

South Asia Biosafety Program

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New Speakers Announced

Register today for the 4th Annual South Asia Biosafety Conference
September 19-21, 2016 in Hyderabad, India

The South Asia Biosafety conference provides an opportunity to hear from leading scientists representing regulatory agencies, public sector research institutions, and the private sector in South Asia and internationally. For more information, visit the conference website at <http://sabc.biotech.co.in>

BANGLADESH

Field Evaluation of Provitamin A Enriched 'GR2E BRRI dhan29 Golden Rice' in Bangladesh

Dr. Partha S. Biswas, Bangladesh Rice Research Institute, Gazipur



Vitamin A is required for normal functioning of the visual system, maintenance of cell function for growth, epithelial integrity, production of red blood cells, immunity, and reproduction. Vitamin A is an essential nutrient that cannot be synthesized *de novo* in the body, so it must be obtained through the diet either in meat, eggs, and dairy products, or as provitamin A carotenoids, mainly beta-carotene, in green leafy and yellow-coloured vegetables and orange-coloured fruit. In South and Southeast Asian countries, where rice accounts for nearly two-thirds of caloric intake, Vitamin A deficiency (VAD) can be a serious public health problem as polished rice lacks any of the Vitamin A precursors.

In Bangladesh, a micronutrient status survey conducted in 2011–2012 found that the national prevalence of VAD among preschool (20.5%) and school age (20.9%) children represented a serious public health problem. The problem was almost double in urban slums among children 6–59 months of age (38.1%) compared to rural areas (19.4%). And nationally, over half of the preschool age (56.3%) and school age children (53.3%) were found to exhibit at least a mild grade of VAD.

Public health approaches to combating VAD include promoting dietary diversification and optimal infant feeding, provision of vitamin supplements, and the fortification of staple foods. A complementary intervention to existing strategies for reducing VAD is the biofortification of staple food crops with beta-carotene either through conventional plant breeding or using biotechnology techniques. The accumulation of provitamin A carotenoids in rice grains cannot be achieved through conventional breeding approaches. Golden Rice is a new type of rice that produces beta-carotene in the endosperm giving it a unique yellow-orange colour. It was developed through genetic modification to incorporate a phytoene synthase (*Zmpsy1*) gene from maize (corn), a phytoene desaturase (*crt1*) gene from a ubiquitous bacterium (*Pantoea ananatis*), and the phosphomannose isomerase (*pmi*) gene from *Escherichia coli* to allow growth of transformants on mannose-containing medium. The expression of *ZmPSY1* and *CRTI* enzymes in

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the rice endosperm completes the carotenoid biosynthetic pathway resulting in the accumulation of provitamin A carotenoids, such as beta-carotene. Thus, Golden Rice can be a complementary, sustainable, food-based, approach to reducing VAD in high rice-consuming countries like Bangladesh.

The Bangladesh Rice Research Institute (BRRI) is working for the development of locally adapted Golden Rice varieties in collaboration with the International Rice Research Institute (IRRI). In 2015, BRRI imported backcross introgression lines of Golden Rice event GR2E BRRI dhan29 from IRRI and tested these in contained screen-house facilities following approval by the National Committee on Biosafety (NCB). The purpose of this testing was to evaluate agronomic and phenotypic properties in comparison with conventional BRRI dhan29, and to measure carotenoid expression levels in the grain. Selected lines from the screen-house test were further evaluated in a confined field trial during the boro season in 2016. The tested lines were found to be very uniform in phenotype, with the majority of lines were quite similar to the recipient parent in nearly all traits. Phenotyping for kernel colour and genotyping with event-specific DNA

“Thus, Golden Rice can be a complementary, sustainable, food-based, approach to reducing VAD in high rice-consuming countries like Bangladesh.”

markers showed that all the entries tested in this trial were homozygous for GR2E locus. A short list of elite lines, selected on the basis of target carotenoid content in milled rice and agronomic performance, will be evaluated further in multi-location confined field trials, subject to regulatory authorization by the NCB. BRRI is also working to introgress the GR2E locus into other popular varieties. To help better adaptation, backcross introgression lines are being developed keeping all agronomic traits and resistance to major diseases and insect pests similar to those of the recipient varieties.

More information on these activities will be presented during the forthcoming South Asia Biosafety Conference in Hyderabad, India on September 19-21, 2016.



INDIA Workshops on Guidelines for Access to Biological Resources Build Knowledge & Benefit Sharing

Dr. Sanchita Chaudhary, Assistant General Manager, Biotech Consortium India Ltd.



The Biotech Consortium India Limited (BCIL), with support from the Department of Biotechnology (DBT), the Ministry of Science and Technology, the Government of India, the Centre for Biodiversity Policy and Law (CEBPOL) and the National Biodiversity Authority (NBA) organized a series of six one-day awareness workshops on the guidelines for access to biological resources under the Biological Diversity Act (BDA), 2002. These workshops were organized at multiple locations, including Delhi, Guwahati, Kolkata, Pune, Hyderabad and Bangalore, taking place in June and July 2016.

The objective of these workshops was to create awareness among the scientists from research institutions, academia and industry about the provisions of the BDA and in particular, the recently notified guidelines on access to biological resources and benefit sharing, in order to facilitate compliance to the BDA. The workshops also aimed to provide a platform for interaction and clarification of issues regarding access and benefit sharing (ABS) amongst different stakeholders.

The workshops were attended by scientists from the public and private sector engaged in research involving use of biological resources, IP officials from industry, institutes and government agencies, officials from State Biodiversity Boards (SBBs) and representatives from industry and seed associations. Distinguished experts participated in the workshops, including: Prof. K. Vijay Raghavan, Secretary, DBT; Dr. B. Meenakumari,

Chairperson, NBA; Dr. Amita Prasad, Additional Secretary, MoEF&CC; Dr. R.B. Singh, Chancellor, CAU Imphal; Dr. Renu Swarup, Senior Adviser, DBT; Dr. H. Shivanna, Vice Chancellor, University of Agricultural Sciences (UAS), GKVK; Dr. D. Rama Rao, Director, National Academy of Agricultural Research Management (NAARM); and Dr. Yogesh Shouche, Scientist 'G' and Head, Microbial Culture Collection (MCC), National Center for Cell Science (NCCS), Pune. The resource persons for the workshops included Dr. Sujata Arora, Adviser MoEF&CC, Mr. Shri T. Rabikumar, Secretary, NBA, members of the Expert Committee of the NBA on ABS, and other NBA officials. The workshop programme included presentations on relevant national and international regulations, a hands-on training session for the participants and a discussion session between the resource persons and stakeholders.

The engaging discussions had active participation from the stakeholders, who welcomed the initiative by DBT, NBA and BCIL. Dr. Meenakumari and Dr. Prasad shared that the NBA is in the process of evolving with continuous efforts in streamlining procedures for granting approvals and the process of application to NBA is expected to be made online soon. The useful interactions were beneficial to both the participants, who gained more clarity on the provisions and compliance issues, and the NBA, who received valuable feedback regarding the problems faced by the applicants.

Spotlight on the Institutional Biosafety Officer Mr. Suhas Gorakh Karkute



Currently, over 30 Indian Council of Agricultural Research (ICAR) institutes have active research programs using genetically engineered (GE) plants, covering over 80 species. Because ICAR is committed to compliance with biosafety regulations concerned with GE organisms, it has partnered with the South Asia Biosafety Program to initiate a series of biosafety capacity building activities across the institutions for research programs engaged in the development of GE plants.

The first major activity has been a pilot program in ten ICAR institutions actively working to develop new GE plants. Two individuals were selected from each of the ICAR institutions to become Institutional Biosafety Officers (IBOs). After their initial training, the IBOs will be working together to create all the materials necessary for a functioning institutional biosafety program, including standard operating procedures, staff training materials, and processes for facility biosafety audits. In this month's SABP newsletter, we will be featuring Institutional Biosafety Officer Mr. Suhas Gorakh Karkute. Read about his perspective on being involved in the IBO program.



Interested in learning more about the IBO Program and available resources?

Visit the ICAR Biosafety Portal, an online resource to strengthen compliance with the regulatory framework and also to effectively facilitate research and development of agricultural biotechnology activities in ICAR through the regulatory process for the benefit of farmers and society.

<http://biosafety.icar.gov.in/>

INSTITUTIONAL BIOSAFETY OFFICER: Mr. Suhas Gorakh Karkute

JOB TITLE: Scientist (Agricultural Biotechnology)

ORGANIZATION: Indian Institute of Vegetable Research (IIVR), Varanasi

BIOGRAPHY: Mr. Karkute is an alumni of the Indian Agricultural Research Institute, where he obtained his M.Sc. in Molecular Biology and Biotechnology. He has been part of ICAR since January 2014. His present research includes analysis of transgenics developed in the institute, including tomatoes for drought and fruit borer resistance, as well as brinjal for fruit and shoot borer resistance. His research interest is in understanding stress resistance mechanisms and gene regulation. He has additional experience working in the area of intellectual property rights.

THE VALUE OF THE IBO PROGRAM: "Transgenic crops and their safety is always a controversial issue. Though a number of transgenics crops have been under commercial cultivation for over a decade in the USA, the only transgenic crop approved in India is Bt cotton. The country has been reaping the benefit of Bt cotton for the last 14 years or so but no new transgenic crop has been approved since then. Lack of awareness about transgenics is the main hurdle for their commercial release. The opposition by the public and a few NGOs did not allow Bt brinjal to successfully land in the fields of farmers. Transgenic mustard is presently going through a similar kind of situation. To make transgenic technology successful, the most important part is to make the public aware about the process of transgenic development, the benefits of transgenics over chemical pesticides and the biosafety issues considered before release for commercial cultivation.

ICAR is the principal organization involved in the development of transgenic crops. Many scientists and technical staff are directly dealing with the process of transgenesis at each and every stage. Therefore, it is a prerequisite for these persons to be well aware of biosafety issues concerning transgenic crops. Being one of the scientists involved in all these processes, I feel there was a necessity to start a mega programme in ICAR that can deal with such issues and train the persons actually involved in dealing with transgenic crops. ICAR has rightly initiated the Programme on Biosafety Awareness and Compliance Readiness in association with the South Asia Biosafety Program (SABP) and the Biotech Consortium India Limited (BCIL).

This programme is important for ICAR as well as Indian agriculture in the present scenario. This will help in the strict implementation of biosafety guidelines during the whole process of transgenic crop development. Biosafety studies required to be done prior to the release of transgenics for commercial cultivation will be given more importance and transparency that can lead to the successful cultivation of transgenics crops on Indian soils."

EVENT	ORGANIZED BY	DATE	WEBSITE
INDIA			
International Conference on Food, Water, Energy Nexus in Arena of Climate Change	Anand Agricultural University and National Council for Climate Change Sustainable Development and Public Leadership (NCCSD)	October 14-16, 2016 Anand, Gujarat	http://bit.ly/1qpcp1y
1 st International Agrobiodiversity Congress (IAC 2016)	Indian Society of Plant Genetic Resources (ISPGR) and Bioversity International	November 6-9, 2016 New Delhi	www.iac2016.in/
International Conference on "Pulses for Nutritional Security and Agricultural Sustainability"	Indian Society of Pulse Research and Development in association with Indian Institute of Pulses Research, Kanpur	November 12-14, 2016 New Delhi	www.iipr.res.in/pdf/events_201115.pdf
International Conferences on Nutraceuticals and Functional Foods – The Challenges and Opportunities along with The XIII Convention of the Indian Society of Agricultural Biochemists	Indian Society of Agricultural Biochemists, C.S. Azad University of Agriculture and Technology, Kanpur and Anand Agricultural University, Anand, Gujarat	December 6-8, 2016 Anand, Gujarat	http://bit.ly/1qpcq5H
INTERNATIONAL			
4 th Annual South Asia Biosafety Conference	SABP, Center for Environmental Risk Assessment (CERA), ILSI Research Foundation, Biotech Consortium India Limited (BCIL)	September 19-21, 2016 Hyderabad, India	http://sabc.biotech.co.in/
4 th Asia Pacific International Food Safety Conference & 7 th Asian Conference on Food and Nutrition Safety	ILSI Southeast Asia Region and Southeast Asia Association for Food Production	October 11-13, 2016 Penang, Malaysia	www.apacfoodsafety2016.com
8 th International Plant Tissue Culture & Biotechnology Conference	Bangladesh Association for Plant Tissue Culture & Biotechnology (BAPTC&B) and University of Dhaka	December 3-5, 2016 Dhaka, Bangladesh	www.bap tcb.org/
14 th International Symposium on the Biosafety of Genetically Modified Organisms (ISBGMO14)	International Society for Biosafety Research (ISBR)	June 4-8, 2017 Guadalajara, Mexico	http://isbr.info/ISBGMO14



SOUTH ASIA
BIOSAFETY PROGRAM

The South Asia Biosafety Program (SABP) is an international developmental program implemented in India, Bangladesh and Pakistan with support from the United States Agency for International Development. SABP aims to work with national governmental agencies and other public sector partners to facilitate the implementation of transparent, efficient and responsive regulatory frameworks for products of modern biotechnology that meet national goals as regards the safety of novel foods and feeds, and environmental protection.



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To receive an electronic copy of this newsletter send your name, institutional information and e-mail address to: vibhaahuja.bcil@nic.in

4th Annual South Asia Biosafety Conference

September 19-21, 2016

Taj Krishna, Hyderabad, India



ILSI
Research
Foundation



The South Asia Biosafety Conference is an opportunity to hear from leading scientists representing regulatory agencies, public sector research institutions, and the private sector in South Asia and internationally. The conference will be held at the Taj Krishna, Road Number 1, Banjara Hills, Hyderabad, Telangana 500034, India.

September 19, 2016

Delegate Registration and Inaugural Ceremony
Plenary Session I: Regulation of Biotechnology in South Asia
Parallel Session I: Research and Development in South Asia
Parallel Session II: Research Efforts to Address Climate Change
Poster Session

Conference participants are encouraged to share their work with colleagues by preparing a poster for this session. Poster abstracts should be submitted at the time of registration and no later than September 1, 2016.

September 20, 2016

Plenary Session II: New Technologies in GE Development
Facility Visits

September 21, 2016

Plenary Session III: Meeting Regulatory Challenges and Approaches to Regulatory Support
Poster Session Awards
Plenary Session IV: Dossier Preparation: Planning and Generation of Regulatory Data

For more details and registration information, please visit <http://sabc.biotech.co.in>

Follow along to @CERA_ILSI on Twitter to see live tweets during the conference! #SABC2016



Registration Form

4th Annual South Asia Biosafety Conference

September 19-21, 2016

Taj Krishna, Hyderabad, India



Registrations are limited to 100 for the conference. Registrants that cannot be accommodated will be added to a waitlist, and notified if space becomes available.

Attach mailing label from brochure,
or your business card.

Name Preferred on Badge _____

Complete the following if the information on the mailing label is incorrect or no label is provided.

Registrant is:

Gender Male Female

Title Mr. Mrs. Ms. Dr.

First Name _____

Middle Initial _____

Last/Surname _____

Job Title _____

Employer/Company/Institution _____

Address _____

Street _____

City _____

State/Province _____

Zip/Postal Code _____

Country _____

Telephone _____

Facsimile _____

E-mail _____

Registration*

Category	Fee	
	INR	US\$
Industry	Rs. 6,500/-	\$100
Research Institution, Universities, Individual Experts	Rs. 3,500/-	\$50
Students	Rs. 2,700/-	\$40
BCIL Biotech Club Members	25% discount	
Additional delegates from same organization (except students)	25% discount	
Government Departments and Ministries	No fee up to two nominations and Rs. 2,000/- each for additional nomination. Registration must be submitted through email to vibhaahuja.bcil@nic.in and confirmed by organizers. No online registration.	

*No free on-the-spot registrations.

In case you face difficulty in online registration, please download the registration form and send it to us along with payment through bank transfer. The details for Bank Transfer are as follows:

Beneficiary Name: Biotech Consortium India Limited

Account Number : 00032320008527

IFSC Code : HDFC0000003 (HDFC Bank Limited)

Cancellation/Refund Policy

Registration cancellations must be made in writing and received by BCIL no later than September 1, 2016. Cancellations received by this date are subject to a 20% processing fee. Registration and ticketed event cancellations received after September 1, 2016, are NOT subject to a refund.

Registration forms should be sent to:

Dr. Vibha Ahuja, Chief General Manager
Biotech Consortium India Limited (BCIL)
Anuvrat Bhawan, 5th Floor
210, Deen Dayal Upadhyaya Marg
New Delhi - 110 002
Telephone Number +91-11-23219064-67 (Ext. 204; 205);
23219059(D)
Fax Number +91-11-23219063
Email: vibhaahuja@biotech.co.in; vibhaahuja.bcil@nic.in

Poster Program Abstract Submission Form

4th Annual South Asia Biosafety Conference

September 19-21, 2016

Taj Krishna, Hyderabad, India



THE 4TH ANNUAL SOUTH ASIA BIOSAFETY CONFERENCE POSTER PROGRAM is an opportunity for individuals to share their research, findings and achievements with colleagues at the conference. Presenting a poster is a noteworthy way to share expertise or accomplishment, and poster presenters will have a dedicated time to present and discuss their work with the diverse group of attendees.

All poster abstracts must convey relevance to biosafety research, environmental risk assessment of genetically modified organisms (GMOs), or the regulation of GMOs – plants, animals, arthropods, or micro-organisms. Examples of topics include:

- Laboratory or field research that describes **novel** findings that can be used to inform ERA of GMOs.
- Research that advances understanding of how GMOs may potentially affect agro-ecosystems e.g., new approaches for early tier testing of non-target organisms.
- Studies that will lead to improved stewardship of GMOs
- Studies on management of secondary pests and/or volunteer weeds in GM plant agriculture.
- Studies related to the use of GMOs in public health e.g., vector control of pathogens.
- Studies related to the use of GMOs for environmental remediation.
- New approaches to ensuring reproductive isolation of experimental GMOs in field situations.
- Results from studies that integrate GMOs into sustainable, agricultural production systems.
- Substantive programs used to improve biosafety capacity and knowledge generation where these are supported by data demonstrating impact (descriptions of single workshops or seminars are not eligible).
- Substantial discussion of biosafety considerations or needs associated with ongoing research or product development

Posters describing basic research e.g., construct development, gene discovery, transformation methods etc. will not be considered.

Authors of select abstracts may be given an opportunity to present their research during the Lighting Round session on September 19. This session is comprised of short, oral presentations of 5-7 minute duration.

ABSTRACT SUBMISSION FORM FOR POSTER PROGRAM

PLEASE COMPLETE THE FORM BELOW AND E-MAIL IT TO lwilliams@ilsa.org AND COPIED TO vibhaahuja.bcil@nic.in.

You will receive a return email acknowledging receipt of your abstract and subsequently a second email informing you if your poster has been accepted for the conference poster program.

I. Lead Presenter

First Name: _____

Last Name: _____

Institution and Address: _____

E-mail: _____

Telephone Number: _____

(NOTE: Poster Presenters must register for the 4th Annual South Asia Biosafety Conference. If an abstract is received from an author who is not registered, the abstract will NOT be included in the review process).

II. Poster Title: _____

Poster Authors: _____

(NOTE: list all poster authors including their name, organization, address and e-mail. Separate authors with a semi-colon and please INCLUDE the lead presenter also).

III. Poster Abstract (maximum 300 words)

Accommodations and Travel

4th Annual South Asia Biosafety Conference

September 19-21, 2016

Taj Krishna, Hyderabad, India



CONFERENCE LOCATION

The 4th Annual South Asia Biosafety Conference will be held at the Taj Krishna, Road Number 1, Banjara Hills, Hyderabad, Telangana 500034, India.

ACCOMMODATIONS

NAME OF THE HOTEL	ADDRESS	PRICE SINGLE OCCUPANCY	PRICE DOUBLE OCCUPANCY	CONTACT
Taj Krishna	Road No. 1, Banjara Hills, Hyderabad-500034 Telangana	Rs. 10000/- Price includes taxes, breakfast, airport pick up/drop off and Wi-Fi.	Rs. 11000/- Price includes taxes, breakfast, airport pick up/drop off and Wi-Fi.	tkhresv.hyd@tajhotels.com
Taj Deccan	Road No. 1, Banjara Hills, Hyderabad-500034 Telangana	Rs. 6000/- Price includes taxes, breakfast and Wi-Fi.	Rs. 7000/- Price includes taxes, breakfast and Wi-Fi.	tdhresv.hyd@tajhotels.com
Taj Banjara	Road No. 1, Banjara Hills, Hyderabad-500034 Telangana	Rs. 5750/- Price includes taxes, breakfast and Wi-Fi.	Rs. 6750/- Price includes taxes, breakfast and Wi-Fi.	tdhresv.hyd@tajhotels.com
Hotel NKM's Grand	6-3-563/31/1, Off Taj Deccan Road, Erramanzil, Somajiguda Hyderabad-500082 Telangana	Rs. 3,200/- Price includes taxes, breakfast and Wi-Fi.	Rs. 4,000/- Price includes taxes, breakfast and Wi-Fi.	reservation@nkmsggrand.com

For assistance with your accommodations, please contact Dr. Vibha Ahuja at vibhaahuja.bcil@nic.in.

VISAS

For assistance with obtaining your visa, please contact Dr. Vibha Ahuja at vibhaahuja.bcil@nic.in.

SOCIAL MEDIA

Join the conversation on social media with @CERA_ILSI. #SABC2016 is the preferred hashtag for the 4th Annual South Asia Biosafety Conference.