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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EC AUTHORIZES IMPORT OF GM CORN FOR ANIMAL FEED

The European Commission has authorized the importation and sale of genetically modified corn known as NK603 for import and processing. According to the European Association for Bioindustries or EuropaBio, this decision is valid for 10 years and authorizes Monsanto, the company which applied for the authorization, to put the product in the market.

Margot Wallström, Commissioner for the Environment, said "The NK603 maize has been subject to a rigorous pre-market risk assessment. It has been scientifically assessed by the European Food Safety Authority as being as safe as any conventional maize. Its safety is, therefore, not in question, and neither is the question of user or consumer choice.

Imports of the corn, whether in bulk shipments, bags or other containers, will be required to be labeled as containing genetically modified corn. Authorization to use the NK603 corn for use in food will be deliberated on separately in the next few months.

View the full story at:
http://europa.eu.int/rapid/pressReleasesAction.do?reference=IP/04/957&format=HTML&aged=0&language=EN&guiLanguage=en

Other relevant documents like the opinion of the European Food Safety Authority on NK603 maize is available at
http://www.efsa.eu.int/pdf/pressrel_gmo_0203_final_en.pdf while the EuropaBio

Backgrounder on NK 603 is at
http://www.europabio.org/upload/articles/article_334_EN.doc.

AFRICA FORGES AHEAD WITH GM POTATOES

Despite the debate on genetically modified (GM) crops in Europe, South Africa is keen on pursuing its work on GM potatoes. Muffy Koch of Golden Genomics in South Africa said that the country has shrinking farm land and an expanding population. To address this problem, “smarter farming methods” need to be used. She noted that experience with approved GM crops can be better for local commercial production in some areas and even be better for small-scale farmers in specific growing areas.

South Africa has been conducting field trials with tuber moth resistant potatoes for the last three years. Research has shown that the new technology provides good protection against this pest in South Africa. New trials will test whether the technology works in different parts of the country and will be used to collect data on how the GM potatoes will impact on the growing environment.

For more details on the Bt potato project in South Africa, email Cobus Coetzee at coetzeec.sci@mail.uovs.ac.za or Muffy Koch of Golden Genomics at muffykoch@telkomsa.net.

SCIENTISTS SUPPORT FAO BIOTECH REPORT

Over 200 scientists from around the world have signed an open letter signifying their support to the Food and Agriculture Organization’s (FAO) recent report “The State of Food and Agriculture 2003-04: Agricultural Biotechnology: Meeting the Needs of the Poor?”

The letter addressed to the Director General of the FAO noted that “the publication provides a comprehensive overview of biotechnology’s potentials and constraints, and it reflects current scientific knowledge on this important subject area.” It said that genetically modified (GM) crops have been field tested since the late 1980s, are now grown commercially in over 16 countries, including several developing countries.

It adds that the FAO report indicated that the new technology is “associated with certain environmental and health risks, so that effective biosafety and food safety regulations have to be integral components of responsible biotechnology development and utilization. Yet, the evidence so far suggests that environmental and health risks can be managed, so that there is no reason for an outright rejection of GM crops based on safety concerns.”

The report also highlighted points raised by the FAO report such as the need for appropriate policies that address appropriate institutional and structural support problems of food insecurity and poverty. Hence, the FAO report highlights the major areas where public interventions are needed, in order to bring the “gene revolution” to the poor on a larger scale.

A copy of the open letter and signatories are available online at http://www.economia.uniroma2.it/conferenze/icabr2004/open_letter/lista.asp.

MEASURES FOR IMPORTING GM CORN IN SOUTH AFRICA

Five measures were highlighted by Dr. Julian Jaftha, registrar of the GMO Act in South Africa, regarding the importation of genetically modified corn that have only commodity clearance in South Africa. According to the June 2004 issue of the Animal Feed Manufacturers' Association (AFMA) publication, the measures include the following:

* To address spillage or unintentional release during the importation of GM grain with only commodity clearance in South Africa, the transportation of imported whole GM grain is limited. Immediate milling of all consignments imported for use as commodity in SA is necessary.

* Not all GM corn that have commodity clearance status (food and feed), have general release status as well. Thus, if only one event in the consignment does not have general release status, it means that the whole consignment is subject to immediate milling.

* Milling is to be done as close as possible to the port of entry to minimize the transportation of whole grain. The grain must be transported from the port of entry directly to the miller on a single trip without offloading and reloading until delivered at the miller.

* When applying for clearance, the importer must indicate where the grain is going to be milled and the mode of transport to be used. This information will help the Department of Agriculture to trace any spillage into the environment and to identify the responsible company.

* To prevent the purchase of GM material without informed consent, the seller of GM grains or grain products, e.g. animal feeds must clearly indicate the GM status of the consignment to buyers, as this may influence further trade negotiations and the use of these products.

For more information on the import of GM corn in South Africa, email Hensie Bekker of AFMA at hansie@afma.co.za or Michelle Vosges of the Directorate Genetic Resources, Department of Agriculture at michellev@nda.agric.za. A text version is available at http://www.isaaa.org/kc.

SURVEY ON GM CROP REQUIREMENTS IN INDIA

A survey conducted among scientists in India suggested breeding objectives and requirements for producing transgenics for major field crops in the country. Crops analyzed were rice, wheat, corn, sorghum, pigeonpea, urdbean, chickenpea, mungbean, cotton, potato, mustard and soybean.

Some of the highlights of the survey revealed that:

* Development of transgenics for resistance to stemborer, leaffolder, sheath blight and sheath rot need to be given highest priority in rice research. Work also needs to be done to solve abiotic stresses like drought and flooding.

* Transgenic approaches would be useful to deal with problems related to stem borer, leaf blight, and sensitivity to waterlogging in corn.

* GM research in sorghum need to focus on developing lines with resistance to grain mold, stem borer and shootfly in sorghum.

* Substantial efforts on pigeonpea transgenic research have to consider the absence of a reproducible protocol for its genetic transformation.

The survey was conducted by Anil Grover and Deepak Pental of the Department of Plant Molecular Biology and Department of Genetics, respectively, at the University of Delhi, India. The full paper is published in Current Science, Vol. 84, No. 3. Email Deepak Pental at dpental@hotmail.com for more information.

BIOTECH OUTSOURCING FAVORS INDIA

From information technology, India has found a new money maker in biotechnology outsourcing. The Times of India reported that biotech outsourcing in India is currently valued at US$120 M mainly in contract and clinical research activities. It is estimated that it is growing at a rate of 75% and experts predict the business will reach US$1 B in the next five years.

Goutam Das, head of Syngene, considered as India's most successful contract research house, said that "India along with Russia and the East European block will become outsourcing destinations of the world."

CHEAPER AND QUICKER GENE IDENTIFICATION

Researchers can now isolate a gene in one-tenth of the time, and for one-tenth the cost of existing techniques. Giles Oldroyd's team from John Innes Centre (JIC) in the United Kingdom and their collaborators at Stanford University, USA, said that transcript-based cloning is a major breakthrough as it makes it practical to look for "genes in some important, but genetically complex crop plants where using conventional gene detection methods would, it not actually technically impractical, be a hugely laborious and costly process."

Transcript-based cloning is an innovation based on DNA microarrays and the instability of RNA microarrays from genes damaged by mutation. According to an article in the JIC and Sainsbury Laboratory newsletter Advances (Issue 4, Summer 2004), transcript-based cloning relies on taking "snapshots" of gene activity in normal plants and plants with genetic mutations. By comparing snapshots it is possible to identify and isolate the gene affected by the mutation.

Further details about transcript-based cloning can be found at http://www.jic.ac.uk/staff/giles-oldroyd/index.htm.

ANNNOUNCEMENTS:

DELHI INTERNATIONAL CONFERENCE

An international conference on “Agricultural Biotechnology Ushering in the Second Green Revolution” will be held at the Federation House, Federation of Indian Chambers of Commerce and Industry in Delhi, India on August 10-12, 2004. International speakers include Dr. Clive James of the International Service for the Acquisition of Agri-biotech Applications and scientists from Argentina, Brazil, China, and India who will talk on agricultural biotechnology and global experiences and best practices. Other sessions include discussions on access to germplasm, statutory tools and structural provisions; intellectual property rights, legal framework, and agri-biotechnology transfer; and genetically modified food safety, risk assessment and international scenario.

For more information on the conference, email Bhagirath Choudhary, assistant director for biotechnology in FICCI, at bhagirath@ficci.com or biotech@ficci.com.

FEATURE ON BIOTECH IMPACT ON BIODIVERSITY

In recent years, the term biodiversity has been frequently used in the mainstream media, and more countries are showing keen interest in addressing biodiversity issues both at the local and international level. What is biodiversity? How does it affect our life? Is there a commercial value attached to our biodiversity? How does biotechnology developments affect biodiversity? These are some of the questions addressed in Issue 6 of BICnews, a publication of the Malaysia Biotechnology Information Center. Read “Prospecting nature: Impact of biotechnology on biodiversity” by visiting http://www.bic.org.my and clicking on the green BICNews icon.

SYMPOSIUM OF GMO BIOSAFETY IN FRANCE

The 8th International Symposium on the Biosafety of Genetically Modified Organisms will be held in Montpellier, France on September 26-30, 2004. Registrations forms, Fees and accommodations forms are now available at http://www.inra.fr/gmobiosafety/. Information on poster submissions are available at http://www.inra.fr/gmobiosafety/posterandspeakers.php.

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