fight against technology, if we want to continue planting maize in Sonora and be competitive, we must face new avenues with the required cautions and considerations” said Salazar Platt. The use of transgenic seeds allows farmers to obtain increased production with a 30% reduction in costs, mainly due to the reduced used of agrochemicals, thereby allowing farmers of the region to compete with other states and nations that have already adopted the technology, added Salazar Platt. Furthermore, transgenic varieties also promote a more efficient use of water.

The government official also said that the required trials to ascertain the performance of the approved biotech varieties had been carried out.

More information in: http://www.agronet.com.mx/cgi/notes.cgi?Action=Viewhistory&Note=6&Type=R&Datemin=2006-08-01%2000:00:00&Datemax=2006-08-31%2023:59:59

Asia

VIETNAM TO DEVELOP BIO-FUELS

Vietnam’s Ministry of Industry is devising a scheme to develop the country’s biofuel industry from 2006 onwards. Under the scheme, Vietnam will develop the technology to manufacture biofuels from 2006-2010. From 2011-2015, the country will expand the production scale and distribution network to serve the transport and industry sectors, and diversify the sources of materials for biofuel production. By 2020, biofuel production targets should be reached, and the country should be producing 5 billion liters of E10 petroleum (10% ethanol in a petroleum mix) and 500 million liters of biodiesel (5-30% DO oil in a diesel mix) each year.

With reports from VNA and Vietnam Net. For more news from Vietnam, email Le Hien of BiotechVn at lehien@agbiotech.com.vn.

NEW BIOTECH CROPS APPROVED FOR PHILIPPINES

The Philippine Department of Agriculture's Bureau of Plant Industry (DA-BPI) has approved three new transformation events for food and/or feed use in the Philippines. These include: Monsanto's glyphosate-tolerant alfalfa varieties, J101 and J63; Pioneer's rootworm-protected corn DAS 59122-7; and Monsanto's stacked high lysine, insect-protected corn, LY038 x Corn MON810.

DA-BPI has approved a total of 25 transformation events to date. Read the news release at http://www.seedquest.com/News/releases/2006/august/16654.htm. Visit the BPI at http://www.bpi.da.gov.ph/.

KOREA APPROVES GM CANOLA FOR FOOD

Biotech canola modified to tolerate herbicides has been cleared for food use in the Republic of Korea. An application for the crop, lodged by Monsanto, Korea Inc., was approved recently. Read more at http://bch.biodiv.org/database/record.shtml?id=9355.

JORDAN DISCUSSES BIOTECH CROPS AND BIOSAFETY

"Jordan is open to discuss the new technologies" said Rady El-Tarawna, Director General of Jordanian Ministry of Agriculture, "we should transparently raise the issues related to the safety and risk of GM food", he said. El-Tarawna also stated that the country has the capacity to lead countries in the West Asian Region in the adoption of biotech crops. This was stated in the first International Conference on the Biosafety of GM Food in Jordan, which took place in Amman on 21-22 August. The event is part of a continuing effort towards the modernization of the agricultural sector in Jordan. The meeting was attended by government officials, members of the private sector, NGOs, as well as by country representatives of Egypt, Iraq and South Africa.

Khalid Magaly, from the Jordanian Ministry of Environment, added that "Jordan had signed and ratified the Cartagena Protocol, and has adopted the proper legislations related to the trade of genetically modified food". Participants expressed the need for more informative conferences and workshops to openly discuss the GM food issues, and the necessity to raise public awareness on the subject.

For more information, contact Ismail AbdelHamid, Director, of Egypt Biotechnology Information Center at: iamaeg@yahoo.com.

Europe

EC REQUIRES CERTIFICATE FOR US RICE IMPORTS

Following the announcement that genetically modified (GM) rice has been found in shipments of long grain rice in the USA, the European Commission (EC) has adopted a decision requiring long grain rice imports from the USA to be certified as free from the unauthorized GMO LL Rice 601. The measures are effective immediately, and are expected to be reviewed after 6 months.

Under the measures, only consignments of US long grain rice that have been tested by an accredited laboratory, using a validated testing method and accompanied by a certificate assuring the absence of LL Rice 601, can enter the European Union (EU). “We have strict legislation in place in the EU to ensure that any GM product put on the European market has undergone a thorough authorization procedure based on scientific assessment,” says Markos Kyprianou, Commissioner for Health and Consumer Protection, “EU consumers can rely on the high level of protection that our GM rules afford them.”

Read the complete press release at http://europa.eu.int/rapid/pressReleasesAction.do?reference=IP/06/1120&format=HTML&aged=0&language=EN&guiLanguage=en.

ARTICLE EXPLORES POPLAR FOR BIOREMEDIATION

A German scientist is currently working on the poplar as a bioremediator. Dr. Heinz Rennenberg successfully introduced a bacterial gene into the poplar genome, allowing the plant to resist environmental stress, and grow on soils loaded with heavy metals. The biotech poplars can take up cadmium and copper and transport the metal to their leaves. The remediation potential of transgenic poplars is currently being investigated on a former industrial site in Sachsen-Anhalt, Germany and in a former copper mine in Central Ural.

To read the article, as well as supplementary articles, visit http://www.bio-pro.de/en/life/thema/02455/index.html.

RESEARCH

PLANT GENOME CHANGES PASS TO OFFSPRING IN NEW RESEARCH

Plants cope with stress, such as pathogens and lack of soil nutrients, by modifying their genome. For instance, when faced with ultraviolet radiation, pieces of DNA are swapped between similar genomic strands, perhaps in a bid to protect the genome, and consequently, the plant, from UV damage. In their latest research project, Jean Molinier and Barbara Hohn of the Friedrich Miescher Institute in Basel, Switzerland show that the plant urge to make such genome modifications can be passed down to offspring for as many as four generations.

In a report published in Nature online, researchers modified Arabidopsis to produce blue spots if the DNA swapping occurred. They then exposed the modified plants to UV light, or to a fragment of a bacterial protein that would mimic a bacterial infection. Stressed plants showed 2-4 fold higher levels of recombination than unstressed ones, and the urge to recombine was passed four generations down the line.

According to plant geneticist Avraham Levy of the Weizman Institute of Science in Rehovot, Israel, the findings add “a twist to natural selection.” “Contrary to the view that selection only works on the DNA sequence, the study shows that the environment can induce genetic as well as epigenetic changes, some of which may end up being selected,” Dr. Weizman says.

Read the complete article at
http://sciencenow.sciencemag.org/cgi/content/full/2006/807/2.

NOVEL CONSTRUCTION METHOD IN VECTOR HELPS IN BRASSICA INSECT RESISTANCE

Sporamin is a storage protein abundant in sweet potato root. Over-expression of it, scientists have found, could confer insect resistance to transgenic plants. To promote consistent expression of sporamin, Huai-Ju Chena and colleagues of the National Taiwan University engineered *Brassica* plants with a combination of a wound-responsive promoter (*Pspoa*) and a matrix-attached-region-like DNA segment (*spoMAR*) to drive sporamin expression. This “New gene construction strategy in T-DNA vector to enhance expression level of sweet potato sporamin and insect resistance in transgenic *Brassica oleracea*” is reported in the latest issue of Plant Science.

Researchers transformed *Brassica oleracea* seeds with the novel gene construct, and conducted activity assays, gene analyses, and insect bioassays on the transgenic plants with larvae of maize cutworm (*Helicoverpa armigera* Hubner). The researchers found that the transgenic plants with the novel construct displayed the highest level and low variability of sporamin expression, and the trait was stably inherited. Transgenic plants were also insect resistant: the size of sporamin-transgenic plant-fed larvae was smaller than that of controls, and larvae had a consisted survival rate of 4%. Transgenic plants with sporamin under control of a CaMV35S promoter construct, in contrast, showed marked variability in insect resistance. The results show that the construct can be efficient for high transgene expression in plants, as well as in obtaining inherently stable transformants in consecutive progenies.

Subscribers to the journal can read the complete article at http://dx.doi.org/10.1016/j.plantsci.2006.04.003

ANNOUNCEMENTS

PLANT BREEDING SCHOLARSHIP OFFERED

The African Center for Crop Improvement at the University of KwaZulu-Natal, Pietermaritzburg, South Africa offers scholarships to young African scientists who are keen to make Plant Breeding their career. The aim of the ACCI is to train African plant breeders in African, on African crops. This involves 2 years study at the University of KwaZulu-Natal and 3 years field research in the students' home countries at their home institution. Applicants must have an MSc degree in plant breeding, plant genetics, plant pathology, crop science or horticultural science, and should come from Uganda, Kenya, Tanzania, Zambia, Mozambique, Namibia or South Africa. For more details on qualifications and application requirements, visit http://www.acci.org.za. Closing date is August 30, 2006.

CROPPING FELLOWSHIPS ANNOUNCED

The Bentley Cropping Systems Fellowship provides assistance to Canadian and developing country graduate students with a university degree in Agriculture, Forestry, or Biology, who wish to undertake post-graduate, applied on-farm research with cooperating farmers in a developing country. For more information, visit http://www.gdnet.org/middle.php?oid=986.

ROCKEFELLER TO GIVE TRAVEL GRANTS FOR CONFERENCE

The International Plant and Genome Conference XV will take place January 13-17, 2007 in San Diego, USA. The Rockefeller Foundation will support five scientists from Africa to attend the event. For more information on the grant, contact Dr. Katrien M. Devos, University of Georgia, Athens, USA, at kdevos@uga.edu. Application deadline is September 10, 2006. Other organizations offering travel grants can be viewed through http://www.intl-pag.org/15/15-grants.html. For the full announcement of the conference, visit http://www.intl-pag.org.

CANADA TO CELEBRATE BIOTECH WEEK

Canada celebrates National Biotechnology Week from September 23-30, 2006. This week will highlight the imagination and innovation of Canadian scientists. Participants will take part in career fairs, tour Canadian biotech companies, and see how biotechnology is vital to the country's future. For more information, visit http://www.biotech.ca/imagenenation/biotechincanada.html.

INTERNATIONAL STRIGA SYMPOSIUM SLATED

"Integrating New Technologies for Striga Control: Towards Ending the Witch-Hunt" will take place November 5-11, 2006 in Addis Ababa, Ethiopia. Sponsored by the International Sorghum and Millet Collaborative Research Support Program (INTSORMIL), Purdue University, and the Ethiopian Institute of Agricultural Research (EIAR), the international symposium will bring together key leaders to initiate the discussion of strategies that will result in better control of Striga. The event is open to all scientists dealing with Striga; interested parties are encouraged to present posters of their most recent findings and observations.

For more information, contact Gebisa Ejeta, Purdue University, USA at gejeta@purdue.edu, or visit http://www.agry.purdue.edu/strigaconference/.

DOCUMENT REMINDERS

NEW POCKET K ON BIOREMEDIATION RELEASED

Pocket K No. 25, Bioremediation, is the newest Pocket K in the popular series, and is currently available online at the ISAAA KC Website. This Pocket K discusses how biotechnology is contributing to cleaning up the environment.

Pocket Ks are Pockets of Knowledge, packages of information on crop biotechnology products and related issues. They are available in 12 languages. Pocket Ks are produced by the Global Knowledge Center on Crop Biotechnology (KC) of the International Service for the Acquisition of Agri-biotech Applications (ISAAA). Twenty-four other topics are available at http://www.isaaa.org/kc

COTTON CONFERENCE PRESS RELEASES OUT

Press releases of talks given during the recently concluded meeting of the Australian Cotton Growers Research Association are now available for download. Visit http://www.acgra.net.au/13thACC.htm

GM PEAS RISK ASSESSMENT DOC FOR DOWNLOAD

“Effective risk assessment of GM field peas” is an information sheet that looks at the role of science in evaluating genetically modified (GM) crops and deciding how they should be introduced. This information sheet outlines the findings of a risk assessment study that emphasized the effectiveness of case-by-case evaluation of GM plants and the important role science can play in decision making around the introduction of GM crops. Download the document through http://www.csiro.au/csiro/content/file/pfgy,,.html.

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

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