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

---

November 12, 2004

In This Issue:

* Firm to Develop Plantation in Philippine Technology Park
* Denmark Opens Doors to Food Biotech
* Bloom Extract May Reduce Cholesterol, Study Claims
* Digestion Study on Pigs Shows GM Corn Safe
* Papaya Experience Recounted in Paper
* Potato Story Told
* Announcement: Conference on Plant Made Pharmaceuticals Slated for 2005
* Document Reminders:
  - Biodiversity Report in Brief
  - Proceedings of NARO Conference Released

FIRM TO DEVELOP PLANTATION IN PHILIPPINE TECHNOLOGY PARK

Taiwanese firm Cosmos Biotechnology Co. Ltd. recently signed an agreement with Bataan Technology Park Inc. (BTPI) to develop 80 hectares of land in the Morong Special Economic Zone, an agri-aqua industrial park in Bataan, Philippines. Cosmos will use the land to establish a fruit, vegetable, and medicinal herb plantation, where quality produce will be harvested and shipped for export to Asia, Japan, and Europe.

Of particular importance to Cosmos are mushroom, tomato, papaya and other medicinal herbs. Cosmos will invest $3 million within a three-year period for land development, as well as construction of structures and facilities for storage, drying, processing, and warehousing.

Commercial operation of the plantation is slated to begin in 18 months.

For the complete story, visit http://www.mb.com.ph/BSNS2004103021506.html.

DENMARK OPENS DOORS TO FOOD BIOTECH

A new, 10-year strategy on food biotechnology has just been passed to the Parliament of Denmark, in an effort to free up funding to investigate the key role biotechnology could play in designing better tasting, safer foods, and ultimately the opportunity for higher quality, cheaper foods.

Based on figures for other countries taken from Ernst & Young's European Biotechnology Report 2003, Denmark ranks fifth among European countries in terms of number of biotech companies, after Germany, the United Kingdom, France, and Sweden.

Of its 174 firms, 87 per cent are devoted to activities in human health, with just 4 per cent involved in food.

For the full article, visit
http://foodproductiondaily.com/news/ng.asp?id=55974&n=dh315&c=ljsjuezwvsuqhgn

BLOOM EXTRACT MAY REDUCE CHOLESTEROL, STUDY CLAIMS

The decorative hibiscus, used and grown in Taiwan, China, and India as a traditional remedy to treat high blood pressure and liver disorders, may soon find its place on the world pharmaceutical stage as a therapeutic to lower cholesterol levels. This was reported by a team from Taiwan's Chunshan Medical University in the Journal of the Science of Food and Agriculture, who found that the flower contained antioxidants that are known to reduce the dangerous accumulation of fats inside arteries.

Using rats as model organisms, the study involved feeding the animals with hibiscus extract, then measuring the levels of low density lipoprotein (LDL) or "bad cholesterol." They found the hibiscus extract significantly reduced the build up of fatty deposits in arteries, and reduced blood cholesterol levels as well.

Dr Wang Chau-jong, leader of the research team, said that the study strongly suggested that the extract could be useful in the prevention and treatment of a number of cardiovascular diseases in which cholesterol plays a major role.

Read the news article at http://www.biotecheast.com/twbiotechnews_22bOct04.html, or visit the Journal of the Science of Food and Agriculture at http://www3.interscience.wiley.com/cgi-bin/jhome/1294.

DIGESTION STUDY ON PIGS SHOWS GM CORN SAFE

A study by a team from the College of Agricultural Sciences of the Southern Illinois University in Carbondale (SIUC) have recently found that no traces of a "foreign" gene wound up in the flesh or blood of 56 piglets fed genetically modified (GM) corn.

Under the leadership of swine expert Gary A. Apgar, the team fed GM corn to weanling pigs. Younger pigs are more efficient at turning a pound of feed into a pound of gain, hence increasing the potential for the transgene to be absorbed.

When they looked for evidence of the gene in the pigs' stomach contents and feces, they found nothing. They, however, detected fragments of transgene in the stomach contents of 50 of the piglets, and found fragments in only one of the samples screened from the small intestine. This suggests further that the additional gene generally does not survive the digestive process.

This new study reinforces findings from an earlier work, also by the SIUC, where larger, older pigs were used as model organisms, and where no remnants of the transgene were found in samples of contents from the small intestine and feces.

Read the complete story at http://www.thesouthern.com/rednews/2004/11/07/build/business/BIZ005.html.

PAPAYA EXPERIENCE RECOUNTED IN PAPER

In Transgenic Papaya in Hawaii and Beyond, Dennis Gonsalves of the United States Department of Agriculture (USDA) looks at the progress made by Papaya Ringspot Virus (PRSV) resistant papaya, from the laboratory, to the field, and into markets worldwide. The paper is published in the latest issue of Agbioforum.

The article discusses the history of the transgenic papaya, from the discovery of PRSV in Puna, Hawaii in 1992; to a field trial to test a PRSV-resistant transgenic papaya; and to the development of the 'Rainbow' and 'SunUp' transgenic cultivars in 1995. Lessons from the papaya experience have also been used to

bring the technology to Thailand, Jamaica, Brazil, and Venezuela, Gonsalves writes, and procedures are currently being undertaken to have the transgenic papaya deregulated in these countries.

Agbioforum recently released a special issue of its online magazine, this time focusing on Progress, Achievements, and Constraints for Plant Biotechnology in Developing Countries. With guest editors Nigel Taylor, Lawrence Kent, and Claude Fauquet of the Donald Danforth Plant Science Center, St. Louis, Missouri, U.S.A., the special edition contains more articles that discuss the experiences of various organizations and agencies in introducing biotechnology to the developing world.

Read the complete article at http://www.agbioforum.org/v7n12/v7n12a07-gonsalves.htm. For more articles, Access the full issue at www.agbioforum.org

POTATO STORY TOLD

Wojciech K. Kaniewski and Peter E. Thomas of the Thomas Jefferson University, Philadelphia, Pennsyvlania, and the United States Department of Agriculture Agricultural Research Service, in Prosser, Washington, tell The Potato Story in the latest issue of Agbioforum.

Their article follows the development of transgenic potatoes in the United States, geared to be resistant to insects, such as the Colorado Potato Beetle; and viruses, such as the Potato Leafroll virus, both of which are the most economically important pests of potato in the world. Three lines have already been commercialized, the writers report, leading growers to save as much as US$ 78 per acre on insecticides, and export of lines to Bulgaria, Romania, and Russia.

Agbioforum recently released a special issue of its online magazine, this time focusing on Progress, Achievements, and Constraints for Plant Biotechnology in Developing Countries. With guest editors Nigel Taylor, Lawrence Kent, and Claude Fauquet of the Donald Danforth Plant Science Center, St. Louis, Missouri, U.S.A., the special edition contains more articles that discuss the experiences of various organizations and agencies in introducing biotechnology to the developing world.

Read the complete article at http://www.agbioforum.org/v7n12/v7n12a08-kaniewski.htm. For more articles, Access the full issue at www.agbioforum.org

ANNOUNCEMENT: CONFERENCE ON PLANT MADE PHARMACEUTICALS SLATED FOR 2005

The city of Montréal, Québec, Canada will host to a Conference on Plant Made Pharmaceuticals, from January 30 to February 2, 2005. Organized by the Society for Moleculture (formerly known as the international Association of Molecular Farming), the conference is funded by organizations using plant-factories to produce biopharmaceuticals, and promises to be a specialized event for experts in plant-factories and biopharmaceutical developments.

Subjects of discussion include Compounds (biologic drugs in development, pharmaceutical partnerships, and markets); Capacity (speed, cost, quality, and reliability of production); and Compliance (evolving regulations, biomass production in North America and Europe, and progress in clinical trials).

The Conference aims to bring together experts from the commercial, academic, and public sectors, all to provide an in-depth coverage of the current state of plant-made pharmaceuticals, as well as insightful perspectives on business, science, and regulatory landscapes.

For more information, visit http://www.cpmp2005.org/home.aspx

DOCUMENT REMINDERS:

BIODIVERSITY REPORT IN BRIEF AVAILABLE

Genetically modified (GM) crops bring much promise as much as they carry many questions. Are they safe? Will they be able to answer for humankind's most pressing agricultural needs? A condensed version of a review written by Klaus Ammann (2004), entitled "The Impact of Agricultural Biotechnology on Biodiversity," is now available for downloading on the ISAAA website. In his review, Ammann attempts to answer the questions raised on genetically modified organisms and their effects on the environment.

Download the condensed review at http://www.isaaa.org/kc.

PROCEEDINGS OF NARO CONFERENCE RELEASED

The proceedings of the latest National Agricultural Research Organization (NARO) conference on Integrated Agricultural Research for Development – Achievements, Lessons Learnt and Best Practice, held Sept 1–4, 2004 in Entebbe, Uganda, have been released online. The collection, a series of downloadable Powerpoint presentations, includes the keynote address by Dr John Lynam of the Rockefeller Foundation.

The conference highlighted the contributions of agricultural research to development, and sought to (1) reflect on achievements and lessons learnt in agricultural research for development, and (2) identify key learning points for future research in Uganda and elsewhere.

Download the proceedings at http://www.naro.go.ug/Conference/conference.htm.

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 leaving the subject blank and entering the one-line text message as follows: SUBSCRIBE Crop Biotech Network

To stop receiving this newsletter, please send an e-mail message to knowledge.center@isaaa.org and write, "unsubscribe newsletter" in the subject box.

Please visit CropBiotech Net web pages (www.isaaa.org/kc) to view previous issues of this newsletter and see other available resources for download.