



SOUTH ASIA
BIOSAFETY PROGRAM

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NEWSLETTER

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www.agbios.com/sabp

SABP

The South Asia Biosafety Program (SABP) is an international developmental program initiated with support from the United States Agency for International Development (USAID). The program is implemented in India and Bangladesh and aims to work with the local governments to facilitate implementation of transparent, efficient and responsive regulatory frameworks that ensure the safety of new foods and feeds, and protect the environment.

SABP is working with its in-country partners to:

- Identify and respond to technical training needs for food, feed and environmental safety assessment.
- Develop a sustainable network of trained, authoritative local experts to communicate both the benefits and the concerns associated with new agricultural biotechnologies to farmers and other stakeholder groups.
- Raise the profile of biotechnology and biosafety on the policy agenda within India and address policy issues within the overall context of economic development, international trade, environmental safety and sustainability.

Bangladesh as well as a national resource center for technology transfer and human resource development in new and emerging areas of biotechnology.

National Institute of Biotechnology (NIB) is situated on 11.5 acres at Ganakbari, Savar, Dhaka, about 35 km away from the city of Dhaka. NIB was established as an Annual Development Programme project of the government in July 1999 and ended in September 2007. Laboratories with international standards and modern equipment and other physical facilities have been developed at NIB to carry out state-of-the-art biotechnological research.



Automated greenhouse at NIB

BIOTECHNOLOGICAL RESEARCH AT THE NATIONAL INSTITUTE OF BIOTECHNOLOGY, BANGLADESH

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The National Institute of Biotechnology (NIB) was established under the auspices of the Bangladesh Ministry of Science and Information & Communication Technology as a center of excellence in biotechnology. The NIB has the potential to become the coordinating center for biotechnology research in

Bangladesh adopted the National Biotechnology Policy in July 2006 to accelerate multidimensional biotechnological research to improve human welfare in all respects but particularly in food security, health and the environment. The NIB is intended to promote the application of biotechnology according to the guidelines of the National Biotechnology Policy. The tools of biotechnology are currently being applied across the biological sciences to address problems in agricultural crop improvement, marine sciences and aquaculture, environment, pharmacy, forensics, and public health. Realizing the tremendous potential for biotechnology to offer unique, efficient, eco-friendly and economically viable options for Bangladesh society in the future, the mission of the Institute is to facilitate a network of people and facilities to enhance cross-disciplinary biotechnology research and services that will ultimately increase agricultural productivity, augment farm income and reduce poverty, and improve both rural and urban living standards.

With a goal of using genetic engineering and biotechnology to develop the socioeconomic fortunes of Bangladesh using collaborative research programs both at home and abroad and to transfer the technology to stakeholders, NIB conducts research in the areas of agricultural and environmental biotechnology, recombinant DNA technology and biotech product and process development. Its research divisions include plant, animal, fisheries, environmental and microbial



Main entrance at NIB

(continued on page 2 - see NIB)

CALENDAR OF EVENTS

Event	Organized by	Date and Venue	Website
INDIA			
International Conference -- Challenges in Biotechnology and Food Technology	Department of Technology, Annamalai University, Annamalai Nagar	August 26 - 28, 2009 Annamalai Nagar	http://annamalaiuniversity.ac.in/conference_tech_icbf2009.htm
National Seminar -- Bt Cotton: Opprtunities and Prospects	Central Institute of Cotton Research	September 10 - 12, 2009 Nagpur	http://www.cicr.org.in/
National Seminar -- Nutritional Strategies for Improving Quality of Life	Department of Foods & Nutrition, College of Home Science, G.B. Pant University of Agriculture & Technology	September 11 - 12, 2009 Pantnagar	http://www.gbpuat.ac.in/news/National%20Seminar%20Notice.htm
National Seminar -- Spices Improving Productivity and Quality with Focus on Himalayan Spices	Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu	October 22 - 24, 2009 Jammu	http://skuastkashmir.ac.in/
Sixth Solanaceae Genome Workshop	School of Life Sciences, University of Hyderabad	November 9 - 13, 2009 New Delhi	http://202.71.128.145/sol2009.org/home.html
7th Pacific Rim Conference on the Biotechnology of <i>Bacillus thuringiensis</i> and its Environmental Impact	Indian Council of Agricultural Research, Department of Biotechnology, Calcutta University and All India Crop Biotechnology Association	November 25 - 28, 2009 New Delhi	http://7btconference.org/
INTERNATIONAL			
Theoretical and Practical Course -- Developments in Biosciences for Enhanced Food and Environmental Biosafety	Department of Molecular Biology and Biotechnology, Faculty of Science, University of Dar es Salaam, Dar es Salaam, Tanzania	August 18 - 30, 2009 Department of Molecular Biology and Biotechnology, Faculty of Science, University of Dar es Salaam	http://www.icgeb.org/meetings-2009.html
International Short Course -- Agricultural Biotechnology	Institute of International Agriculture, Michigan State University	September 13 - 25, 2009 Michigan State University	http://www.iaa.msu.edu/short-course-iab.html
ABIC 2009: Agricultural Biotechnology for Better Living and a Clean Environment	National Center for Genetic Engineering and Biotechnology (BIOTEC), National Science and Technology Development Agency (NSTDA), Ministry of Science and Technology (MOST) and ABIC Foundation	September 22 - 25, 2009 Queen Sirikit National Convention Center, Bangkok, Thailand	http://www.abic.ca/abic2009/home/About.php
Measures of Hope and Promises Delivered: An International Conference on Socioeconomic and Environmental Impact Assessment of Biotech Crops	South Asian Regional Centre for Graduate Study and Research in Agriculture (SEARCA), International Service for the Acquisition of Agri-biotech Applications (ISAAA) and International Food Policy Research Institute (IFPRI)	September 29 - 30, 2009 Bangkok, Thailand	http://www.bic.searca.org/
International Conference -- Knowledge Management in Biotechnology Transfer and Adoption in Southeast Asia: Lessons Learned, Policy Issues and Directions	SEARCA	October 1 - 2, 2009 Bangkok, Thailand	http://www.bic.searca.org/
Biosafety Workshop -- Theoretical Approaches and Their Practical Application in the Risk Assessment for the Deliberate Release of Genetically Modified Plants	Wendy Craig (Biosafety Unit, ICGEB, Trieste, Italy)	October 12 - 16, 2009 ICGEB Conference and Meetings, Padriciano 99, I-34012 Trieste, Italy	http://www.icgeb.org/meetings-2009.html

NIB - continued from page 1

biotechnologies and molecular biology. It has facilities for plant tissue culture; recombinant DNA technology; DNA analysis including PCR, sequencing, etc.; DNA fingerprinting and profiling; enzyme technology and product analysis; micro element analysis of various environmental samples; and automated greenhouse, hardening house and animal shed and house.

NIB also has a Human Resource Development (HRD) programme for biotechnology. It provides long and short-term

hands-on theoretical and practical training using up-to-date technical information and it runs awareness programmes for farmers and other stakeholders about the benefits of biotechnology and its potential.

Its other services include human DNA fingerprinting for forensic and medical purposes, quality determination and certification of genetically modified (GM) imported foods and it functions as the national focal point to coordinate biotechnological activities in Bangladesh.

CREAM OF THE (WEB) CROP

harvesting the best from the worldwide web

THIS MONTH'S PICK:

OECD Biotrack

http://www.oecd.org/department/0,2688,en_2649_34385_1_1_1_1_1,00.html

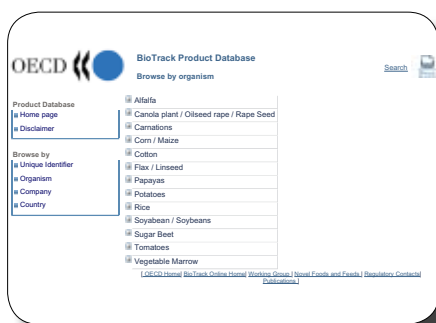
This is the "home" page for the OECD Biotrack project where the OECD has information on regulatory oversight of biotechnology. Of special interest are the links to the Consensus Documents on the biology and sometimes the compositional analysis of crop species, which are very useful background documents for regulatory work.

BioTrack Online was created in 1995, as a pioneer site at the Organization for Economic Cooperation and Development (OECD) in the field of the environmental safety and the food and feed safety in modern biotechnology. This site focuses on information related to the regulatory oversight of products of modern biotechnology.

BioTrack is used by governments, industry, other stakeholders and all who need the information in the field.

Main items included are:

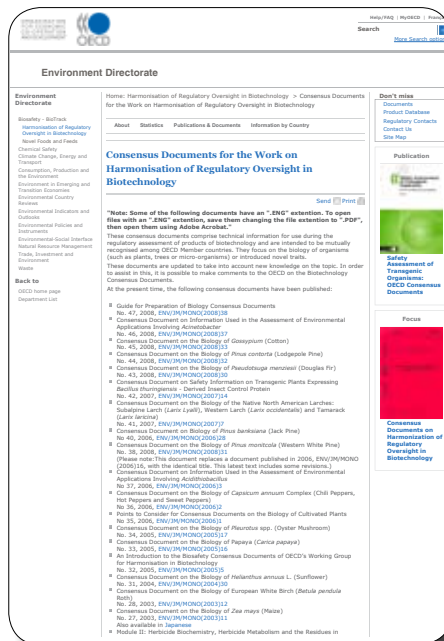
- **An online database of products of modern biotechnology.** The objective of this database is to allow regulatory officials in the OECD member countries to easily share basic information on products derived from the use of modern biotechnology, as well as some products with novel traits acquired by the use of conventional breeding or mutagenesis, that have been approved for commercial application in terms of food, feed or environmental safety.



This database is updated using information provided on a voluntary basis by authorities in OECD member countries and certain institutions that developed these products.

<http://www2.oecd.org/biotech/>

- **Links to regulatory contacts in OECD member countries and other related web sites.** Most OECD member countries have a system of regulatory oversight in place to cover products of



modern biotechnology intended for release to the environment and for food and feed use.

This page includes links to specific portals of each member country written in OECD official languages that include information on these systems. For example, latest information on main policy, regulatory scheme, products approved, organisational structure, links to relevant organisations/web-

sites, and contact points for further information could be obtained through these portals.

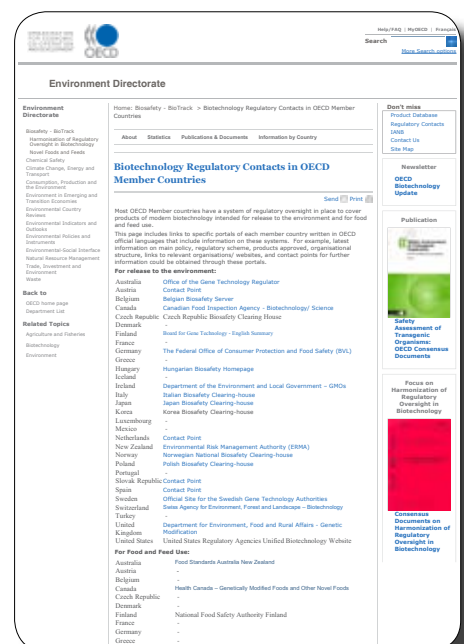
http://www.oecd.org/document/17/0,3343,en_2649_34385_1890001_1_1_1_1,00.html

- **A number of free documents, including consensus/guidance documents.** The consensus documents comprise technical information for use during the regulatory assessment of products of biotechnology and are intended to be mutually recognised among OECD member countries. They focus on the biology of organisms (such as plants, trees or micro-organisms) or introduced novel traits.

These documents are updated to take into account new knowledge on the topic. In order to assist in this, it is possible to make comments to the OECD on the biotechnology consensus documents.

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http://www.oecd.org/document/55/0,3343,en_2649_34385_2500215_1_1_1_1,00.html



GENE EXPERTS SEE HIGH-YIELD RICE IN FLOOD ZONES

Reuters - August 19, 2009

Researchers in Japan have identified two genes that make rice plants grow longer stems and survive floods, and hope this will enable farmers to grow high-yielding rice species in flood-prone areas.



The long-stemmed deepwater rice varieties grown at present in areas of frequent flooding have very low yields.

"In southeast Asia, there are floods in the rainy season and deepwater

rice is planted in these regions. But they have yields that are only one third or one quarter that of high-yielding rice. This is a big problem," said Motoyuki Ashikari at Nagoya University's Bioscience and Biotechnology Center.

"If we combine the deepwater genes with high-yielding rice, we can have the best combination," he said in a phone interview.

In their experiment, Ashikari's team analyzed the genes of a deepwater rice variety and found two genes that were unique to the plant.

"The genes Snorkel 1 and Snorkel 2 are only in the deepwater variety but not in the non-deepwater variety," he said.

They discovered that rice plants begin producing a lot of the plant hormone ethylene when grown in deep water.

"As water levels rise, accumulation of the plant hormone ethylene triggers expression of the Snorkel genes, which in turn switches on rapid stem growth," they wrote.

They later tested their findings by inserting the two genes into a non-deepwater variety of rice and found that it grew longer stems, enabling it to survive in deep water.

"It's hoped that the findings will help researchers to breed rice that can be grown in lowland areas that are frequently flooded during the rainy season," they wrote in a statement.

MAKING EFFECTIVE USE OF EXISTING DATA FOR CASE-BY-CASE RISK ASSESSMENTS OF GENETICALLY ENGINEERED CROPS

Journal of Applied Entomology - Volume 133, Issue 8, pp 571-583

Many crops in developing countries suffer devastating attacks from insect pests. Expression of insecticidal proteins in genetically engineered (GE) crops is a potentially powerful means of controlling such pests. Potentially harmful effects of these crops on non-target organisms (NTOs) is of major concern as many of those provide important ecological functions such as pest regulation. Consequently, the likelihood of adverse effects of insect-resistant GE crops on NTOs is assessed case-by case as part of environmental risk assessments that inform regulatory decision-making. While risk assessments should be rigorous, it is vital that regulatory

barriers do not unnecessarily restrict or prevent the application of genetic engineering to important crops in those countries. Efficient regulatory decision-making should make effective use of published information on the biology and ecology of the crop in the country where approval is sought, along with regulatory data produced for GE insect-resistant crops that have received regulatory approvals elsewhere. Just as the risks are assessed for each GE crop individually, the amount of new regulatory data required for a GE crop should vary between crops depending on the amount of existing data and the severity of the perceived risks: new data should be collected only if existing data do not corroborate identified risk hypotheses with sufficient certainty. In this paper, we illustrate how such an approach could work using risks to NTOs from insect-resistant GE pigeonpea in India as an example.

A copy of the paper can be viewed at http://www.pubresreg.org/index.php?option=com_docman&task=doc_download&gid=488.



We welcome reader comments or suggestions.
E-mail your letters to: nringma@agbios.com

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