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)

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NEWS

FAO REPORT RECOMMENDS POST-RELEASE MONITORING PROCEDURES

The Food and Agriculture Organization (FAO) has released a report on "Genetically Modified Organisms in Crop Production and Their Effects on the

Environment: Methodologies for Monitoring and the Way Ahead," the documented results of a recently-conducted consultation with experts in the field of agricultural biotechnology. The consultation aimed to review the scientific basis for, and procedures to establish, effective post-release monitoring of genetically modified (GM) crops, and develop guidelines to strengthen member countries' capacities to design and carry out monitoring programs.

According to the report, the key steps for developing a robust monitoring program for the release of GM crops entails member countries setting their program goals and immediate objectives; identifying potential barriers, as well as risks and benefits, through the use of stakeholder and expert knowledge; developing a testing hypothesis to guide actions and decisions; identifying a limited number of potential indicators; determining appropriate trigger values for decision making and action; and cultivating a transparent and effective process of monitoring.

Download the complete report at ftp://ftp.fao.org/docrep/fao/008/ae738e/ae738e00.pdf or visit http://www.fao.org/ag/

COMPLIANCE MANAGEMENT DOCUMENT FOR GM FIELD TRIALS

CropLife International, a federation representing the plant science industry, has released "Compliance Management of Confined Field Trials of Genetically Engineered Plants," a generic compliance management document that serves as a guide for those undertaking field trials of genetically modified crops.

The federation recognizes the value of information that may be gained from confined field trials, and the document sets forward guidelines in order for field trials to be carried out successfully. Among other goals, it seeks to help ensure uniform compliance with the terms and conditions of authorization for confined field trials; address a gap in many countries where there are no clear educational tools for regulators; and serve to help countries with no national biosafety framework in place by a) demonstrating confidence that industry is committed to ensuring that trials are undertaken under appropriately controlled conditions and b) providing a model around which biosafety guidelines can be developed.

The document can be accessed at http://www.croplife.org/library/documents/Biotech%20issues/stewardship/2005%2005%2010-field%20trial%20compliance%20protoco-psl-f.td.pdf.

ADOPT AGRI-BIOTECH, ECOWAS URGED

Members of the Economic Community for West African States (ECOWAS) have been urged to adopt agricultural biotechnology to help increase productivity and fight hunger and poverty in the sub-region. This was according to the Malian Minister for Agriculture, Honourable Seydou Traore, who opened this year's Ministerial Conference of ECOWAS countries on biotechnology in Bamako, Mali.

"We hope this Conference will allow measures to be taken that will hasten the adoption of a technique that can render our agriculture non-dependent on climate hazards while improving its technical and economic performances," the Minister said. The conference has brought together Ministers from various West African States, international and regional organizations, farmers, consumer groups, industry, and the media.

The Executive Secretary of the Forum for Agricultural Research in Africa (FARA), Dr Monty Jones, who led research leading to the development of New Rice for Africa (NERICA), made an appeal for African countries to create enabling environments for the adoption and utilization of modern agricultural biotechnology into the continent's agricultural systems.

Madelyn E. Spirnak, senior advisor for agricultural biotechnology US Department of Agriculture pledged her government's support for the regional initiate and expressed hope that the ministerial meeting "will help ECOWAS countries develop a coordinated strategy to address the need to develop a practical framework for modern biotechnology, capacity building in regulatory and research fields, and increase public awareness."

WHO REPORT CALLS FOR GLOBAL COOP ON BIOTECH ASSESSMENT

The World Health Organization exhorts its member countries to cooperate on the assessment of biotechnology and its impact human health and food production. This need for international collaboration is the gist of its latest report, "Modern Food Biotechnology, Human Health, and Development."

The report documents evidence and work related to the risks and benefits of biotechnology on human health and the environment, socio-economic factors related to the adoption of biotechnology, and ethical aspects pertaining to its use. It aims to create a knowledge base for the application of biotechnology in agriculture and food production, as well as to initiate international discussions on the matter.

For effective discussions and decision-making, the report recommends that stakeholders and policy makers should analyze and weigh the costs and benefits, such that even the intended scope of beneficiaries of the technology should be defined; find new ways of improving communication between scientists in the development of products; and take into consideration ethics and socio-economic aspects of agricultural biotechnology, among others.

Download the complete report at http://www.who.int/foodsafety/biotech/who_study/en/index.html

BANGLADESH SUPPORTS BIOTECH INITIATIVES

Biotechnology is a viable option that Bangladesh should consider to improve its agricultural productivity given the country's growing population and the limitations of conventional breeding research. This was declared by Hon. Kazi Abul Kashem, Secretary of the Ministry of Agriculture of Bangladesh, during the Biotechnology Issues and Risk Communication Workshop in Dhaka last June 19-20, 2005. Similar views were forwarded by Dr. Nurul Alam, Chair of the Bangladesh Agricultural Research Council (BARC), and Dr. Md Abdur Razzaque, Member-Director for Crops of BARC, who graced the opening ceremonies of the said workshop.

Dr. Razzaque added that there is an urgent need for productivity enhancement of agricultural crops and animals as well as nutritional quality citing the country's problems with food and livelihood security. He noted that "biotechnology can be instrumental in the conservation, characterization, and valuation of biodiversity, and that high priority should be assigned to this." He particularly forwarded strategies and actions to harness biotechnology, among them speeding up the national policy on biotechnology, streamlining the regulatory mechanisms in support of biotech initiatives, strengthening institutional capability, and encouraging awareness raising and information empowerment.

The two-day workshop, which was attended by over 50 scientists and academic staff of various universities, and research and development agencies, was organized by the Bangladesh Agricultural Research Council and the International Service for the Acquisition of Agri-biotech Applications. Additional information on the workshop may be obtained by emailing Dr. Khondoker Nasiruddin of ISAAA's Bangladesh Office at k.nasiruddin@isaaa.org.

PHILIPPINES DECLARES NATIONAL BIOTECH WEEK

President Gloria Macapagal-Arroyo of the Philippines recently signed Presidential Proclamation No. 861 declaring the first week of July 2005 as "National Biotech Week." Arroyo designated the Department Secretaries of Agriculture, Science and Technology, Environment and Natural Resources, Trade and Industry, and the Interior and Local Government to compose a National Biotechnology Week Committee.

The Committee, which is co-chaired by the Secretaries of Agriculture, and Science and Technology, was tasked to formulate a program for a meaningful celebration of the National Biotechnology Week. A week-long celebration with the theme "Biotechnology for Life" will be held from July 1-7, 2005 in Manila with several activities that include the launching of the Biotechnology Intellectual Property Center, farmer-to-farmer exchange on biotechnology, and a scientific symposium and exhibit on biotechnology.

For more details on National Biotechnology Week in the Philippines, contact Dr. Benigno Peczon, President and CEO of the Biotechnology Coalition of the Philippines at bdpeczon@bcp.org.ph or bpeczon@yahoo.com.

DEVELOPING COUNTRY DBASE UPDATED

The Food and Agriculture Organization's (FAO) database containing "Developing Country Biotechnology Profiles" has been updated. The database, FAO-BioDeC, is a searchable tool that aims to provide easy access to key, updated sources of biotechnology-related information, contained in entries from 128 developing countries (including countries with economies in transition).

Information on each country may be classified and stored into any of 11 key subjects, which include biotechnology research policy, research capacity, regulatory frameworks, biotechnology applications, and publications and links. The database will be expanded in a second phase to include the animal, fisheries, and forestry biotechnology sectors.

Access the database at http://www.fao.org/biotech/inventory_admin/dep/default.asp or contact FAO-BioDeC@fao.org to provide comments or to request more information.

CIAT LAUNCHES SPANISH EDUC MATERIALS

Professionals from the Centro Internacional de Agricultura Tropical (CIAT) have been working with a group of schoolteachers in Cali, Colombia to produce Spanish-language educational materials related to biotechnology. The collaboration's efforts have resulted in a recently launched CD-ROM entitled "La Biotecnología en el salón de clases," or Biotechnology Goes to School.

The CD aims to create a space where students can learn about biotechnology and become familiar with several of its techniques. It contains different theoretical documents meant for teachers, as well as practical exercises related to biotechnology, for students to "learn by doing."

The CD is produced by experts from CIAT's Agrobiodiversity and Biotechnology Project, in cooperation with the Auxiliary Center of Teaching Services (CASD) of Colombia. See http://www.ciat.cgiar.org/biotechnology/launching_cd.htm or contact c.s.zuniga@cgiar.org for more information.

OECD REPORTS ON INDIA BIOTECH

"It is important that India comes out with a comprehensive national policy to balance national socio-economic priorities with adequate technological expertise." This is the main thrust of the latest addition to the STI Working Paper series, from Organization for Economic Co-operation and Development (OECD) Directorate for Science, Technology, and Industry.

"Dynamics of biotechnology research and industry in India: Statistics, perspectives and key policy issues" is written by S. Chaturvedi, and provides information on India's growing biotechnology industry. Among others, it contains an inventory of biotechnology data collection in India, and an overview of the status of biotechnology in India, with a focus on the agricultural and health sectors.

The paper also proposes steps which may help the industry grow. It recommends that the country prioritize public sector research; coordinate between agencies; stress on innovation and the work of star scientists through identifying core areas of competencies; work on an innovation system for small and medium scale enterprises; develop a statistical framework; and join and integrate into regional forums, like the Asian Cooperation dialogue (ACD).

See http://www.oecd.org/dataoecd/43/35/34947073.pdf or contact dsti.contact@oecd.org for more information.

RESEARCH

SARS VACCINE BEING DEVELOPED IN PLANTS

With Severe Acute Respiratory Syndrome (SARS) threatening to be a worldwide epidemic, scientists are constantly trying to find new ways to both cure people of and protect them from the disease. The causative agent is a coronavirus, and one of its proteins (referred to as the S protein) and its truncated fragments are considered the best candidates for generation of a recombinant vaccine.

In “Severe acute respiratory syndrome (SARS) S protein production in plants: Development of recombinant vaccine,” Natalia Pogrebnyak and colleagues of the Biotechnology Foundation Laboratories, Thomas Jefferson University in Philadelphia, USA carry out preliminary work on producing a SARS vaccine in plants, as well as testing it on model organisms. Their work appears in the latest issue of the Proceedings of the National Academy of Sciences.

The researchers used tomato and tobacco plants, since tomato is easy to transform and can produce a good number of edible fruit tissue; while tobacco is an efficient transformation system to test the expression and activity of new proteins. They expressed a fragment of the SARS S protein in the plants, selected those with the highest levels of protein expression, and fed the transformed plant materials to mice. Mouse sera and fecal pellets were then assayed for the presence of antibodies specific for SARS.

Researchers found that the mice showed increased levels of a specific antibody after being orally fed with tomato expressing the S protein. Three immunizations with transgenic tobacco material, however, did not increase the antibody level in the mice, but a booster shot of the peptide itself prompted a secondary immune response.

Download the article at http://www.pnas.org/cgi/reprint/102/25/9062

CBT NEWS FEATURE: THE WORLD FISH CENTER

The World Fish Center is an international scientific research organization that aims to reduce poverty and hunger by improving fisheries and aquaculture, especially for developing countries. It is a member of the Consultative Group on International Agricultural Research (CGIAR).

The Center achieves its goals through research, partnership, capacity building, and policy support. It promotes sustainable development and use of living aquatic resources based on environmentally sound management, while its projects aim to improve productivity, protect the environment, save biodiversity, improve policies, and strengthen national programs in fisheries and aquaculture. Through partnerships with various institutions, the Center studies freshwater systems and marine habitats, the latter including coral reefs, coastal waters, brackish water ponds, lagoons, mangroves, and occasionally soft-bottom shelves, upwelling shelves, and open oceans. Major projects include selective breeding of a new strain of the Nile tilapia, increasing incomes in flood-prone rice ecosystems, applied research on integrating aquaculture with agriculture and livestock for mixed farming systems, and developing integrated coastal management (ICM) training tools.

Aquatic resources research has great potential in terms of benefiting poor people and helping in the conservation of such resources and the environment. The World Fish Center has offices in 10 countries and is currently conducting research projects with collaborations in 50 countries and with 39 regional and international organizations.

http://www.worldfishcenter.org

DOCUMENT REMINDERS

IFPRI RELEASES BOOK ON BIOTECH IN SOUTHERN AFRICA

The International Food Policy Research Institute (IFPRI) and the Food, Agriculture, and Natural Resources Policy Analysis Network (FANRPAN) have released “Biotechnology, Agriculture, and Food Security in Southern Africa,” which tackles the biotechnology debate in the continent.

The debate has since prompted both organizations to raise awareness, promote dialogue, and catalyze consensus-building mechanisms to improve the institutions and policies governing agricultural biotechnology, as well as to assess its implications for food security in southern Africa. The book is a result of the initiative, and brings together experts from within and outside Africa to discuss various aspects of the biotech issue.

Read more at http://www.ifpri.org/pubs/books/oc46.htm.

FAO BIBLIOGRAPHY ON AGRI-BIOTECH AVAILABLE

The Food and Agriculture Organization's (FAO) Research and Technology Development Service has published a bibliography of documents that cover assessments of the economic and socio-economic impact of agricultural biotechnology in developing countries, with a focus on crop biotechnology.

"Economic and Socio-Economic Impacts of Agricultural Biotechnology In Developing Countries" contains bibliographic information on publications covering methodologies for impact assessment; studies on biotechnologies not involving genetic modification (GM), such as marker assisted selection and micropropagation; and GM-based biotechnologies, with specific crop studies on cotton, soybean, rice, maize, and banana, among others.

Download the document at ftp://ftp.fao.org/sd/SDR/SDRR/bibliography1.pdf, or contact SDRR-portal@fao.org for more information or to provide comments.

COP-MOP REPORT RELEASED

The 2nd meeting of the Conference of the Parties, serving as the meeting of Parties to the Cartagena Protocol on Biosafety (COP-MOP/2), took place from May 30 to June 3 of this year in Montreal, Canada, on the premises of the International Civil Aviation Organization. The proceedings of the meeting are now available online, and may be downloaded at http://www.biodiv.org/doc/meetings/bs/mop-02/official/mop-02-15-en.pdf. Contact secretariat@biodiv.org for further information.

DATABASE ON PLANT BIOTECH PROJECTS

The Plant Biotech Projects database, a comprehensive world-wide information resource covering plant biotechnology research and development, is now available in print, CD ROM, and electronic formats. Four modules are available: plants as factories, input traits, crop production, and quality traits. Contact Michael Aplin at michael.aplin@informa.com for order requests or visit http://www.plantbiotechprojects.com.

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

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