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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September 10, 2004

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EU WITHDRAWS PROPOSAL ON LABELING THRESHOLDS YET APPROVES CORN VARIETIES

The European Commission (EC) withdrew from its agenda the proposal to establish labeling thresholds for trace amounts of EC approved genetically modified (GM) seed in conventional seed. At the same time, EuropaBio reports that the EU approved the addition of 17 genetically modified (GM) corn varieties to the EU Common Seed Catalogue.

While EuropaBio, the European Association for Bioindustries, welcomes the Commission's addition of approved GM corn varieties, it regretted "that the Commission has chosen to ignore its responsibility to establish a common European legal basis for the setting of thresholds for trace levels of GM seed in conventional seed." Simon Barber, EuropaBio Director said, "It is economically unsustainable and will unnecessarily harm the competitiveness of the European industry and its customers, the European farmers' community." Barber added that "Absolute purity is just not possible in the production of seed, and time and again, the seed industry and farmers in Europe face extraordinary legal uncertainty because the Commission has not been able to agree on practical and workable thresholds. It's ironic that farmers may legally grow fields of GM crops, yet thresholds for trace levels of these in seed have not been established."

EuropaBio urged the Commission to strive to establish clear, practical and workable thresholds.

Meanwhile, check out the updated “Questions and Answers on the Regulation of GMOs in the EU at http://europa.eu.int/comm/food/food/biotechnology/gmfood/qanda_en.htm

FIRST GM SEEDS APPROVED FOR USE IN EU

The European Commission authorized the first genetically modified (GM) seeds for commercial use across European Union (EU) territory this week. A total of 17 GM maize (MON810) varieties have been added to the EU Common Seed Catalogue, and a strain of GM oilseed rape was approved for sale, allowing trade and planting of these varieties in all 25 EU Member States.
No biotech seeds have hitherto been approved at EU level, but some national authorizations exist in countries such as France and Spain, where MON810 has already been planted since 1998. The process of extending approval for MON810 beyond these countries was suspended, however, by the EU moratorium on new GM products. The moratorium was lifted in May this year, and the European Commission has now approved MON810 throughout the bloc.

David Byrne, the European Commissioner for Health and Consumer Protection, said in a press release that the maize has been "thoroughly assessed to be safe for human health and the environment. It has been grown in Spain for years without any known problems; it will be clearly labeled as GM maize to allow farmers a choice.”

Beate Gminder, a spokeswoman for the Commission, told the British Broadcasting Corporation (BBC) that any farmer within the EU is now legally entitled to buy and grow MON810, even though some countries like the United Kingdom (UK) have established their own sets of rules for assessing biotech crops.

To access the press release, visit http://europa.eu.int/comm/dgs/health_consumer/library/press/i04_1083.en.pdf. For the full story by the BBC, go to http://news.bbc.co.uk/go/pr/fr/-/1/hi/world/europe/3641234.stm

AUSTRALIA ALL SET FOR GM COTTON

Australia is set to reduce pesticide use by as much as 75 per cent by growing genetically modified (GM) cotton. According to Australia’s Commonwealth Scientific and Industrial Research Organization (CSIRO), this means improving the environmental sustainability and profitability of an industry that earns $1.7 billion annually. Cotton is one of Australia's most significant agricultural industries, exporting nearly 90 per cent of cotton fiber.
CSIRO noted that the Office of the Gene Technology Regulator found that GM cotton, notably the Bollgard variety, “showed no greater risk than conventional or existing GM cotton in relation to various environmental and human safety parameters”. A risk assessment showed that allergenicity and toxicity were very low risks and no greater than existing cotton varieties; weediness was not a threat in the current cotton growing areas; and the threat of insect resistance to the Bt proteins was less than for previous GM cotton, Ingard. This is due to the presence of two insecticidal proteins in Bollgard, as it is less likely that an insect would have resistance to both proteins.

More of the CSIRO report at http://www.csiro.au/index.asp?type=faq&id=Bollgard. For more information, send an email to enquiries@csiro.au.

TRANSGENIC PLANTS NOW POSSIBLE WITHOUT USING FOREIGN DNA

Creating transgenic plants without having to use an Agrobacterium transfer (T-) DNA may soon be possible. In the May 2004 issue of Plant Physiology (Rommens, C., et al. Crop Improvement Through the Modification of the Plant's Own Genome), scientists from Simplot Plant Sciences in Boise, Idaho reported that a plant-derived, marker-free DNA fragment could likewise be used to produce genetically engineered plant cells.

Their methods, which may be read in detail at http://www.plantphysiol.org/cgi/reprint/135/1/421.pdf, were used to produce hundreds of marker-free and backbone-free potato (Solanum tuberosum) plants displaying reduced expression of polyphenol oxidase, the enzyme responsible for the brown discoloration of potato tubers.

The modified plants represent the first example of genetically engineered plants that contain only native DNA.

BRAZIL COURT EASES PATH FOR GM CORN, COTTON, RICE

Brazil's biotech regulator was cited as saying on Friday that it could clear new varieties of genetically modified (GM) soy, corn, cotton and rice for commercial use by December.

A federal tribunal said majority of its judges recognized the power of the government's Technical Commission on Biotechnology (CTNBio) to determine what GMO products can be sold in Brazil. Jairon do Nascimento, CTNBio's executive secretary, was quoted as telling Reuters that, "The commission (CTNBio) could produce final technical findings (clearance) by December for three products.

"We have at least 11 GMO products from soybeans, corn and cotton, to human and animal vaccines that we are considering for approval on the commercial market in Brazil," Jairon said.

The CTNBio's 36 scientist members are due to meet again on Oct. 21-22.

View CTNBio's other institutional acts regarding genetically modified organisms at http://www.ctnbio.gov.br/ctnbio/legis/inormativas/Default_EN.htm.

UK COUNCIL: RECONSIDER POLICY ON GM CROPS

The Agricultural Biotechnology Council (ABC) of the United Kingdom (UK) called for the Consumer's Association to reconsider its current policy regarding

genetically modified (GM) crops. The current stance of the Association favors “denying choice to farmers and consumers who wish to experience the benefits of GM technology, which have been appreciated by millions around the world for almost a decade,” ABC said in its press release.

“Consumer choice is dependent on the ability to choose clearly labeled GM or non-GM food, and ABC welcomed the introduction of EU labeling regulations earlier this year that the Consumers’ Association, among others, had been pressing for,” ABC Deputy Chairman Tony Combes said, commenting on the Which? magazine September 2004 survey results on GM food and crops. “The Which? findings show that ‘over 25% of those polled think GM crops should be grown in the UK’ – yet this choice is currently being denied to UK farmers and consumers alike.”

Which? also stated that 58% of those polled ‘try to avoid GM ingredients altogether’, to which Tony Combes responded: “The UK and the EU need to ensure that consumers are not excluded from the benefits this science-led and safety-focused technology is already delivering elsewhere.”

To download the press release, go to
http://www.abcinformation.org/press_release.php?press_id=41

GM GRAPEVINES MAY SOON BE PLANTED IN FRANCE

A new strain of grapevines resistant to Fanleaf disease may soon be planted in a test vineyard in Alsace, France. The project hopes that modified vines might improve vineyard health, raise wine quality and reduce pesticide use, as well resurrect the French wine industry, currently suffering from competition from emerging wine leaders South Africa, Australia, New Zealand, and South America.

Fanleaf disease is transmitted by the soil nematode Xiphinema index, which feeds on the roots of grape vines, transferring the Grapevine Fanleaf Virus (GFLV) from infected plants to otherwise healthy ones. The virus stunts vine growth, discolors grape leaves, and yields poor tasting fruit. It is estimated to affect more than 25,000 acres of vineyards in France, reducing crop yields by up to 80 percent for sensitive varieties such as Cabernet Sauvignon, Chardonnay, Gewürztraminer and Pinot Noir.

French winemakers fight the virus by spraying infected plants with nematicide, a pesticide so potent that its use in agriculture has been banned in countries such as Switzerland and Germany and in some U.S. states. According to Marc Fuchs, head of the GM project, "It kills all organisms in the soil, even the micro-organisms that play a big role in the biological life that forms terroir." Terroir refers to all the characteristics of a vineyard, including climate and soil quality, which impart quality to a particular wine.

The GM vines were altered in the laboratory through a process that would result in the vines’ immunization to GFLV. A gene fragment, coding for the coat protein of the virus, is introduced into cells of healthy grapevine rootstock. This results in a mild infection, which the plant’s immune system can combat, and which, once overcome, will render the grapevine immune to subsequent GFLV infections.

More studies on resistant grapevines are underway, including vines with bacterial chitinase genes, which may be able to fight fungal infections and even inhibit the growth of pathogens that cause Botrytis bunch rot and powdery mildew of grapes.

Some information on work being done on GFLV can be found at http://www.actahort.org/books/603/603_42.htm.

NEW PLANT NUTRIENT DATABASE LAUNCHED

The Agricultural Research Service (ARS), the chief scientific research agency of the U.S. Department of Agriculture, recently launched a database for phytonutrients known as "proanthocyanidins," a subclass of flavonoids, in 206 selected foods. Proanthocyanidins (PAs), also referred to as ‘Condensed Tannins’, are known for contributing astringent flavor to foods. It has recently been hypothesized that the free radical scavenging properties of PAs may reduce the risk of cardiovascular diseases, cancer, and blood clotting, and may also protect against urinary tract infections. Proanthocyanidins are abundant in certain fruits, nuts, beverages (such as red wine and purple grape juice), and even some chocolates.

A database for PAs is needed for epidemiologists and health researchers to estimate the intakes and to investigate relationships between intakes and reduction in the risks of various diseases.

The unique food-composition resource was released this month on the World Wide Web by scientists with ARS' Beltsville Human Nutrition Research Center working at the Nutrient Data Laboratory (NDL), Beltsville, Md., headed by nutritionist Joanne Holden. Collaborators include scientists at the ARS-funded Arkansas Children's Nutrition Center (ACNC), Little Rock, Ark.; Mars Inc., of Hackettstown, N.J.; and Ocean Spray Cranberries, Inc., of Lakeville, Mass.

The new database will be valuable in the continuing investigation of the health benefits of consuming diets rich in plant foods. To access the new database on the Internet, go to: http://www.nal.usda.gov/fnic/foodcomp/Data/PA/PA.html

DATABASE OF IMPORTANT TREE GENES

A new database containing a collection of the most important genes in a tree genome has just been developed by researchers from Sweden, in collaboration with Oregon State University scientists in the United States. Steven Strauss, a professor of forest science at OSU, said that the collection describes about 102,000 sequences of the most commonly expressed genes in the genus Populus.

Strauss and colleagues also compared many of these gene sequences to those found in Arabidopsis, and found that nearly all the genes were functionally common between the two, even though they have been separated by about 100 million years of evolution and look completely different. They also found out that the large majority of transfers of genes between widely separated plant species via

genetic engineering would not produce novel characteristics, but simply modify existing genetic characteristics.

Trees, according to Strauss, have a very complex genetic makeup that has resisted many of the traditional genetic research techniques that are used with other plants that have short life cycles. Being able to modify certain genes in trees with asexual biotechnology methods, such as gene transfer, will hasten advances in basic tree research.

The full report on this work is in the Proceedings of the National Academy of Sciences. For more information, email Steven Strauss at steve.strauss@orst.edu.

ANNOUNCEMENTS:

BIOTECH BUGS CONFERENCE BY PEW INITIATIVE

The Pew Initiative on Food and Biotechnology is giving its last call for participants to the Biotech Bugs conference, a two-day multidisciplinary workshop that will provide an exploration of the potential benefits and risks of genetically engineered insects, as well as the public policy and ethical implications of releasing them. The conference will be webcast over the Initiative’s site, at http://www.pewagbiotech.org, but for those who wish to be there in person, Biotech Bugs takes flight at the George Washington University Cafritz Conference Center in Washington D.C., on September 20-21, 2004.

Representatives of government, academia, consumer and environmental groups, and policy leaders are encouraged to attend.

COURSE ON R & D REPORTING

The Center for Science and Environment (CSE), an independent public interest research and advocacy organization that aims to enhance awareness on environment, development, and science and technology, recently announced a short course on Research and Development Reporting.

The course will be held from October 11-15, 2004 at CSE's office in New Delhi. This course will aim at: Enabling participants to appreciate the importance of research in reporting on development issues, providing participants with a choice of strategies and tools for conducting such research, helping participants use their research for reporting on the environment, and familiarizing participants with the practical skills required in reporting on development issues.

For application forms, contact Souparno Banerjee, Coordinator of the CSE Media Resource Centre, at souparno@cseindia.org. More details are available online at www.cseindia.org

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