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BIOSAFETY Newsletter

जहाँ है हरियाली।
वहाँ है खुशहाली।।

A QUARTERLY NEWSLETTER

In this Issu

From the Desk of Editor

It gives me immense pleasure to bring out the 8th edition of the Biosafety Newsletter. It is a matter of satisfaction that over a period of four years, the GEF-World Bank Capacity Building Project on Biosafety has produced good results in building awareness among the various stakeholders on technical aspects and procedures to be followed under the Protocol. The training workshops held under the project disseminated information on biosafety to various stakeholders such as policy makers, enforcement officials, legal personnel, state and district officials, farmers, NGOs, etc. All the stakeholders are expected to have gained sufficient knowledge about the various aspects of biosafety including need to comply with the provisions of the Protocol. While various programmes under the GEF-World Bank Capacity Building Project on Biosafety have come to an end,, however, we will continue our efforts to enhance the capacity building activities in the area of Biosafety,

I take this opportunity to thank all the concerned officials including all those involved with the project for their constructive support, which has not only given us strength to implement the project but also catalyzed our spirit to take the biosafety activities further.

(A.K. Goyal)
Joint Secretary, MoEF and Project Director

Prepared by Project Coordinating and Monitoring Unit (PCMU) of the Ministry of Environment and Forests in association with Biotech Consortium India Limited under the GEF-World Bank Capacity Building Project on Biosafety

Series of Biosafety Training Workshops for Customs officials

Ministry of Environment: and Forests (MoEF) in association with National Academy of Customs, Excise and Narcotics (NACEN) organized series of nine training workshops for customs officials with the objective to apprise them about issues involved in transboundary movement of Genetically Modified Organisms (GMOs) and products thereof and provisions of the Cartagena Protocol on Biosafety. The workshops were organized at nine regional training centres of NACEN across the country at Delhi, Chennai, Hyderabad, Kanpur, Kolkata, Mumbai, Vadodra, Bangalore and Patna during March – June 2007.

The course curriculum for the workshops was designed in such a way so as to sensitize the officials about the national regulatory framework, detection techniques and trade related aspects. About 400 participants participated in the workshops.

Training Workshop on Biosafety for Plant Quarantine Officials

Technical presentation by Prof. K. C. Bansal, NRCPB

A two-day training workshop on biosafety was organized for the Plant Quarantine Officials by the MoEF in association with Ashoka Trust for Research in Ecology and the Environment (ATREE) and Directorate of Plant Quarantine & Storage, Faridabad on 29-30 May 2007, at the Hotel Taj Lands End, Mumbai.

The objective of the workshop was to provide information on biosafety issues and concerns, Indian regulatory framework, Cartagena Protocol on Biosafety and India's obligations, certification and documentation requirements under the Plant Quarantine Order, 2003.

Participants in the Work shop

Training Programmes for Lawyers on the Implementation of the Cartagena Protocol on Biosafety in India

The MoEF in association with National Law School of India University (NLSIU)organised three training programmes on "Implementation of the Carragena Protocol on Biosafety in India" for lawyers from May 29-30, June 6-7 and June 11–12, 2007 at Bangalore.

The principal theme of the training programmes was to disseminate information and knowledge about legal issues concerning biosafety, biotechnology and law. Topics for presentation included: an Overview of the Biosafety Protocol;. Scientific Understanding of Biosafety; National Implementation of Biosafety issues such as WTO and Biosafety and the Interface between Competition Law, Intellectual Property Rights (IPRs) & the Biosafety Protocol; Liability and Redress for Damage by GMOs/ Living Modified Organisms (LMOs).

The training programmes were well received, over 60 lawyers and some government officials from states of Karnataka, Kerala, Goa, Tamil Nadu and Pondicherry participated.

SERIES OF TRAINING WORKSHOPS ON BIOSAFETY ISSUES FOR THE MEMBERS OF SBCCS, DLCS & IBSCS

inaugural session at Chandigarh, Bangalore, Pune, Hyderabad, Channei & Bhopal

Six training workshops on biosafety issues for the members of SBCCs, DLCs & IBSCs were organized by the MoEF in association with M/s Biotech Consortium India Limited at Chandigarh, Bhopal, Hyderabad, Pune, Bangalore and Chennai from April – June 2007. The objective of these workshops was to provide up-to-date information to the members of SBCCs, DLCs and IBSCs about the national regulatory framework and provisions of the Cartagena Protocol on Biosafety and share views/experience of these regulatory committees in order to strengthen the implementation of Rules, **1989** notified under the Environment (Protection) Act, **1986.**

The workshops at Chandigarh and Hyderabad were inaugurated by the Chief Secretary, Punjab and Chief Secretary, Andhra Pradesh, respectively. Senior government officials i.e. Secretary, State Department of Environment, Secretary, State Department of Agriculture, Chairman, State Pollution Control Board, Chairman, State Biodiversity Board among others participated in the opening and technical sessions. Presentations were made by leading experts including Dr. C.D. Mayee, Chairman, Agricultural Scientists Recruitment Board and Co-chairman, GEAC, Dr. KR. Koundal, Joint Director (Research), Indian Agricultural Research Institute, Dr. P. Ananda Kumar, Chairman, Monitoring & Evaluation Committee and Principal Scientist, NRCPB, Dr. Ranjini Warrier, Member Secretary, GEAC and Director, MoEF, Dr. M. Hota, Project Co-ordinator & Additional Director, MoEF, Dr. Vibha Ahuja, DGM, BCIL etc. In addition, presentations were also made by the speakers from each state representing state government, state agricultural university and other stakeholders.

Biosafety Training Workshop for Practicing Lawyers

A training workshop on biosafety with special reference to Cartagena Protocol on Biosafety for practicing lawyers was organized at Amity University: Campus, Noida on June 2-3,2007 by the MoEF and Amity School of Natural Resources and Sustainable Development. The topics included Living Modified Organisms and Genetically Modified Organisms: Ecological, Economic and Social Impact, National Regulations and International Arrangements on Trade and Related Conventions, Biosafety: Law and Guidelines in Respect of GMOs and LMOs and PIL Writ Petitions, etc., followed by interaction among experts and lawyers. About 80 practicing lawyers from the Hon. Supreme Court, High Courts and other legal professionals participated in the training workshop.

Inaugural session in progress

Biosafety Training Workshop for Seed Industry

Training workshop for personnel from seed industry was organized by the MoEF in collaboration with Ashoka Trust for Research in Ecology and the Environment (ATREE) on 5th June 2007, at the Hotel Taj Deccan, Hyderabad. The objective of the workshop was to share the views/experiences to fulfill obligations sf biosafety under the Environment (Protection) Act as well as under the Cartagena. Protocol on Biosafety. Thirty two representatives from the seed industries (private and government sector) participated in the workshop.

Address by Shri G. Balachandhran, Joint Secretary, MoEF

Media Workshops on Agricultural Biotechnology

The MoEF and the International Service for the Acquisition of Agri-biotech Applications (ISAAA) organized two bilingual media workshops on agricultural biotechnology with the objective to strengthen the scientific understanding of local media on biotechnology, biosafety and related issues. The first media workshop was held in association with Tamil Nadu Agricultural University (TNAU), Coimbatore on April 16-17, 2007

Inauguration session in progress at Coimbatore

Technical presentation at Chandigarh

and attended by more than 40 journalists from across Tamil Nadu. The second workshop was organized in association with Chandigarh Press Club and Punjab State Council for Science & Technology (PSCST) on June 7, 2007 and attended by more than 75 journalists and reporters from print and electronic media from Chandigarh and Punjab. Both the events were addressed by eminent experts and state officials and were extensively covered in press as well as radio and TV channels.

Training Workshops on Biosafety Issues and Web Resources related to GMOs

Release of Technical Bulletin by Dr. C. D. Mayee

Faculty members & participants of 2nd Training Workshop

Certificate distribution by Dr. S. A. Patil in 2nd Training Worshop

The MoEF in association with National Research Centre on Plant Biotechnology (NRCPB), IARI, New Delhi organized three training workshops on "Biosafety Issues and Web Resources related to GMOs". These trainings were conducted on April 23-25, May 14-16 and June 7-9, 2007 with the objective of providing theoretical and practical knowledge to the scientists and technical staff from National Agricultural Research System and universities on various biosafety issues related to GMOs including development, detection, transboundary movement, regulatory issues, environment and health concerns and use of web resources. Different practical sessions and hands-on training on exploring, handling and use of GM crops through web resources were conducted by the resource persons invited from different ICAR & CSIR institutes, ICRISAT, universities, MoEF and DBT. Forty five participants representing 18 ICAR institutes and 13 universities attended three training programmes. A technical manual and a technical bulletin on "GM Crops Database: An Interactive Web Resource" were distributed to the participants.

DEVELOPMENT OF TRANSGENIC RAPESEED-MUSTARD

Rapeseed-mustard (*Brassica spp.*) group of crops is the second most important oilseed-crop after groundnut, contributing nearly 25-30% of the total oilseed production in India. The genus *Brassica* comprises 37 species, mainly annual or biennial herbs, and many of them are similar in appearance. *Brassica rapa* is the most variable and was originally the most widespread of the various *Brassica* species. Brown mustard ***(rai or raya or laha)***, ***sarson*** ***(yellow sarson)*** brown ***sarson*** and *taramira* are all cultivated in India. In trade, *sarson*, *toria* and *taramira* are known as rapeseed and ***raias*** mustard.

Indian mustard or brown mustard (*rai*) was originally introduced from China into north-eastern India, from where it has spread to Afghanistan via Punjab, eastern Afghanistan, together with the adjoining north-western India. It is predominantly cultivated in Rajasthan, Uttar Pradesh, Haryana, Madhya Pradesh and Gujarat. Its cultivation is also being extended to non-traditional areas of southern states like Karnataka, Tamil Nadu and Andhra Pradesh. The rapeseed and mustard crops are of tropical as well as of temperate climatic zones and require relatively cool temperatures for satisfactory growth. In India, they are grown in rabi from September-October to February-March.

The average yield of these craps in India varies from 900 to 1,150 kg/ha. India with 5.39 million hectares and 6.20 million tones of production ranks second and third respectivelyin rapeseed-mustardscenario of the world.

Mustard, by nature, is a self pollinating crop, rendering it unviable to breed commercial hybrids through conventional techniques and exploit the higher yields often expressed in first-generation crosses. In transgenic mustard, the *barnase-barstar* gene system is responsible for producing improved hybrids by conferring nuclear male sterility to self-pollinating plants in a stable manner so as to produce novel hybrids with uniform quality.

Another gene called *'bar'* supposedly used *as* a marker to detect gene flow, makes the crop resistant to a particular herbicide called ***glufosinate or basta.*** This gene apparently lies dormant unless the herbicide is used.

In India, University of Delhi, South Campus and National Research Centre on Rapeseed-Mustard, Bharatpur have been actively working towards the development of transgenic mustard incorporating the *barnase-barstar* system and its field trials.

UPCOMING EVENTS

Title	Organized by	Date & Venue
Consultation on Safety Assessment of GM foods	Department of Biotechnology (DBT) and Biotech Consortium India Limited (BCIL)	University of Agricultural Sciences, Dharwad June 30,2007
Awareness workshop on GM crops	DBT, Ministry of Environment & Forests (MoEF) and BCIL	Paribesh Bhawan, Kolkata, July 19, 2007
ASSOCHAM Agriculture Knowledge Series on Agricultural Biotechnology: Opportunities and Challenges	ASSOCHAM	Taj Mahal Hotel, Kolkata August 3,2007
Biosafety Awareness and Capacity Building	Vaigyanik Drishtikon and MoEF	Auditorium of Tagore International School, Jaipur, July 18-20,2007
Pugwash-MSSRF International Dialogue on Bread and Biotechnology	M. S. Swaminathan Research Foundation, Chennai	MSSRF, Chennai August 7-10,2007
Agri BioBusiness 2007	Federation of Indian Chambers of Commerce & Industry (FICCI)	Sept 17-18,2007

Recently released reports

EU-27 Biotechnology Annual Agricultural Biotechnology Report - Stan Cohen, USDA Foreign Agricultural Service, June 5,2007 (GAIN Report No. E47044 E40000)
http://www.fas.usda.gov/gainfiles/200706/146291311.pdf

A Meta-Analysis of Effects of Bt Cotton and Maize on Nontarget Invertebrates - Michelle Marvier, et. al., Science,. June 8, 2007 (Vol. 316. no. 5830, pp. 1475 - 1477, doi 10.1126/science.1139208)
http://www.sciencemag.org/cgi/content/abstract/316/5830/1475?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=NCEAS&searchid=1&FIRSTINDEX=0&issue=5830&resourcetype=HWCIT

The Public, the Media and Agricultural Biotechnology: Edited by D Brossard, University of Wisconsin-Madison USA,; J Shanahan, Cornell University, Ithaca, USA; T C Nesbirt, USDA-APHIS Biotechnology Regulatory Services Riverdale, USA
http://www.cabi.org/bk_bookdisplay.asp?action=display&openMenu=search&PID=2004

Paper 'A Review of International Labeling Policies of GM food to Evaluate India's Proposed Rule'
Dr. Guillaume P. Gruère, International Food Policy Research Institute, and Dr. S.R. Rao, Department of Biotechnology, Ministry of Science and Technology, Government of India
http://www.agbioforum.org/v10n1/v10n1a06_gruere.htm and http://www.agbios.com/docroot/articles/07-132001.pdf is available to download as a PDF from the ABP website at http://www.agbios.com/docroot/articles/07-12-0[illegible]

Links for further Reading

European Federation of Biotechnology (EFB) Agri-Biotechnology (Europe) http://w[illegible]

The EFB is an association of European scientific and technological societies in biotechnology together with universities, scientific institutes, companies, biotechnology associations,and individual members. Their mission is "... to promote the safe, sustainable, and beneficial use of nature's resources in the life sciences and technologies; to facilitate exchange of people and ideas; and to contribute to a better understanding and perception of biotechnology by the general public in Europe."

***Codex* Alimentarius**
http://www.codexalimentarius.net

The Codex Alimentarius, or the food code, has become the seminal global reference point for consumers, food producers and processors, national food control agencies, and the international food trade. Codex standards have become the benchmarks against which national food measures and regulations are evaluated. This site carries provisional agendas for forthcoming meetings and working papers and reports of Codex meetings. Of particular interest is the report of the ad hoc 'Intergovernmental Task Force on Foods Derived from Biotechnology'.

World Health Organization (WHO) – **Biotech Foods**
http://www.who.int/fsf/GMfood/index.htm

WHO has been addressing a wide range of issues in the field of biorechnology and human health, including safety evaluation of vaccines produced using biotechnology, human cloning, and gene therapy. This site briefly describes the activities of WHO in regard to biotechnology and food safety.

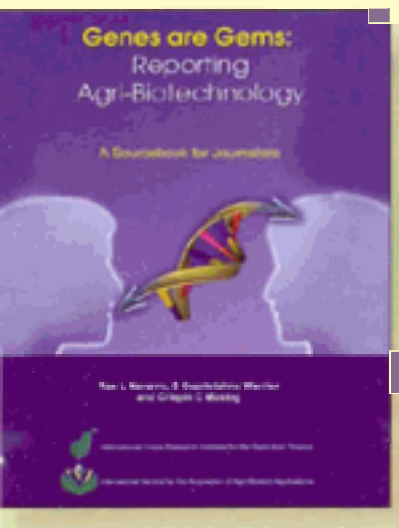
ROLE OF SBCCs, DLCs AND IBSCs IN BIOSAFETY REGULATIONS FOR GMOs

In India, State Biotechnology Coordination Committees (SBCCs), District Level Committees (DLCs) and Institutional Biosafety Committees (IBSCs) have important role to play particularly in monitoring activities involving GMOs and products thereof as per the Rules for the manufacture, use/import/export and storage of hazardous micro organisms1 geneticallyengineered organismsor cells, 1989.

As a part of GEF-World Bank capacity buildiig project on biosafety, MoEF and BCIL organized a series of training workshops for the members of SBCCs, DLCs and IBSCs.

This document has been prepared to serve as background information sc ts to bring out the roles of these committees. A copy of the document can be accessed at http://www.envfor.nic.in/divisions/csurv/biosafety/default.htm.

GENES ARE GEMS: REPORTING AGRI-BIOTECHNOLOGY



Genes are Gems: *Reporting Agri-Biotechnology*, is a publication that has come out of a series of media workshops on agri-biotechnology, organized at various locations in Asia and West Africa between 2004 and 2006 by International Crops Research Institute for the Semi-kid Tropics (ICRISAT) with cooperation of ISAAA and the United Nations Educational, Scientific and Cultural Organization (UNESCO).

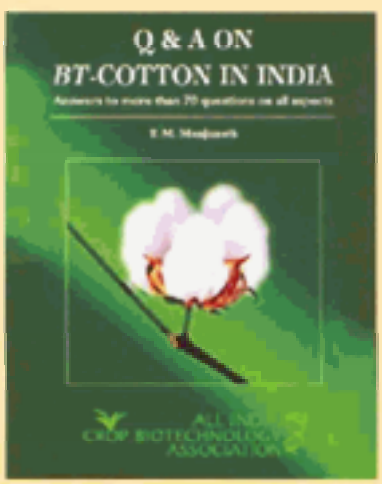
The sourcebook is intended primarily as a reference book for science communicators and journalists. It gives the general science journalists the tips and tricks of the trade, so to speak, for writing a good science story and within the large canal of science journalism, there is a focus on agri-biotechnologyreporting.

... book has been authored by Rex L Navarro, Gopikrishna S Warrier and Crispin C Maslog and published by ICRISAT and ISAAA. The electronic copy can be downloaded from http://www.icrisat.org/Publications/EBooks_OnlinePublications/Publications-2006/Genes_are_Gems_Ebook.pdf

Q&A ON Bt COTTON INDIA

Bt cotton, being a new technology, several doubts have been raised, mostly due to a lack of proper understanding of the technology or vested interests, creating confusion in the minds of farmers and general public. Dr. T.M. Manjunath, Renowned Entomologist has prepared a publication namely "Q & A on Bt cotton India" to provide information on various aspects of Bt-cotton in the form of answers to more than 70 questions, divided into several sections such as bollworms, *Bacillus thuringiensis* (*Bt*), development of *Bt*-cotton, efficacy, safety, insect resistance management, field performance and adoption, costs and benefits, opposition to Bt-cotton, legal and illegal seeds, regulation etc. This publication is extremely useful to variousscientists, policy makers, seed companies, journalists, NGOs, students, teachers, extension workers and, above all, progressivefarmers.

The electroniccopycan be downloaded from http://www.aicba.com/qa.pdf



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Do You Know?

What institutional arrangements does the Protocol require at the national level?

Parties are required to designate national institutions to perform functions relating to the Protocol. Each Party needs to designate national focal point to be responsible on its behalf for liaison with the Secretariat. The functions for liaison may include, for example, receiving notifications of meetings relating to the Protocol issued by the Secretariat and invitations to submit views on matters under discussion, and acting accordingly (see Article 19).

Each Party also needs to designate one or more competent national authorities, which are responsible for performing the administrative functions required by the Protocol and which shall be authorized to act on its behalf with respect to those functions. A Party may designate a single entity to fulfill the functions of both focal points and competent national authority. Each Parry must, no later than the date of entry into force of the Protocol for it, noufy the Secretariat of the names and addresses of its focal points and its competent national authority or authorities. The Secretariat maintains lists of designated NFPs and CNAs for the Protocol which are searchable on the BCH.

In addition to these institutional arrangements stipulated by the Protocol, the first meeting ofcop-MOP called upon Parties, as well as governments, organizations and other users interested in entering into partnership with the Biosafety Clearing-House to nominate appropriate national focal point to carry out this role (see Decision BS-I/3).

What is the governing body of the Protocol?

The governing body of the Protocol is the Conference of the Parties to the Convention serving as the meeting of the Parties to the Protocol (COP-MOP). The main function of this body is to review the implementation of the Protocol and make decisions necessary to promote its effective operation. Decisions under the Protocol can only be taken by Parties to the Protocol. Parties to the Convention that are not Parties to the Protocol may only participate as observers in the proceedings of meetings of the COP-MOP. (see Article 29 of the Protocol.)

What is the difference between signing *and* ratifying the Protocol?

At the closing date for signatures i.e. 4 June 2001, the Protocol had 103 signatures. By signing the Protocol, States indicate general support for its objectives and provisions, as well as their intention to become Parties to the Protocol in the future and be legally bound by it. However, the Protocol does not become legally binding until a State joins the Protocol by depositing an instrument of ratification, accession, acceptance, or approval with the Depositary—the Secretary-General of the United Nations, signed by the Head of State or Government or the Minister for Foreign Affairs. Once a State deposits such an instrument, the Protocol enters into force for that State ninety days later provided the Protocol itself has already entered into force at that time; at this point the State is bound by the provisions of the Protocol and must comply with the obligations therein.

(Source.: http://www.biodiv.org/biosafety/faqs.shtml)

Project Website:
http://www.envfor.nic.in/divisions/csurv/biosafety/default.htm

Disclaimer : The information in this newsletter has been compiled from various sources and does not necessarily depict views of the Ministry of Environment and Forests, Government of India.