

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)

May 26, 2006

In This Week's Issue:

NEWS

Global

- IFPRI Releases Briefs on Agriculture, Health
- Reforms Proposed for International Coffee Organization

Africa

- Kenya MPs to Table Biotech Fact Finding Report to Parliament
- IAALD Chapter Established in Africa
- FAO Projects to Improve Food Security in Five African Countries

The Americas

- Chile Develops Drought-Tolerant Eucalyptus Varieties
- Mexican Scientists Develop New Biofertilizer

Asia

- Japan and Malaysia to Collaborate on Biotechnology
- India Considers GM Mandatory Labeling, Opens Rules for Suggestions
- PRSV Outbreak Reported in Thailand
- Vietnamese Ministry Approves Biotech Development Project
- France to Assist Vietnamese Cotton Industry
- Strong Market for Agri-Biotech Products in Japan

Europe

- Increased GM Planting for France and Czech Republic
- EU Meeting Tackles GM
- EFSA Releases Guidance Document on Risk Assessment Transparency

RESEARCH

- Research Finds Way to Make Starchier Cassava
- Arizona Bt, Non-Bt Cotton Compared
- Research Reports New Cowpea Germplasm Screening Technique

ANNOUNCEMENTS DOCUMENT REMINDERS

NEWS

Global

IFPRI RELEASES BRIEFS ON AGRICULTURE, HEALTH

Linking agriculture and health could translate to “potential benefits,” since “opportunities exist for agriculture to contribute to better health, and for health to contribute to agricultural productivity.” These statements united a series of policy briefs released by the International Food Policy Research Institute (IFPRI) and its sister centers in the Consultative Group on International Agricultural Research (CGIAR), all of which seek to understand potential linkages between health and agriculture, as well as to identify opportunities for both sectors to work more closely and contribute to addressing poverty.

Tim Lang writes about “Agriculture, Food, and Health: Perspectives on a Long Relationship.” Rachel Nugent and Axel Drescher look at the damage brought about by intensive agriculture in “Agriculture, Environment, and Health: Toward Sustainable Solution”; while Robert Bos explores “Opportunities for Improving the Synergies between Agriculture and Health” and stresses the need for strong policies on agriculture-health collaboration.

Read and download all the briefs at <http://www.ifpri.org/2020/focus/focus13.asp>.

REFORMS PROPOSED FOR INTERNATIONAL COFFEE ORG

The United States proposed reforms to the International Coffee Organization (ICO), an intergovernmental body whose members account for over 97% of the world's coffee production, and 80% of the world's consumption. These proposed reforms were summarized into broad themes that include: expanding ICO objectives to promote a comprehensive approach to sustainability, including environmental considerations; expanding and enhancing the collection and dissemination of information relevant to coffee farmers, especially small

producers; strengthening the contributions of the private sector; and highlighting the importance and effectiveness of capacity building projects.

Coffee is the world's second most-traded commodity, accounting for over US\$70 billion in retail sales annually, and providing a source of livelihood for 25 million coffee farming families in over 60 countries around the world.

Read the complete press release at

http://www.ustr.gov/Document_Library/Press_Releases/2006/May/US_Proposes_Reforms_for_the_International_Coffee_Organization.html. Read the proposals

in detail at

http://www.ustr.gov/assets/Trade_Sectors/Environment/asset_upload_file590_9459.pdf.

Africa

KENYA MPS TO TABLE BIOTECH FACT FINDING REPORT TO PARLIAMENT

Kenyan Members of Parliament (MPs), who have just returned from an agricultural biotechnology fact-finding mission to South Africa, have resolved to table the report from this mission in parliament and demand a ministerial statement on biotechnology. The MPs also proposed to seek amendment of the current Agricultural Act to fast track biotechnology legislation in Kenya. The MPs were concerned that after 15 years of research on modern biotechnology, Kenya still does not have a biotechnology policy and biosafety laws that are necessary for commercialization of transgenic products. Kenyan MPs, who were accompanied in the traveling workshop by their counterparts from Malawi, were convinced that Kenyan and Malawian farmers could benefit immensely from the technology if its products were made available to them.

The MPs also challenged researchers to involve policy makers and other stakeholders in their research activities. Currently biotech crop research in Kenya includes genetically engineered (Bt) maize that is resistant to maize stem borers, pest resistant Bt Cotton, Bt cassava that is resistant to the Cassava Mosaic Virus, and Bt sweet potato against the Sweet Potato Virus.

The traveling workshop was co-organized by AfricaBio, ABSF, ISAAA, and BioEROC-Malawi. For more information contact Dr Margaret Karembu (m.karembu@cgiar.org) or Daniel Otunge (dotunge@absfafrica.org)

IAALD CHAPTER ESTABLISHED IN AFRICA

An African chapter of the International Association of Agricultural Information Specialists (IAALD) was launched during a regional conference on “Managing agricultural information for sustainable food security and improved livelihoods in Africa” in Nairobi, Kenya. The conference aimed to mobilize and apply agricultural information and knowledge to improve food security, and to enhance the livelihoods of rural communities in Africa.

The conference sought to engage information specialists in actively contributing to the attainment of the United Nations Millennium Development Goals. Hence, the conference addressed basic issues of capacity building in agricultural information resources management, enabling policy for agricultural information management, narrowing the digital divide, and knowledge sharing and information systems for networking and partnerships.

Details of the conference may be obtained by emailing Daniel Otunge of the Kenya Biotechnology Information Center at dotunge@absf africa.org.

FAO PROJECTS TO IMPROVE FOOD SECURITY IN FIVE AFRICAN COUNTRIES

The United Nations Food and Agriculture Organization (FAO) has announced the launch of two new projects focusing on modernizing agricultural systems and on promoting market access to five African countries. The first project will be implemented in Burundi, Rwanda, and Uganda, and will encourage the efficient use of available water resources.

The second project aims to improve cassava production in Malawi and Zambia. Cassava is Africa’s fastest growing food crop, and is the staple food for over 30% of Zambia’s population. The project seeks to enhance cassava’s commercial potential by processing it into starch, which can also be exported.

Both projects are being financed by the Italian government under the FAO Trust Fund for Food Security. For more information, contact Luisa Guarneri at luisa.guarneri@fao.org. Read the complete press release at <http://www.fao.org/newsroom/en/news/2006/1000307/index.html>

The Americas

CHILE DEVELOPS DROUGHT-TOLERANT EUCALYPTUS VARIETIES

Scientists successfully identified and propagated valuable genetic material with increased drought tolerance and improved yield through the selection and micro-propagation of genetic stocks of eucalyptus. The project was carried out by the Forestry Institute INFOR, with the support of the Foundation for Agricultural Innovation of the Ministry of Agriculture of Chile (FIA). The initiative is part of a national policy aimed at modernizing and increasing the competitiveness of the Chilean agricultural sector through the use of modern biotechnology tools.

Mauricio Cañoles, FIA supervisor for the project, said the main objective was to obtain improved eucalyptus varieties to increase productivity of forest plantations in the arid and semi-arid regions of Chile. The project required the development of protocols for micro-propagation and for rejuvenating adult tree stocks, and the establishment of suitable laboratory facilities for the clonal propagation of commercial stocks. The optimization of micro-propagation protocols is essential for the incorporation of small-scale producers to the forestry sector, as it allows for a reduction in the growing time of trees. Improved clones can be obtained by interested farmers from INFOR.

Read more at: http://www.fia.cl/contenido.asp?id_contenido=1011&id_tipo=1

MEXICAN SCIENTISTS DEVELOP NEW BIOFERTILIZER

A research team led by Jesús Caballero Mellado of the Autonomous University of Mexico (UNAM) has developed a new biofertilizer derived from the microbe *Azospirillum*. The new product was shown to increase yields in maize plantations and to have beneficial effects on the environment by reducing the amount of mineral fertilizers farmers have to apply to their crops. The new biofertilizer will greatly benefit resource-poor farmers in rural communities, where the price of mineral fertilizers and the difficulties of transporting agrochemicals substantially add to the production costs of maize, said Caballero Mellado. Maize is the most important staple crop in Mexico.

Azospirillum is a bacterium that lives in close association with the roots of some plant species, and is valuable for agriculture due to its ability to render soil phosphorous, an essential plant nutrient, in a form that can be used by the plant. It also fixes atmospheric nitrogen and promotes the development of a more extensive root system, beneficial for both improved nutrient acquisition and water uptake.

For more information visit <http://www.comunicacion.amc.edu.mx/noticias/nuevo-biofertilizante-ayuda-a-la-productividad/>.

Asia

JAPAN AND MALAYSIA TO COLLABORATE ON BIOTECHNOLOGY

Junichiro Koizumi, Prime Minister of Japan, and Abdullah Ahmad Badawi, Prime Minister of Malaysia, have agreed to work closely in the field of biotechnology, and identified biofuel as the key area where the two countries could collaborate. Malaysia is currently establishing contacts with biofuel companies in Japan.

Besides bio-fuel, the Malaysian Prime Minister is also hopeful that the two countries will cooperate on other areas of biotechnology such as food production, pharmaceuticals, and cosmetics.

For more information, visit the Malaysian Biotechnology Information Centre (MABIC) at <http://www.bic.org.my>

INDIA CONSIDERS GM MANDATORY LABELING, OPENS RULES FOR SUGGESTIONS

The Union Health and Family Welfare Ministry of the Government of India has notified draft rules to amend the country's Prevention of Food Adulteration Rules, 1955. The changes involve compulsory labeling of all genetically modified organisms (GMO), or food and feed ingredients produced from GMO's. This ruling is to ensure that consumers will receive the correct information about the food that they purchase.

The draft rules call for such products to be labeled, without any exceptions, indicating that the product has been cleared for marketing and use in its country of origin. This will allow India to verify such clearance with the country in question, without having to resort to testing.

Since the suggested amendments will still be taken into consideration, any objections or recommendations regarding the proposed changes may be addressed to the Secretary, Union Ministry of Health and Family Welfare. Read the complete press release and additions to the ruling at <http://pib.nic.in/release/release.asp?relid=17941>.

PRSV OUTBREAK REPORTED IN THAILAND

Thailand's Nawna Daily Newspaper reports that papaya production in northeastern Thailand is badly affected by a recent outbreak of the papaya ringspot virus (PRSV). According to Dr. Wichai Kosiratana of the Department of Plant Pathology, Kasetsart University, the disease has also been observed in several provinces in the central area of the country. As a result, papaya growers are looking for new forest land to cultivate papaya.

Dr. Wichai asks for the biosafety assessment of transgenic papaya to be continued, if commercialization is to be allowed. Dr. Wichai also urged the government to have clear policies on transgenic crops.

Translated by Thailand's Biotechnology Information Center (<http://www.safetybio.com/>).

VIETNAMESE MINISTRY APPROVES BIOTECH DEVELOPMENT PROJECT

A project titled "Strengthening of Equipment and Facilities, Improving Science Research Capability in Application of Biotechnology" has been approved by Vietnam's Ministry of Science and Technology. The project will be given a budget of 39 billion Vietnamese Dong (US\$ 2.5 million).

The budget will be used to purchase equipment, train staff, improve facilities for training and education, and increase capability for scientists engaged in biotechnology at academies in Vietnam's Cuu Long River Delta Region. The project will study, evaluate, and propose solutions to protect plant genetic resources, develop bio-products, and transfer biotechnology to production.

With reports from the Agbiotech Vietnam Science and Technology Journal, and Le Thu Hien (hienbiotechvn@gmail.com) from AG Biotech Vietnam. For more information, visit <http://www.agbiotech.com.vn/vn/>

FRANCE TO ASSIST VIETNAMESE COTTON INDUSTRY

The French Development Agency (AFD) will provide a grant of over 330,000 Euros to assist Vietnam's cotton industry. A project has recently been approved by Vietnam's Industry Ministry, and will review the government's cotton industry development program. The project will also study opportunities to develop the industry through 2010, toward 2020; and seeks to improve domestic cotton farming, to replace imported cotton materials, as well as to create more jobs for people in Vietnam's cotton farming areas.

With reports from Le Thu Hien (hienbiotechvn@pmail.vnn.vn) from AG Biotech Vietnam. For more information, visit <http://www.agbiotech.com.vn/vn/>

STRONG MARKET FOR AGRI-BIOTECH PRODUCTS IN JAPAN

Agricultural products derived from biotechnology have a strong market in Japan despite concerns about these products among Japanese consumers. This was forwarded by Tetsuo Hamamoto, agricultural specialist of the United States Department of Agriculture office in Tokyo, Japan. The country imports about 16 million metric tons of corn and 4.5 million metric tons of soybeans from the U.S. per year, majority of which are biotech. These products are mostly used for feed. Japan's food industry requires that soybean ingredients in foods be non-biotech. A number of public research institutes are engaged in plant and industrial biotechnology research, but no new food products are in the pipeline for commercialization. Current work includes experimental work on the introduction of fungal resistance and pollen-allergy suppressing traits into rice.

So far, Japan has approved 75 biotech crops for food, 59 for feed, and 55 for planting.

For more information, email Tetsuo Hamamoto at agtokyo@usda.gov, or visit <http://www.fas.usda.gov/info/fasworldwide/2006/04-2006/JapanBiotech.htm>

Europe

INCREASED GM PLANTING FOR FRANCE AND CZECH REPUBLIC

Two European countries, France and the Czech Republic, are expected to grow more genetically modified (GM) maize this year. Daniel Cheron, director of Vilmorin, a French seed producer, made a forecast that France will increase maize plantings from about 1,000 hectares to an estimated 5,000 hectares.

Similarly, the Czech Republic is expected to increase maize plantings from 270 to as much as 3,000 hectares by the end of 2006, says Miroslav Tyl, a farming consultant. The Czech Republic is now in fifth place among European countries that are growing GM maize. Spain still leads with plantings of 50,000 hectares.

Increased plantings are anticipated in the two countries due to the farmers' favorable experience with GM maize.

Reports from <http://www.abeurope.info/> and <http://www.praguemonitor.com/past.php>.

EU MEETING TACKLES GM

European farmers should be able to choose what crops to plant, be they conventional, organic, or genetically modified (GM). This was one of the points raised by European Union (EU) Commissioner Mariann Fischer-Boel and Josef Pröll, Austrian Federal Minister of Agriculture, Forestry, Environment, and Water Management, during a meeting on co-existence in Vienna led by the Austrian Presidency of the EU.

Other recommendations forwarded include the need to look for ways to improve the EU's GM decision-making process regarding product approvals; as well as for more field experience to supplement models and simulation data.

Fisher-Boel in particular noted that EU-wide co-existence legislation is neither appropriate nor possible at this point, as farming decisions should be made as close as possible to the farm level. She also said that there is not yet enough experience with Member State measures to determine if the single market is affected.

Read more on the meeting at http://www.cropgen.org/article_76.html.

EFSA RELEASES GUIDANCE DOCUMENT ON RISK ASSESSMENT TRANSPARENCY

The European Food Safety Authority (EFSA) has released a guidance document on transparency in risk assessment. Prepared by a working group composed of members of the agency's Scientific Committee, as well as other EFSA departments, the document addresses all issues related to the process of risk assessment. Science-related issues will be tackled by a separate guidance document.

The document highlights several procedural aspects related to risk assessment to improve transparency. These include: 1) the selection of qualified scientists to participate in EFSA's activities and ensuring their independence; 2) overall handling by EFSA of requests for scientific opinions; 3) the availability and dissemination of relevant scientific data; 4) involvement of other stakeholders; 5) confidentiality aspects; and 6) revisions and updates of scientific opinions.

Read the complete document at http://www.efsa.eu.int/science/sc_committee/sc_documents/1494_en.html.

RESEARCH

RESEARCH FINDS WAY TO MAKE STARCHIER CASSAVA

Cassava is a major crop in many developing countries, as it is a good source of carbohydrates and starches. Scientists have been working on increasing starch levels in the root crop, but with limited success.

A group of researchers from Ohio State University investigated the effect of increasing the sink strength for carbohydrates in cassava roots on total starch production. Led by Uzoma Ihemere, the team reports the successful “Genetic modification of cassava for enhanced starch production” in a recent issue of the *Plant Biotechnology Journal*.

To increase starch production, the team introduced into cassava roots a more active version of a gene for starch biosynthesis, ADP- glucose pyrophosphorylase (AGPase). The transgene, derived from a bacterium, speeds up the chemical reactions leading to starch production, and results in more starch in the transgenic crop.

After assaying transgenic plants and comparing them to controls, researchers found that transgenic plants had up to 70% higher AGPase activity than control plants. Increased enzyme activity correlated with as much as a 2.6-fold increase in total tuberous root biomass, and resulted in a significant increase in above-ground biomass under greenhouse conditions.

Read the abstract of the article at <http://www.blackwell-synergy.com/doi/abs/10.1111/j.1467-7652.2006.00195.x>.

ARIZONA BT, NON-BT COTTON COMPARED

Bt crops are currently being grown over 16.2 million hectares worldwide, but no large-scale studies have been performed to simultaneously address whether they have favorable agricultural effects and minimal impacts on non-target arthropods. Manda G. Cattaneo and colleagues of the University of Arizona, the Arizona Research and Protection Council, and McGill University, Canada survey Arizona cotton fields and report the first “Farm-scale evaluation of the impacts of transgenic cotton on biodiversity, pesticide use, and yield” in a recent issue of the *Proceedings of the National Academy of Sciences*.

The researchers conducted the study over a 2 year period, and evaluated 81 commercial fields in Arizona, US, where Bt cotton represented 48% and 62% of the cotton planted in the first and second year of the study, respectively. Of the 81 fields, 40 were planted with conventional varieties, 21 to Bt cotton, and 20 to

Bt/herbicide tolerant (Bt/HT) cotton. Researchers found, overall, that the use of Bt cotton reduced insecticide use, whereas the use of Bt/HT cotton did not affect herbicide use.

The team reports the following key findings: 1) transgenic cotton had higher yields than non-transgenic cotton for any given number of insecticide applications; 2) non-transgenic, Bt, and Bt/HT cotton, however, had similar yields overall, largely because higher insecticide use with non-transgenic cotton improved control of key pests; 3) there were no differences between transgenic and non-transgenic cotton in terms of their effects on biodiversity; and 4) transgenic cotton produced more lint than non-transgenic cotton.

Read the complete article at <http://www.pnas.org/cgi/content/full/103/20/7571>.

RESEARCH REPORTS NEW COWPEA GERmplasm SCREENING TECHNIQUE

Cowpea is widely used as food and animal feed, but it is also beset by viruses and pests. Important viruses include the cucumber mosaic virus (CMV) and the blackeye cowpea mosaic virus (BICMV). Together, these two viruses cause cowpea stunt disease, which results in significant losses in the crop. There are available sources of resistance to BICMV, but these need to be investigated.

A. G. Gillaspie, Jr. of the United States Department of Agriculture's Agricultural Research Service (USDA-ARS) reports on a "New Method for Screening Cowpea Germ Plasm for Resistance to Cucumber mosaic virus" in the latest issue of Plant Disease. Gillaspie screened 350 cowpea lines from a core collection maintained by the National Plant Germplasm System (NPGS).

To select for CMV-resistant lines, Gillaspie inoculated freeze-dried cowpea tissue with the virus. He employed several assessment methods to measure virus buildup in the infected plants. The candidate lines were subsequently tested in greenhouse and field conditions to confirm resistance. Four CMV resistant lines, as well as four other lines with possible BICMV resistance, were identified.

Subscribers to Plant Disease can read the complete article at <http://www.apsnet.org/pd/search/2006/PD-90-0611.asp>.

ANNOUNCEMENTS

NEW WEBSITE ON GM

Agrifood Awareness Australia Limited (AFAA) has a new website. It features, among others, an agricultural biotech resources library of external documents on topics under 20 areas of interest, and a section on gene technology policies of farm associations, and related groups.

AFAA is an industry initiative, established to increase public awareness of, and encourage informed debate about gene technology. See their new website at <http://www.afa.com.au>.

INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES AND AGRICULTURE SLATED

The First Meeting of the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture of the Food and Agriculture Organization (FAO) will be held on 12-16 June, in Madrid, Spain. The International Treaty was established to promote the conservation and sustainable use of plant genetic resources for food and agriculture, and to ensure that the benefits of such use are distributed fairly. The meeting will be attended by delegates from over 100 countries

To read more about the treaty visit: <http://www.fao.org/AG/cgrfa/itpgr.htm>

USDA TO HOLD RISK MANAGEMENT STRATEGIES CONFERENCE

The United States Department of Agriculture (USDA) will hold a conference on June 27-28 in Kansas City, Missouri, USA to examine risk management issues and strategies associated with alternative energy production and use in the agriculture sector. A limited number of travel scholarships will be available for qualified participants. For details and program registration, visit <http://www.farmfoundation.org> or <http://www.usda.gov>.

CALL FOR TENDER POSTED

The Foundation Imagine Life Sciences invites applicants to submit a proposal for the production of avocado oil in a less developed country. This proposal should be based on the winning report of the school competition Imagine entitled:

“Avocado oil, our knowledge their future.” The Foundation Imagine Life Sciences will support the implementation of the selected proposal with a maximum financial contribution of € 25,000 (VAT included). The deadline for submission of proposals is June 30, 2006. For more information, send an e-mail to info@foundation-imagine.org, or visit <http://www.foundation-imagine.org>.

DOCUMENT REMINDERS

FAO GLOSSARY AVAILABLE IN ARABIC

The United Nation’s Food and Agriculture Organization (FAO) has published the Arabic translation of its “Glossary of biotechnology for food and agriculture.” The publication also contains an additional English-Arabic vocabulary of biotechnology-related terms. Contact sandra.tardioli@fao.org to request a copy.

WHITEFLY MANAGEMENT MANUAL RELEASED

“The biology and management of the whitefly *Trialeurodes vaporariorum* in string and field beans: a technical manual” is now available for agronomists and technicians in Latin America. Likewise, three primers on this worldwide, persistent pest have been written for farmers in Bolivia, Ecuador, and Colombia, and have already been published. The publications are part of a strategy to disseminate research results from the project on sustainable integrated management of whiteflies as pests and vectors of plant viruses in the tropics, financed by the British Department for International Development (DFID). For queries on electronic copies of the publications, contact Isaura Rodríguez at rodriguez@cgiar.org. For more information, visit <http://www.ciat.cgiar.org/>.

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