

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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FIRST NATIONAL BIOTECH CONFERENCE HELD IN BULGARIA

The first national biotechnology conference was held in Sofia last February 12 and 13. The event, which was the first of a series of initiatives planned by the newly established Bulgarian Biotechnology Information Centre, brought in experts from all over the world to discuss the various fields of agricultural biotechnology.

To talk about the practical applications of biotechnology and some of its trends worldwide, speakers included Dr. Andy Benson, from the International Food Information Council; Prof. Zhang-liang Chen from the China Agricultural University, and Prof. Atanas Atanassov, Director of the AgroBioInstitute in Bulgaria. Prof. Klaus Ammann, from Switzerland, Dr. Gernot Shubert, from Germany, Mr. Brian Goggin, from the USA, and Mrs. Svetlana Boyanova, from Bulgaria addressed biosafety issues including international regulatory frameworks.

Dr. Karim Maredia, USA, Ms. Muriel Lightborne, UK and Dr. Neno Nenov, Bulgaria presented models and success stories of technology transfer and the management of intellectual property rights. Finally, an exclusive presentation on the leap from the Green revolution to the Gene revolution was given by Prof. Mark van Montagu, one of the inventors of the Agrobacterium-based plant transformation.

The event, which was attended by scientists, politicians, government officials, media representatives, non-government organizations (NGOs) and entrepreneurs, was a success and is a significant first step for Bulgaria towards gaining experience on how scientists, politicians and all other stakeholders can communicate, in a constructive way, in the field of agricultural biotechnology.

Co-organized by the United States' Department of Agriculture (USDA), the biotech conference also coincided with the passing of the genetically modified organism (GMO) Law's first reading in the Bulgarian Parliament. For more information on this conference and the activities of the BIC, email the Bulgaria BIC at bgbic@abi.bg.

BRAZILIAN & FRENCH FARMERS HOLD OPPOSING VIEWS ON GMOS

Brazilian farmers are fighting to reduce the alleged "red tape" and influence of anti-biotech environmentalists on its government's new biosafety bill. This was according to a recent news release from Reuters. The said draft bill was approved earlier this month by Brazil's lower house of Congress, and is presently being discussed in the Senate.

Says Joao Sampaio, president of the Brazilian Rural Society (SRB) - an organization of small farmers, scientists from the National Technical Committee on Biosafety (CTNBio) should have the final "say," and not the government's council of ministers, on whether the sale of genetically modified crops should be authorized in Brazil. He also criticized the new biosafety bill for allowing the IBAMA, the government's environmental agency, to demand environmental impact studies even though scientists deem them to be unnecessary. These sentiments were also shared by other farmer organizations in Brazil like the Ocepar - a cooperatives organization in the major soy-growing state of Parana.

Also, in a related story from Reuters, the Syndicat de la Presse Agricole et Rurale (SNPAR) - France's national farming press association stated that 66% of French farmers are opposed to GMOs with most of them citing concerns over unknown risks and lack of information on the subject. These were the major findings of an opinion polling survey conducted by SNPAR in cooperation with the Institut d'études de marché et d'opinion (BVA). The survey was conducted with 400 farmers in France.

Results also showed that 50% of the farmers would still not plant GM crops even if authorization will be given in the future by the French government. Sixteen percent (16%) also remained skeptical on the issue.

A CALL FOR GRANTS FROM USAID

The U.S. Agency for International Development (USAID) has issued a call for grant applications for research projects on the effects of agricultural biotechnology on biodiversity in developing countries. The projects will be funded through USAID's Biotechnology Biodiversity Interface (BBI) program. According to the press release issued by the USAID, genetically modified (GM) crops, livestock, and fish have potential benefits, however the safety concerns

and their supposed effects on human health and biodiversity are also major issues that should be addressed.

Further, the USAID stressed that although GM food safety studies conducted in the USA, Europe, and other developing countries are being conducted, studies on the interaction between the environment and GM crops should be dealt with on a case-to case basis since different countries have varied crop systems and species with which crops interact with.

In line with this, the BBI program is giving grants for research on:

- * GM crop and animal outcrossing and other unintended environmental effects;

- * Risk assessment, risk management, and post-commercialization monitoring for GM crops and animals; and

- * Possible risks associated with animal vaccines

The program is a component of USAID's Program for Biosafety Systems (PBS), and is part of a broader effort "to support science-based decision-making and policy development." Grants, amounting to US\$1.3 million, will be awarded for three- to four-year-long research programs. Grant proposals will be accepted until April 15, 2004.

For more information about USAID's activities, visit their website at <http://www.usaid.gov/>.

SOUTH KOREAN NEWSPAPERS TAKE A NEUTRAL STANCE ON BIOTECH

A survey of national newspapers in South Korea in 2002 and 2003 reveal that journalists are abreast with the latest developments in biotechnology, and are writing about issues and concerns pertaining to the science. With the South Korean government's move to improve its capability in biotechnology, more journalists have taken a neutral stance towards the technology - reporting on new technologies developed, and their potential risks and benefits.

The regulation of genetically modified organisms (GMOs), new GM technologies, and local and international trade issues and disputes were extensively reported on from 2002 to 2003. Twelve (12) national newspapers published a total of 759 news articles. The top three newspapers were: Yonhap News, Maeil Economic Daily, and the Nongmin Shinmun, which collectively published a total of 200 news articles for the period specified (approximately 17 articles per month).

In general, the news stories were guided by economic or political interests, and were neutral in tone or were neither pro- or anti- biotechnology. Topics on government regulations, biodiversity, labeling, and food safety dominated the news articles written.

These are some of the findings of a media monitoring study conducted by the Global Knowledge Center on Crop Biotechnology of the International Service for the Acquisition of Agri-biotech Applications in collaboration with a country network contact. The network contact scanned the national newspapers and other major publications in South Korea, and sent monthly summaries of all the news stories that were published during the period specified. The South Korean study

is part of a bigger media monitoring project which aims to compare the media situation in six other Asian countries.

For more information on this study, email m.villena@isaaa.org.

EU DECISION ON GM MAIZE IN COUNCIL'S HANDS

The decision to authorize the import and processing of Monsanto's genetically modified (GM) maize known as NK603 was referred this week to the Council of Ministers. This took place after the Regulatory Committee on the release of genetically modified organisms (GMOs) into the environment did not reach the qualified majority necessary to support the Commission's proposal.

In the next few weeks, the Commission will formally adopt the said proposal. The Council of Ministers can either adopt or reject the proposal with a qualified majority. If no decision is made after three months, the proposal will then be returned to the Commission, who can then adopt it.

If authorized, this particular GM maize, which has been modified for increased tolerance to the herbicide glyphosate, would be labeled as GM. It will only be allowed for importation after April 18, 2004 - when the new European Union (EU) rules on GMOs enter into application, and after the authorization for food uses of NK603 have been granted as part of the new EU GM Food legislation.

Read the EU's decision at

[http://europa.eu.int/rapid/start/cgi/guesten.ksh?p_action.gettxt=gt&doc=IP/04/238|0|RAPID&lg=EN&display=.](http://europa.eu.int/rapid/start/cgi/guesten.ksh?p_action.gettxt=gt&doc=IP/04/238|0|RAPID&lg=EN&display=)

NPV SPRAY, EFFECTIVE AGAINST POD BORER INFESTATIONS

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in collaboration with its partner organizations re-invented a traditional and cost-effective method to reduce pod borer infestations by at least 85%. ICRISAT researchers discovered a way to manufacture the Nuclear Polyhedrosis Virus (NPV) into an easy-to-apply spray.

The Nuclear Polyhedrosis Virus (NPV) is a naturally occurring viral disease of pod borers that can cause heavy mortality in pod borers with no harmful effects on non-target insects, animals, or crops. In the past, the large-scale use of NPV against the pod borer was limited since it required live host insects. To develop the NPV spray, farmers and researchers collected live pod borers, reared them in individual compartments, and fed the caterpillars an exclusive diet of NPV-infected chickpea seeds. Maximum viral production is achieved when the insects die due to the virus. The pod borer carcasses that show clear evidence of virus infection are then mixed and macerated to release the NPV in a form that can infect healthy pod borers.

At present, pigeonpea farmers, mainly from Ashta, India, avoid the cycle of developing insect resistance, and gain more profits without causing any harm to the environment. Further, NPV production costs only a fifth as much as the alternative, commercially produced chemical sprays, and leaves no chemical

residues that can harm human health and the environment. Farmers adopting this technology have also achieved yields that more than doubled as compared to the yields of neighboring villages for pigeonpea, chickpea and cotton crops.

For further information about this research, inquiries can be addressed to Dr. GV Ranga Rao, Special Project Scientist, ICRISAT, at g.rangarao@cgiar.org. This news article was also featured by Future Harvest at <http://www.futureharvest.org/pdf/podborer.pdf>.

SCIENTISTS HIGHLIGHT PROCESS IN CONTROL OF FLOWERING

Scientists from the Max Planck Institute for Plant Breeding Research in Cologne, Germany, and the Hebrew University of Jerusalem have recently demonstrated the molecular mechanism that plants adopt to trigger flowering in response to light duration and quality. Published in the February 13 issue of *Science*, the findings suggest the potential for control over flowering time and adaptation for growth under conditions different from natural habitats.

World food production from plants is mostly limited to specific seasons or certain regions of the world as plant species have unique precautions that trigger flowering only at the best time suited for its reproduction. The scientists conducted experiments on the model plant *Arabidopsis thaliana* (mouse-ear cress) to better determine the mode of regulation of light on flowering time. They demonstrated the effect of day length and light quality on the stability of a floral-promoting protein named *CONSTANS*. The latter explains why many plant species exhibit seasonal, day-length dependent flowering.

Arabidopsis is a small flowering plant commonly used as a model organism and is the first plant for which the whole genome has been sequenced. Hebrew University researcher Dr. Alon Samach points out that flowering time manipulation could be achieved either through the introduction of genetic changes that could alter the stability of the floral promoter (*CONSTANS*) or through simple manipulation of sunlight elements.

For more details, please email Jerry Barach at jerryb@savion.huji.ac.il.

WAYS TO AVOID NEGATIVE IMPACTS ON BT NON-TARGETS

A recent review of ecological risk assessment of Bt maize pollen for the non-target species Monarch butterfly (*Danaus plexippus*) larvae revealed several recommendations that could prevent future negative impacts to non-targets. Karen Oberhauser and Erika Rivers of the University of Minnesota reviewed current researches on how Monarch butterfly larvae are affected by the Bt maize pollen and discussed issues from the scientific risk assessment that lead to the re-registration of Bt maize in the United States.

Citing the posed threat of Bt maize variety (Event 176) to the Monarch butterfly larvae, the authors presented several recommendations on bolstering pre-commercialization regulation and ecological risk assessment to impede future negative impacts. These include:

* making pre-commercialization risk assessment broadly accessible, independent, and focused on the unique ecological context for the proposed transgenic crop;

* increasing funding for independent non-target risk assessments; and

* establishing a product registration regime based on the best available science and responsive to uncertain science.

For more details, email Karen S. Oberhauser at oberh001@tc.umn.edu.

EFFECTS OF WTO AND FTAA IN LATIN AMERICA

The International Food Policy Research Institute has released a discussion paper analyzing the effect on output, employment, and poverty on two alternative versions of further trade liberalization: free trade world wide (WTO) and the Western hemisphere free trade bloc (FTAA).

In a paper entitled "The Effect of WTO and FTAA on Agriculture and the Rural Sector in Latin America," the authors introduced a world model-derived international commodity price changes into national Computable General Equilibrium (CGE) and micro-simulation models for fifteen (15) Latin American countries to estimate how FTAA and WTO would affect sectoral output, employment, wages and poverty levels for each of the countries.

Both alternatives were found to be expansionary for output and employment in general, and for agriculture in most Latin American countries, in particular. WTO was found to favor the rural sector, and the poverty micro-simulation exercise revealed that the poor are helped by either WTO or FTAA. Both versions were found to reduce poverty and inequality with changes being especially significant under the WTO.

For the full-text discussion paper, please visit:
<http://www.ifpri.org/divs/dsgd/dp/dsgdp03.htm>

ANNOUNCEMENTS:

NEW K-SHEET

The National Center for Food and Agricultural Policy's (NCFAP) December 2003 study entitled "Plant Biotechnology: Potential Impact for Improving Pest Management in European Agriculture," is the latest Knowledge (K) Sheet from the Global Knowledge Center on Crop Biotechnology of the International Service for the Acquisition of Agri-biotech Applications (ISAAA-KC). Authored by Leonard Gianessi, Sujatha Sankula, and Nathan Reigner, this comprehensive report examines nine case studies on the potential impacts of biotech crops on European agriculture. Download the K-Sheet at <http://www.isaaa.org/kc>.

PAPER ON WHEAT IMPROVEMENT

A summary of David Hoisington and colleagues' paper entitled "The application of biotechnology to wheat improvement" is posted in the document cabinet of the Global Knowledge Center on Crop Biotechnology together with other recent papers. Hoisington, who is affiliated with the International Maize and Wheat Improvement Center (CIMMYT), together with his colleagues, analyzed how biotechnology can improve the wheat crop. View the summary and other articles at <http://www.isaaa.org/kc>.

SERIES OF CONFERENCES FROM THE AFRICAN AGBIOTECH

* International Year of Rice (IYR) Event, 23rd Session of FAO African Regional Conference March 1-5, 2004; Johannesburg, South Africa

The International Year of Rice promotes improved production and access to this vital food crop, which feeds more than half the world's population while providing income for millions of rice producers, processors and traders.

More info: <http://www.fao.org/rice2004/en/calendar.htm>

* Biotech, the Public and the Media - Towards Informed Decision Making March 2004 9-10; University of Pretoria

A "working conference" with an emphasis on disseminating cutting edge-biotechnology information and promoting informed debate on different aspects on biotechnology, this conference aims at building the interface between biotechnology and society through the media in South Africa.

More info: http://www.pub.ac.za/events/bpm_conference.html

* International Federation of Agricultural Journalists - Annual Congress March 12-20, 2004; South Africa

The theme for our congress is: "Hope for the Millennium" and no continent needs this more than Africa, which has about 50 million people on the verge of starvation. We believe the world press needs to know more about what modern agriculture can do to solve Africa's pervading problems of starvation and poverty.

More info: <http://www.ifaj.org/index.html>.

* Assuring Food And Nutrition Security In Africa By 2020

April 1-3, 2004; Kampala, Uganda

This all-Africa conference will bring together the traditional and new actors and stakeholders to deliberate on how to bring about change and action to assure food and nutrition security.

More info: <http://www.ifpri.org/2020AfricaConference/index.htm>.

BIOASIA 2004 CONFERENCE

The BioAsia 2004 Conference will be held on February 26 to 28, 2004 at the Hotel Taj Krishna, Hyderabad. The conference will be graced by some of the best known names in biotechnology and by trade delegates from Israel, Italy, USA, Malaysia, Pakistan, Singapore, Sri Lanka, Thailand, China, and Bangladesh during the BioAsia 2004 Tradeshow. To register, please visit <http://www.bioasia2004.org> or email conference@bioasia2004.org.

ASFARNET NEWSLETTER

The Asian Farmers Regional Network (ASFARNET) released a newsletter highlighting its first meeting which was held in Thailand earlier this month. ASFARNET was organized during a capacity building workshop held in Manila and Cagayan de Oro City, Philippines last December 2003. For the full newsletter article and more information about ASFARNET, visit www.searca.org/~bic/resources/newsletters/ASFAR-Feb2004.pdf

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