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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CO-EXISTENCE POSSIBLE, GERMAN STUDY REPORTS

A 2004 study on genetically modified (GM) corn planted alongside conventional varieties in Germany showed that either variety can "co-exist" with the other, and as long as the crops are planted at least 20 meters apart. The announcement was made at a press conference in Berlin, just days before Germany's lower house of Parliament is expected to give final approval to a new law that would strictly regulate GM crops.

The test crop was performed at 30 locations in seven Federal States using GM corn line MON810, engineered to protect the crop against the European Corn Borer. With manpower from InnoPlanta in Gatersleben and the Federal Association of German Plant Breeders, as well as private farmers and state agricultural institutes in Bavaria and Saxony-Anhalt, the project studied the extent of cross-hybridization between GM and conventional corn planted at varying distances from each other, taking into consideration all operational, regional, and climatic factors, and even the presence of pollen samples in beehives placed close to the experimental fields.

Scientists found that conventional corn planted at least 20 meters from GM corn contained 0.9% or less GM upon harvest. According to EU regulations, corn with a GM level above 0.9% must be properly labeled.

Prof. Dr. Lothar Spaeth, Chairman of the Supervisory Board of Jenoptik AG, urged both scientists and farmers not to miss out on the innovation. “It is important, in view of these scientific results, that we encourage farmers in Germany to make use of new technologies,” he said.

For further information go to www.erprobungsanbau.de <http://www.erprobungsanbau.de> and <http://www.biomedcentral.com/news/20041124/04/>, or download the press release at http://www.isaaa.org/kc.

ITALIAN ASSOCIATIONS RELEASE GM CONSENSUS DOCUMENT

Eighteen Italian scientific associations, on the initiative of the Societa Italiana di Tossicologia, have signed a consensus document on “Food Safety and GMOs.” They note that the public needs to be taught that innovations that have made possible life saving medicines are the same ones used in farming and food. The document presents the world’s current knowledge about the safety of genetically modified organisms (GMOs) in food so that the public can take a position on the issue.

The document lists the following conclusions on GMOs and food safety:

* GMOS are governed by rules that are unparalleled elsewhere in the food industry, so that they are strictly controlled than any other food product. They must undergo the full range of food safety tests before they are authorized for sale.

* Research should concentrate not on the technology used to produced these crops, but on their engineered features on a case-by-case basis.

* GMOs now on the market have passed all tests and have been had been properly authorized, so on the basis of current knowledge, they should be considered safe for both human and animal consumption.

* The dualistic stance on GM food should be abandoned in favor of rational consensus based on knowledge of the process and its products.

Among the associations that signed the document include the Accademia Nazionale delle Scienze, Associazione Ricercatori Nutrizione Alimenti, Federazione Italiana Scienze della vita, Societa Italiana di Biochimica e Biologia Melecolare, and the Societa Italiana di Microbiologia Generale e Biotecnologie Microbiche.

For the full document which is available in English and Italian, visit http://www.cedab.it/Documenti.asp

BLACK SEA COUNTRIES ESTABLISH LAB NETWORK FOR GM FOOD

The newly established Black Sea Biotechnology (BSB) Association - made up of Bulgaria, Romania, Russia, Turkey, and Ukraine - has recently established a laboratory network for the analysis and control of foods containing genetically modified organisms (GMOs).

The laboratories will be part of the current network of GMO laboratories in the European Union (EU). In the BSB Association network, products made up of greater than 0.9% GMO should be specially labeled.

Among the main aims of the Association are control and biosafety coordination, as well as monitoring and harmonization of legislation of BSB Association member states with those of the EU.

For more information, contact Irina Roussenova (assistant to the BSB Association) at irina.BSBA@mbox.contact.bg or Nevena Alexandrova of the Bulgaria Biotechnology Information Center (BgBIC) at alexandrova@abi.bg. The official page of the Association will be operational by the end of 2004, and may be accessed at <http://www.bsba.org/>.

BIOTECH TO TRIGGER 'GREEN REVOLUTION' – INDIA'S AGRIC MINISTER

Biotechnology will spur the second 'Green Revolution,' Union Agriculture Minister Sharad Pawar said as he spoke at the inaugural function of the second annual national conference of the Federation of Jain Educational Institutes (FJEI) in Jakkasandra, India.

There has been a 20% increase in yield in cotton production this year, thanks to the use of innovative biotechnology solutions and a good monsoon, Pawar said. He also emphasized the need for greater awareness of biotechnology, and urged educational institutions to train students in emerging areas of biotechnology and information technology, particularly in rural areas.

"Biotechnology has shown the world that quality is possible even without spraying chemicals. India has huge genetic wealth and can increase food production by using GM crops, thereby strengthening food security and delivering quality food products," Pawar added.

The two-day conference is scheduled to deliberate on issues such as training, computerized administration, and maximizing infrastructure utilization.

Read the complete articles at <http://www.newindpress.com/NewsItems.asp?ID=IEK20041121004729&Page=K&Title=&Topic=0&> and <http://www.deccanherald.com/deccanherald/nov212004/s1.asp>

FAO COUNCIL ADOPTS FOOD GUIDELINES

The Council of the Food and Agriculture Organization has adopted the Right to Food Guidelines that would "support the progressive realization of the right to adequate food in the context of national food security." The Council is FAO's executive governing body.

According to FAO, the Guidelines were conceived "to provide practical guidance" to help countries implement their obligations relating to the right to adequate food. It considers several human rights principles, "including equality and non-discrimination, participation and inclusion, accountability and the rule of law, as well as the principle that all human rights are universal, indivisible, inter-related and interdependent."

Various non-governmental groups and intergovernmental organizations contributed significantly in the preparation of the Guidelines. These included the Office of the High Commissioner for Human Rights, the UN Special Rapporteur on the Right to Food and the Committee on Economic, Social and Cultural Rights and the North-South Alliance, which is a coalition of a large number of NGOs.

The guidelines, according to FAO, must be implemented to reduce by half the number of hungry people in the world by 2015.

See the full article by John Riddle of FAO at <http://www.fao.org/newsroom/en/news/2004/51653/index.html>

FRENCH GM LAW STILL STALEMATE

Despite an earlier pronouncement by French President Jacques Chirac that a national law on genetically modified crops will be passed within two weeks, France is still far from introducing a legislation to change a European Union (EU) directive on the matter.

The Scientist, an online site of Biomed Central, quotes Stephane Vaxelaire of the French Ministry of Agriculture, as saying that the draft legislation to transpose EU Directive

2001/18/EC, which covers the deliberate release into the environment of genetically modified organisms (GMOs), could not be expected until 2005.

Vaxelaire said that the government would wait for the report of a parliamentary inquiry before drafting legislation. The EU directive introduces one of the most stringent regulatory frameworks in the world for GM crops, including principles of a case-by-case risk assessment as well as a public register with lists of GMOs released for trials and commercial purposes.

See the full article in <http://www.biomedcentral.com/news/20041125/02>.

ICRISAT TO ASSIST RP LEGUME INDUSTRY

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in Hyderabad, India and the Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD) have joined forces on a project that aims to enhance the adoption of ICRISAT-bred legumes and associated technologies.

With a grant from the Philippine government, ICRISAT will provide the seeds of improved legume varieties, particularly peanut, chickpea, and pigeonpea; technical advice for the use of the technology; and training of project staff. PCARRD, on the other hand, will provide institutional support for project planning, implementation, monitoring, and evaluation.

For further information, contact Dr. CLL Gowda at c.gowda@cgiar.org.

LOWER ENZYME LEVEL FOUND TO INCREASE CORN'S DROUGHT TOLERANCE

In a paper in the December Issue of The Plant Journal, Dr. Daniel R. Gallie and his research team at the University of California, Riverside report that
ACC Synthase Expression Regulates Leaf Performance and Drought Tolerance in Maize.

ACC Synthase is the enzyme responsible for producing ethylene, a hormone that regulates plant responses to environmental stresses, and initiates fruit ripening and leaf death, among other important functions.

In their experiments, Gallie and co-workers screened thousands of corn plants for naturally occurring mutants that were deficient in ACC Synthase. The researchers isolated several such plants, and one in particular that produced substantially lower levels

of ethylene. The mutant plant, they found, was more resistant to the effects of adverse environmental conditions, including drought. Researchers then engineered plants to produce less ACC Synthase, thereby reducing the level of ethylene, and found that all the leaves of the altered plants contained higher levels of chlorophyll and leaf protein, and functioned better than control leaves.

For several years, Gallie said, a number of studies on global climate have predicted an increase in global temperature, and regional conditions of drought, which may have already begun. The findings by Gallie and his research team suggest that ethylene controls the level of leaf function under normal growth conditions, as well as during adverse environmental conditions.

For more information, visit <http://www.newsroom.ucr.edu/cgi-bin/display.cgi?id=928>

CBT NEWS FEATURE: Dr. Monty Jones

Dr. Monty Jones of Sierra Leone became the first African to receive the prestigious 2004 World Food Prize for his work on the development of New Rice for Africa (NERICA). He shares this year's prize with Professor Yuan Longping from China, whose work was instrumental in achieving the world's first high-yielding hybrid rice varieties.

The World Food Prize created in 1986 by Dr. Norman Borlaug, recognizes people who help improve the quality or availability of food throughout the world.
NERICA, a technological breakthrough in Africa, is uniquely adapted to the harsh growing environment and low-input conditions in West Africa. Dr. Jones developed NERICA by successfully crossing the Asian O. sativa with the African O. glaberrima, producing drought and pest resistant, high yielding new rice varieties. With the ability to resist weeds, survive droughts, and thrive on poor soils gained from its African parent, and the trait of higher productivity from its Asian ancestor, NERICA is a crop capable of increasing farmers' harvests by up to 50 percent. It is recognized as having immense potential for food security and poverty alleviation in one of the most impoverished regions in the world.

Dr Jones' groundbreaking work on the NERICA was carried out at the Africa Rice Centre (WARDA), in Abidjan, Côte d'Ivoire in the mid-90s, where he worked as the principal rice breeder. WARDA is one of the 16 international research centers sponsored by the Consultative Group on International Agricultural Research (CGIAR) of the World Bank.

His accomplishments are already producing enhanced harvests for thousands and thousands of poor farmers, most of them women, with potential benefit for 20 million farmers in West Africa alone.

Born in Sierra Leone, Monty Jones began his career at the Rice Research station in Sierra Leone, where he worked as a breeder for 13 years. He started his international career with the CGIAR as coordinator of the IITA/USAID Cameroon rice program from 1987 to 1990. In 1991, he moved to WARDA to become its principal breeder, where he developed the world renowned NERICA rice. Currently, he is the Executive Secretary of Forum for Agricultural Research in Africa (FARA), an umbrella organization forming a coalition of major stakeholders in agricultural research in Africa, and serves as the voice for Africa's agricultural research for development.

Dr. Jones is a graduate of the University of Sierra Leone and received both his M.Sc. in Plant Genetic Resources (1979) and his Ph.D. in Plant Biology (1983) from the University of Birmingham in the United Kingdom.

<http://allafrica.com/stories/200411020789.html>
<http://www.worldfoodprize.org/Laureates/04laureates/jones.htm>

DOCUMENT REMINDER

A revised version of Pocket K No. 5 on "Documented Benefits of GM Crops" is now available online at http://www.isaaa.org/kc. It provides data and information on the multiple benefits of genetically modified crops in selected developing countries. These include experiences regarding Bt corn adoption in the Philippines, and Bt cotton adoption in China and South Africa.

Pocket Ks are Pockets of Knowledge, packaged information on crop biotechnology products and related issues. They are produced by the Global Knowledge Center on Crop Biotechnology of the International Service for the Acquisition of Agri-biotech Applications. There are already 15 Pocket Ks which are all available online at http://www.isaaa.org/kc.

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