



SOUTH ASIA
BIOSAFETY PROGRAM

August 2005

Vol.1 No.5

NEWSLETTER

for private circulation only - not for sale

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.

Over the next three years, SABP will work 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 IS PROGRESSING TOWARDS DEVELOPMENT OF TRANSGENIC CROPS

Bangladesh's economy is mostly dependent on its agriculture sector. Like many other countries of the world, Bangladesh wants to utilize the benefits of biotechnology for improving cultivated crops.

Biotechnological activities began in Bangladesh in the late seventies with the application of plant tissue culture, which was initiated by a group of faculty members at the University of Dhaka and gradually expanded to other universities and national research institutes. Tissue culture technology offers immense potential for large-scale production of ornamental, horticultural, forestry and medicinal plants for internal consumption as well as for export. Over the last few years a number of tissue culture-based companies in the private and NGO sectors have been established in Bangladesh. Using tissue culture techniques these organizations have successfully produced disease-free seed potato tubers, bananas, orchids and some other economically important plants for commercial utilization.

Research activities in plant transformation were initiated by Dhaka University in the early nineties and have subsequently expanded to other universities and research institutes in the country. These transformation studies are mainly aimed at the development of crops resistant to biotic and abiotic stresses. Recently, transformation protocols for peanuts, lentils, chickpea, potato, jute, mungbean, tomato, rice and brinjal have been or are being developed.

Most researchers in Bangladesh feel that genetic engineering, especially plant transformation, can play a major role in improving the productivity of crops for combating

poverty, hunger and nutritional deficiencies, provided they are handled properly.

The main hurdle in transformation research is obtaining the appropriate gene under a suitable promoter. Gene constructs developed outside the country are right-protected and cost-intensive. It is difficult to source chemicals and consumables needed for the transformation work and Bangladeshi scientists need confinement facilities in at least some selected institutes so that they can perform trials with transgenic crops.

Recently, the Ministry of Environment and Forest developed biosafety guidelines for Bangladesh and it is expected that these guidelines will be implemented soon. In the meantime, most of the universities and research institutes have developed their own biosafety committees so they can pursue biotech activities. Different foreign-aided projects, namely, SABP, ABSPII, ISAAA, etc., have been working to promote biosafety and biotech research in Bangladesh. A number of workshops and scientific meetings have been organized jointly with Bangladesh Agricultural Research Council (BARC). Such meetings and workshops will further strengthen biotech activities in Bangladesh.

The Technical Committee on Crop Biotechnology of the Ministry of Agriculture has approved a variety of Golden Rice for trial at the Bangladesh Rice Research Institute (BRRI) under confinement conditions. This rice variety from Bangladesh (BR-29) was transformed at IRRI. The government has approved Bt-eggplant, and late-blight-resistant transgenic potato lines for further research under confined conditions at Bangladesh Agricultural Research Institute (BARI). Progress in the crop biotech sector indicates that Bangladesh will soon be able to include its name in the list of countries growing and handling genetically modified crops.

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GM FOOD SAFETY WORKSHOP COMING IN SEPTEMBER.

SEE PAGE 4 FOR DETAILS AND REGISTRATION FORM

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TRAIN-THE-TRAINERS WORKSHOP IN ANDHRA PRADESH

The South Asia Biosafety Program (SABP), in collaboration with the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and the Biotechnology Unit of the Institute of Public Enterprise (IPE), organized a workshop on agri-biotechnology for extension workers from Andhra Pradesh. The workshop was held July 27 and 28, 2005, at the Patancheru campus of ICRISAT as a part of a series of SABP-organized awareness-building workshops being delivered in different Indian states.

Fifty-three participants, representing about 13 districts in Andhra Pradesh, attended the workshop. They included personnel from farmers' cooperatives, NGOs working in rural areas, farm women's welfare organizations, village leaders, agro-dealers and officials from agro-related institutions and state government representatives. The workshop was conducted in the Telugu language.

During the two-days, participants interacted with experts on biotechnology. Presentations were made by Dr. M.V. Rao, former Deputy Director General, ICAR, Dr. Pakki Reddy, coordinator, ABNLBP, IPE, Hyderabad, Dr. N.P. Sharma, former head, Biotechnology, Directorate of Rice Research, Dr. K.B.R.S. Visharda, National Research Centre on Sorghum, Hyderabad, Dr. V. Anjaiah, visiting scientist, Genetic Resources Enhancement Program, ICRISAT, and two delegates who shared their experiences with and concerns about biotechnology.

Following the presentations the delegates, working in small groups, discussed the topics and pinpointed questions that arose from each of their sectors. Their questions focused on the effectiveness of transgenic crops; the possibility of introducing multiple traits in transgenics; the possibility of developing transgenics with varieties for which the farmers do not have to buy new seeds every year; why transgenics are expensive; the effect of transgenics on health and the environment; and why, if transgenic technology is useful, it is being promoted slowly in India.



Delegates visit ICRISAT's contained field trial site.

CALENDAR OF EVENTS (INDIA)		
Event	Date	Place
Communications Training for Agriculture Extension Personnel	September 2005	Maharashtra
Foods Derived from GM Crops: Issues for Consumers, Regulators and Scientists	September 26 & 27, 2005	New Delhi

An expert panel comprising the presenters from previous sessions along with Dr. K.K. Sharma, Dr. O.P. Rupela of ICRISAT, Dr. David Hoisington, Global Theme Leader on Biotechnology, ICRISAT and Mr. V. Anji Raju, Subject Expert (Rural Development) APNLBP, IPE, Hyderabad addressed these questions, which garnered encouraging feedback from the participants.

Aside from the discussions and presentations the delegates visited ICRISAT's transgenic labs and contained field trial sites and received an easy-to-use, spiral-bound training manual covering frequently asked questions about GM crops, biotechnology and biosafety written in Telugu, and two wall posters on aspects of GM crop development, use and biosafety. These materials were provided for the participants to use in disseminating the information directly to farmers and villages.



In a unique partnership supported by ABSPII, public and private partners in Bangladesh, The Philippines and India have developed fruit and shoot borer resistant transgenic eggplant for the benefit of the resource-constrained farmers in the region. Here is the joyous moment of Dr. Usha Barwale Zehr from Mahyco seeds handing over the transgenic eggplant seeds of CO (Coimbatore) varieties of Tamilnadu Agriculture University (TNAU) to the Vice-Chancellor, TNAU, Dr. C. Ramasamy (in the presence of KV Raman and Vijayaraghavan of ABSPII). TNAU is among seven partners who will be co-developing the FSB resistant transgenic eggplant seeds for delivery to resource constrained farmers, bringing social, economic and environmental benefits in the region.

This moment was made possible due to support provided by USAID to partner institutions under ABSPII.

*Vijay (Vijayaraghavan).
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Rep., CALS, Cornell University in India
& Director, Sathguru Management Consultants*

CALENDAR OF EVENTS (BANGLADESH)

Event	Date	Place
ISAAA Media Workshop on Reporting Biotechnology: Issues and Opportunities for the News Media	August 29 & 30, 2005	BRAC Center Inn, Dhaka
SABP Regional Workshop on Awareness Building on the Recent Advances of Biotechnology and Biosafety	October 2 & 3, 2005	RDA, Bogra

IFPRI MEETING IN BANGLADESH

As first reported in the July issue of this newsletter, the South Asia Biosafety Program (SABP), the International Food Policy Research Institute (IFPRI) in collaboration with Bangladesh Agricultural Research Council (BARC) has initiated a research project entitled "An Economic Analysis of Domestic and International Biosafety and Marketing Regulations for Agricultural Biotechnology in India and Bangladesh".

As a first step of this research project, IFPRI has been conducting an *ex-ante* productivity assessment of future transgenic crops (such as drought-tolerant rice) in India and Bangladesh. A questionnaire has been prepared in this regard to get feedback from the leading agricultural researchers, scientists and biotechnology experts in Bangladesh to elicit the potential yield effects they expect with transgenic crops and with conventional breeding techniques. The major crops of focus include rice, wheat, cotton, soybean and maize resistant to biotic and abiotic constraints.

In view of the above, two discussion meetings were held in Bangladesh. The first meeting was held on July 17, 2005, at BARC under the chairmanship of Dr. Nurul Alam, Executive Chairman, BARC, and the second meeting was held on July 18, 2005, at the Bangladesh Institute of Nuclear Agriculture (BINA), under the chairmanship of Dr. Zia Uddin Ahmed, Director General, BINA. These meetings were attended by participants from BARC, Bangladesh Agricultural Research Institute (BARI), Bangladesh Rice Research Institute (BRRI), Cotton Development Board (CDB), Directorate of Agricultural Extension (DAE) at Dhaka University and Bangabandhu Sheikh Mujibur Rahman Agricultural



View of the IFPRI discussion meeting held at BINA, Mymensingh, on July 18, 2005. Dr. Zia Uddin Ahmed (center), on his left, Dr. Guillaume P. Gruere, IFPRI and Dr. Md. Abdur Razzaque, Member Director (Crops), BARC on the right. To each side are participants of the meeting.

University (BSMRAU), and expert scientists from the Departments of Genetics, Plant Breeding, Biotechnology, Agronomy, Entomology and Pathology of Bangladesh Agricultural University and BINA.

During these meetings the scientists interacted and discussed in detail the different production constraints of the crops of interest. They also discussed how to overcome both biotic and abiotic constraints. The potential of using GM technology to solve these problems was also discussed. Participants opined that in Bangladesh transgenic technology for the improvement of our local crops may be one of the choices for the future.

BdBIC SEMINARS

Bangladesh Biotechnology Information Center (BdBIC) of ISAAA organized three seminars on "Biotechnology and Biosafety: Legal, Ethical and Religious Issues". The first seminar was held at the Islamic University of Kushtia July 24, 2005, the second at Bangladesh Agricultural University, Mymensingh, on July 25, 2005, and the third on July 26, 2005, at the Sher-e-Bangla Agricultural University, Sher-e-Banglanagar, Dhaka.

At each seminar Dr. Suhaimi Napis of the University of Putra, Malaysia, presented keynote papers outlining the recent developments of crop biotechnology and the "Fatwa" (verdict of Malaysian Shariah Council) of Malaysian Muslim leaders on the use of GM crops in Malaysia. He detailed that if any crop is developed using pig-originated gene/s then it is "Haram" (not allowed/forbidden for human consumption) and that there are no GM crops in the field developed either by local scientists or imported. However, in Malaysia GM maize has been used as feed and probably all imported soybean oil may be of GM crop origin.

Other local speakers including, Dr. Md. Abdur Razzaque, BARC, Prof. Luful Hassan, Prof. Shahidul Haque and Dr. Emdadul Haque Chowdhury of Bangladesh Agricultural University presented papers on various aspects of biotechnology and biosafety. Prof. Dr. M. Ruhul Amin, Islamic University, presented a paper entitled "Science and Islam with Regards to Biotechnology & Biosafety".

There was a discussion meeting held at the Department of Botany, University of Dhaka on July 27, 2005, which was attended by faculty members of the Department of Botany, Dhaka University, Sher-e-Bangla Agricultural University (SU) and Bangladesh Agricultural University (BAU), graduate students of Dhaka University and BAU. Dr. Suhaimi Napis of University of Putra, Malaysia, reported the status of biotech research at his university as well as the status of biosafety in Malaysia. The discussion meeting was followed by a short biotech lab visit at the Botany Department, Dhaka University.

NEWSLETTER FEEDBACK

"This represents a GREAT newsletter and I wish to express my own gratitude for doing this." Dr. Craig A. Meisner, former CIMMYT Country Liaison Officer for Bangladesh

Foods Derived from GM Crops: Issues for Consumers, Regulators and Scientists

Sept. 26 & 27, 2005 at the Metropolitan Hotel Nikko New Delhi, Bangla Sahib Road, New Delhi

Conference Registration

The South Asia Biosafety Programme (SABP) and the Indian Council of Medical Research (ICMR), in association with Biotechnology Consortium India Limited (BCIL), is hosting a national conference on the regulation and safety assessment of genetically modified (GM) foods to be held **Sept. 26 & 27, 2005** in New Delhi, India. The themes of the conference are *Regulation, Public Participation and the Consumer* on Day 1 and the *Safety Assessment of GM Foods* on Day 2. A detailed agenda will be made available shortly on the SABP website at http://www.agbios.com/sabp_main.php, ICMR website at www.icmr.nic.in and BCIL website at www.biotech.co.in.

Day 1

Regulating GM Foods: A Global Snapshot

Regulating GM Foods in India

The Work of the Codex ad hoc Intergovernmental Task Force on Foods Derived from Biotechnology

Assessing the Potential Allergenicity of Foods Derived from GM Crop Plants

Assessing the Potential Toxicity of Foods Derived from GM Crop Plants

Nutritional Assessment of Foods Derived from GM Crops

Day 2

GM Foods and Consumer Acceptance in Asia

Public Perception of GM Foods in India

Consumer Labelling and Traceability Regimes

Post-Commercial Monitoring of GM Foods

Assessing the Safety of Nutritionally Enhanced Foods

Public Consultation in Decision Making: the Experience in Australia & New Zealand

Public Consultation in Decision Making: the Indian Context

Registration Details

PLEASE USE BLOCK LETTERS

Name Preferred on Badge: _____

Title: Dr. Prof. Mr. Mrs. Ms.

First Name: _____ Middle Initial: _____

Last Name: _____

Position: _____

Employer/Institution/Company: _____

Address: _____

Street _____

City _____ State/Province _____

Zip/Postal Code _____ Country _____

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Submit registration forms to:

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Cancellation/Refund Policy

Registration/cancellations must be made in writing and received by BCIL no later than September 1, 2005. Cancellations received after Sept. 1 are subject to a 25% processing fee. Cancellations received after September 12, 2005, are NOT subject to a refund.

Registration Fees

Fees must be paid by Demand Draft in favour of Biotech Consortium India Limited, New Delhi and accompany this registration.

Industry	Rs. 2,000/-
Research Institution	Rs. 1,000/-
Universities	
Individual experts	
Students	Rs. 500/-
BCIL Biotech Club Members	25% discount
Government Departments & Ministries	No fee up to two nominations and Rs. 1,000/- each for additional nomination

