

South Asia Biosafety Program

NEWSLETTER for private circulation only – not for sale



SABC 2017: A Platform for Sharing Experiences and Paving Future Paths

PAGE 2

South Asia Biosafety Conference Poster Session & Prize Recipients

PAGES 3-5

New Study: Groundnut Immunity to Aflatoxin Could Be Within Reach, Thanks to a Double-Defence Approach

PAGE 6

Applications Being Accepted for the 2018 USDA Borlaug Fellowship Program

PAGE 7

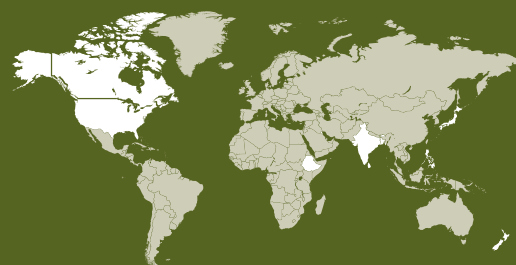
Presentations are now available from the 5th Annual South Asia Biosafety Conference
<http://sabc.biotech.co.in/>



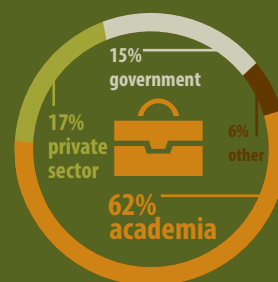
Who attended the South Asia Biosafety Conference?



185 participants from 11 countries



REGIONAL REPRESENTATION: Attendees from 16 Indian states and 3 Bangladeshi states



5 plenary sessions



35 speakers



3 parallel workshops

5th Annual South Asia Biosafety Conference | Bangalore, India | 11-13 September 2017 | sabc.biotech.co.in

SABC 2017: A Platform for Sharing Experiences and Paving Future Paths

Dr. Aparna Islam, BRAC University, Dhaka

In Bangalore, the Garden City of India, the 5th Annual South Asia Biosafety Conference (SABC) took place in the second week of September at the Taj West End. It was a gathering of scientists, policymakers, and stakeholders from various countries, including Canada, Japan, New Zealand, Ethiopia, Kuwait, the Philippines, the USA, and South Asian countries—namely Bangladesh, Bhutan, India, and Sri Lanka. More than 200 people participated in this three-day event. From Bangladesh, researchers, academics, and regulators from public and private institutions attended.

The morning of September 11, the conference began with a briefing on the South Asia Biosafety Program (SABP) by Dr. Vibha Ahuja, Biotech Consortium India Limited. This was followed by an interesting presentation by Dr. Morven McLean, Executive Director of the ILSI Research Foundation, who highlighted modern biotechnology innovations related to the United Nations Sustainable Development Goals (SDGs). Later, the audience heard speeches by representatives of three key institutions involved in the safe expansion of biotechnology in India—Dr. Amita Prasad, Additional Secretary, Ministry of Environment, Forest and Climate Change, India; Dr. Shri Gaurav Gupta, Principal Secretary, Department of IT, BT and S&T, Government of Karnataka; and Dr. K. Vijay Raghavan, Secretary, Department of Biotechnology (DBT), India.

The conference was divided into five plenary sessions covering biosafety regulations and advancements in various fields of biotechnology. One session was dedicated to familiarizing the audience with the current status of regulatory regimes, primarily in South Asian countries. An exciting paper was presented on GMO regulation in New Zealand, where variations from the Cartagena Protocol were pointed out. Furthermore, in light of advancements in genome editing techniques, potential imminent changes to biosafety regulations were highlighted.

The remaining four plenary sessions contained 19 presentations on transgenic food crop, transgenic forestry and biofuel, the use of soil micro-flora for bioremediation, and synthetic biology.

Every year, SABC presents one new application of biotechnology to the participants. This year, the enormous amount of work surrounding

“Every year, SABC presents one new application of biotechnology to the participants. This year, the enormous amount of work surrounding biofuels was discussed in detail.”

biofuels was discussed in detail. This timely research, given the reality of climate change, is very important. The presentations not only pointed out achievements in this field, they also underlined the need for regulations to assess and govern trans-boundary movement of GM algae. Fascinating presentations came out on synthetic biology as well. After an attempt to redefine the term ‘synthetic biology,’ a paper from the International Rice Research Institute (IRRI) presented some exciting results on engineered C₄ rice.

Apart from scientific sessions, an elaborate poster session showcased over 40 submissions. Out of these, 10 were selected for a high energy ‘Lighting Round’—the 5-minute-5-slide talks! Although most of the posters dealt with transgenic development, among this year’s submissions was a survey about public perception of GM crops after the release of Bt brinjal in Bangladesh. This study by BRAC University highlighted the need to investigate the Knowledge, Attitude, and Practice (KAP) associated with the users of GM products. At the end of this session, two posters received prizes for their excellence.

The conference organizers also arranged three concurrent workshops aimed at improving the understanding of the Cartagena Protocol, execution of regulations, and biosafety data collection. These were very much appreciated by the participants.

Participants from Bangladesh were well-represented in this year’s conference. Ms. Papia Sultana from the Department of Environment gave a presentation on progress in the regulatory regime of Bangladesh. BRAC University’s experience in overcoming salt intolerance in tomato was shared during the transgenic crop session. The extensive research activities taking place in the Department of Botany, University of Dhaka was appreciated, and the confined field data collection of the transgenic peanut drew the attention of many observers.

As a whole, my experience at SABC was excellent. It acquainted me, on the one hand, with progress in the field of biotech research, with an emphasis on the new arenas of research that have evolved. On the other hand, it gave me glimpses of biosafety rules and regulations and how they are being updated. Finally, the 2017 conference encouraged me to continue my work in the fields of transgenic research and public awareness development.



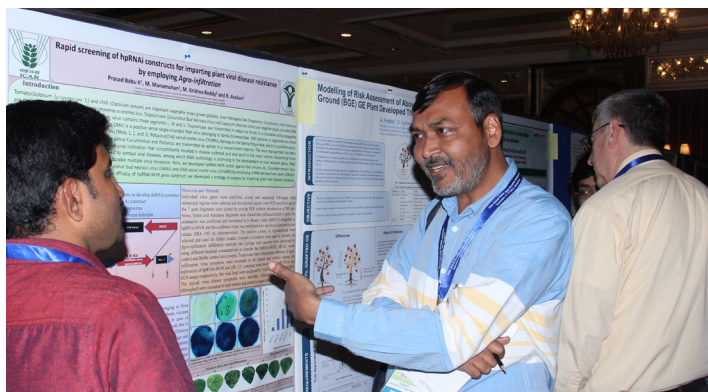
South Asia Biosafety Conference Poster Session

The South Asia Biosafety Program, ILSI Research Foundation, and Biotech Consortium India Limited (BCIL) organized the 5th Annual South Asia Biosafety Conference (SABC) on September 11-13, 2017 in Bangalore, India. This conference provided an opportunity to hear from leading scientists representing regulatory agencies, public sector research institutions, and the private sector, from South Asia and around the world.

The conference featured five plenary sessions and three parallel workshops addressing the status and current progress of biosafety regulations for South Asian countries, new technologies, methods and best practices for meeting regulatory challenges, engagement with

stakeholders, as well as practical experience and guidance for putting together biosafety dossiers.

The SABC Poster Session provided an opportunity for individuals to share their research, findings, and achievements with colleagues and other attendees. Presenting a poster is a noteworthy way to share expertise or accomplishment, giving participants an opportunity to showcase their work with a diverse group of peers and experts. Read on to learn more about the Poster Program winners, who received cash prizes and sponsorship to the International Society for Biosafety Research (ISBR).



Congratulations to Sundaresha Siddappa for Winning 1st Place at the SABC Poster Session



1ST PLACE WINNER: Sundaresha Siddappa

ORGANIZATION: Central Potato Research Institute (CPRI)

POSTER TITLE: Transgenic potato conferring field resistance to late blight—difficulties in generating food safety data of pure RB protein

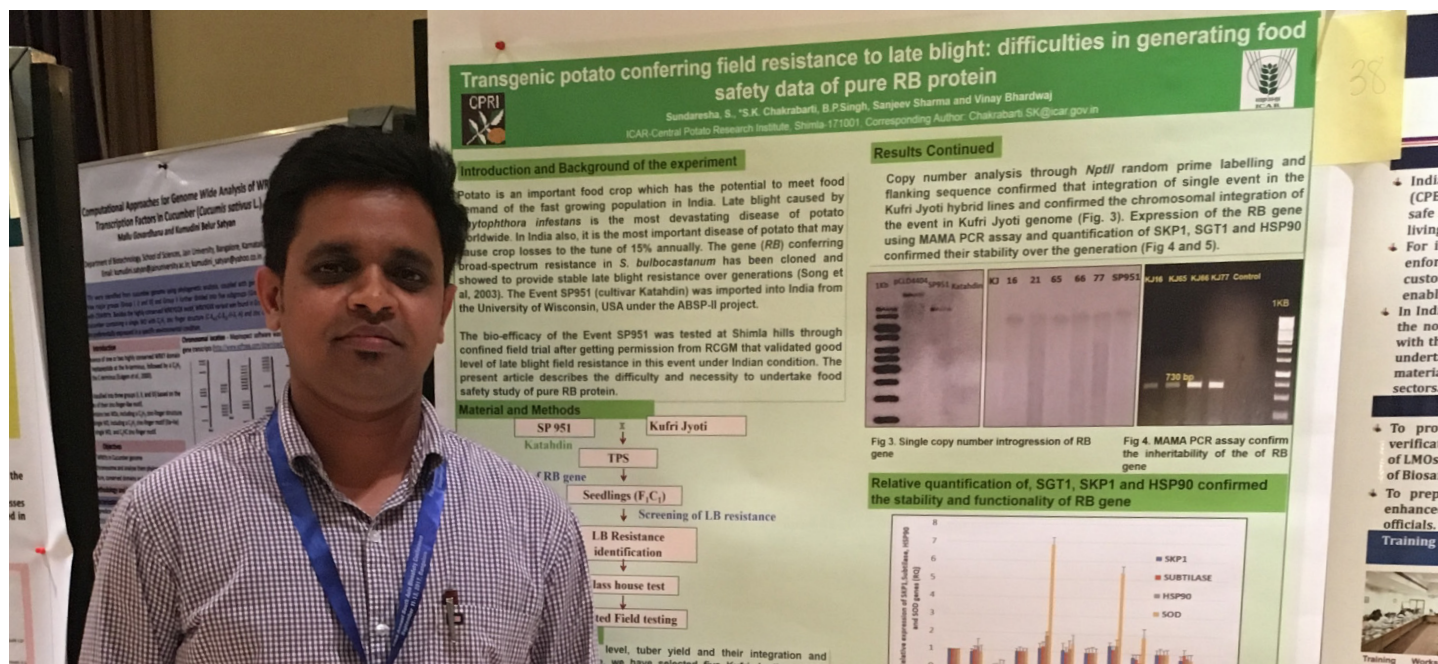
POSTER ABSTRACT: Potato is an important food crop, which has the potential to meet food demand of the fast-growing population in India. Late blight caused by *Phytophthora infestans* is the most devastating potato disease worldwide. In India, it is the most important potato disease, potentially causing crop losses to the tune of 15% annually. A wild diploid potato species *Solanum bulbocastanum* from Mexico and Guatemala, possessing a very high degree of resistance to late blight controlled by classical R genes, is an exception. The gene (RB) conferring broad-spectrum resistance in *S. bulbocastanum* has been cloned and showed to provide stable late blight resistance over generations. The Event SP951 (*cultivar Katahdin*) was imported into

India from the University of Wisconsin, USA under the ABSP-II project. The bio-efficacy of the Event SP951 was tested at Shimla hills through a confined field trial after getting permission from RCGM that validated a good level of late blight field resistance in this event under Indian conditions. The present article describes the difficulty and necessity of undertaking a food safety study of pure RB protein.

Expression of the RB protein, like other R proteins in plants, is extremely low due to its intractable nature. Because of its intractable nature, RB protein could not be purified from either the transgenic Event SP951 or from the host species *S. bulbocastanum*. As a consequence, no antibody could be produced for this protein. Similarly, no detectable level of recombinant RB protein could be expressed, either in bacterial or yeast hosts. It posed a serious challenge to estimating RB protein in transgenic events through Western blotting. Therefore, the allergenicity of this protein was determined using a bioinformatics tool, i.e. Allergen Online version 16. The tool did not identify any significant alignment with known allergens. PubMed searches also failed to show any published evidence indicating the allergenic or toxic nature of the RB protein. It is, therefore, argued that a regulatory food safety study on pure RB protein cannot be undertaken due to the intractable nature of this common plant protein, which is supposed to be non-toxic and non-allergenic. However, it would be possible to generate biosafety and food safety data for Event SP951 or its F1 progenies during BRL 1 & 2 trials. It is, therefore, suggested that BRL 1 & 2 trials of Event SP951 and its F1 progenies be permitted in order to move the process forward.

1ST PLACE PRIZE: The first-place winner of this competition received a USD \$500 cash prize and a two-year membership for ISBR, which aims to promote scientifically sound research that supports biosafety assessment by improving communication among scientists who study plants, animals, and microbes with new characteristics due to altered DNA and produced using modern biotechnology. Congratulations to Sundaresha!

Continued on page 4



SUNDARESHA'S EXPERIENCE AT THE SOUTH ASIA BIOSAFETY CONFERENCE:

"The 5th South Asia Biosafety Conference (SABC), organised by BCIL in cooperation with ILSI Research Foundation and the International Society for Biosafety Research, was successfully held on September 11-13, 2017 at the Taj West End in Bangalore, India. The conference gathered leading national and international scientists, biosafety regulators, technology developers, students, etc. The themes chosen for the plenary sessions were excellent, suiting the current needs of the scientific community to progress the development of quality agricultural products. The session on biosafety regulation initiatives in South Asia focused on biosafety regulatory frameworks and principles, as well as the rules and regulations from Sri Lanka, Bangladesh, the Philippines, and India. It was a worthy way to explore and publicise country-specific regulatory frameworks and rules for the development and release of GMOs.

The plenary session on biotechnology and biosafety in South Asia, and particularly Dr. Tim's keynote on "organisms not genetically modified," included worthwhile knowledge on domestic biosafety regulations for productive developmental approaches to social and environmental protection needs. The information contained in this talk, particularly New Zealand's regulatory stance on the exemption of GMOs, especially for chemotherapy, radiation, and chromosomal rearrangement, should be a model for South Asian applicants, decision-makers, and government agencies on where we stand on normal natural plant product development, GMOs, and their regulatory issues. Of particular note were recent scientific developments, regulatory reviews, as well as consultant and legislative changes connected with scientific research on GMOs in animals, and even in cancer chemotherapy, through a genetically modified virus. Hopefully, in the future, the New Zealand government's policy will become the primary model for biosafety regulatory reviews.

The plenary session on synthetic biology was also amazing and eye-opening, especially the use of symbiotic bacterial association from legumes to construct a multiple-gene toolbox that allows complex pathways for nitrogen fixation across a broad range of plant species. It was very interesting to learn the research efforts and difficulties connected to understanding and mining the genes responsible C_4 biochemistry and leaf anatomy to develop a C_4 rice prototype, presented

"The themes chosen for the plenary sessions were excellent, suiting the current needs of the scientific community to progress the development of quality agricultural products."

by the International Rice Research Institute (IRRI). Apart from this, Striga chemical biology and their synthetic molecule may save African farmers from Striga weed.

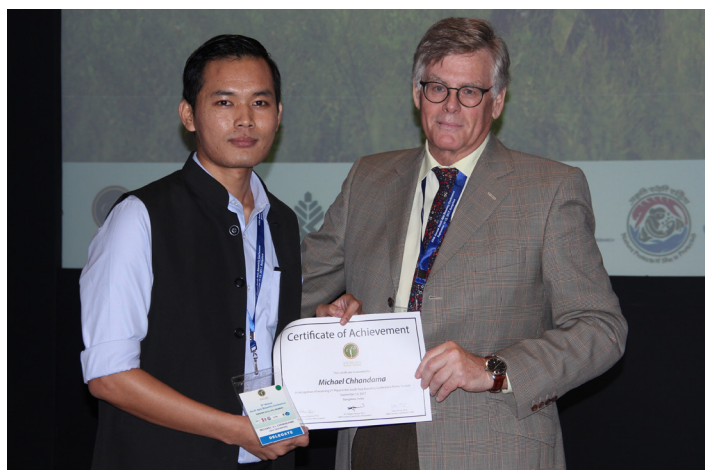
I attended Workshop II on GE product development programs, where I explored research efforts, problems, and possible solutions presented by various public sector representatives involved in the pipeline for releasing useful transgenic events in castor, sorghum, potato, pigeon pea, watermelon, papaya, etc. Dr. Akella Vani gave a presentation on her research efforts and government policies, including obstacles to taking watermelon and papaya events to field trials. This session explored the reality of government policies, reviews, rules, and regulations, as well as their impact on fruitful research connected to field trials and release. These efforts should lead to productive decisions, reducing hurdles connected to field trials and biosafety issues.

Overall, this conference presented new concepts and opportunities in agriculture, as well as challenges to conventional biological diversity, especially as related to synthetic biology, use of GMOs in chemotherapy, and genome editing research. It sent a great message, challenging current regulatory views on the use of synthetic molecules, medicines, and the fixation of nitrogen and phosphorus enriched microbiomes. It also provided me with an avenue to present issues connected with the intractable nature of the RB gene and biosafety-related pure protein expression studies.

Finally, I submit herewith my takeaway from the various keynotes: there should be an exemption for protein toxicity tests on a crop/product when it is not possible for the protein to exist naturally (eg. RB protein toxicity studies), along with an exemption for animal feed studies where the plant product itself is naturally not safe for animal feed (eg. transgenic castor). Improving science and technology while highlighting its challenges, opportunities, and impacts on environmental safety will give much hope for breaking the barrier on safety and non-safety, misconceptions held by the general public, as well as decisions and policies made by government regulatory bodies."

Interested in learning more about the International Society for Biosafety Research?
Visit: <http://isbr.info/>

Congratulations to Michael Chhandama for Winning 2nd Place at the SABC Poster Session



2ND PLACE WINNER: Michael Chhandama

ORGANIZATION: Jain University, Bangalore

POSTER TITLE: Estimation of lipid content from stress induced microalgae for biodiesel production

POSTER ABSTRACT: The major sources of energy in industries, transport, and other domestic fields are fossil fuels. The over exploitation of fossil fuels has led to the energy crisis and the environment's deterioration. Microalgae offer a potential feed stock for biodiesel production that could reduce and replace the use of fossil fuels. Microalgae are photosynthetic organisms that can manufacture their own food in the presence of sunlight and carbon dioxide. The lipids produced by the microalgae can be trans-esterified to yield methyl esters, which can be used as biodiesel. Lipid production can be enhanced by induction of several stress factors, which will reduce cost of production. In this study, *Chlorella pyrenoidosa* was procured from NCIM, Pune, and lipid production was estimated under different stress conditions, such as phosphorus, heavy metal, and pH stress. The growth rate was monitored and the cells were harvested to estimate the dry weight and lipid content. Stress level was optimized for highest biomass, which was carried further for maximum lipid production and transesterification.

2ND PLACE PRIZE: The second-place winner of this competition received a USD \$200 cash prize and a two-year membership for ISBR, which aims to promote scientifically sound research that supports biosafety assessment by improving communication among scientists who study plants, animals, and microbes with new characteristics due to altered DNA and produced using modern biotechnology. Congratulations to Michael!

MICHAEL'S EXPERIENCE AT THE SOUTH ASIA BIOSAFETY CONFERENCE:

"Being a research student, a large amount of my time was spent with other scholars in the institution. This conference has given me a chance and a platform to interact and make connections with experts and scientists in the field, which will contribute immensely to my future work. I have had the opportunity to witness and understand works done in industries of high repute and world class laboratories, and the levels and depth of their work was amazing. I sincerely appreciate all the speakers in the plenary sessions for their commitment and dedication to their work, which was reflected in their speeches. Their presentations and accomplishments have given my research new motivation and drive. Through this conference, I have learnt about the amount of work that has been done through rules and legislations to ensure the safe distribution of new GMOs in the environment and in the market, as well as the quantity of work that still needs to be done.

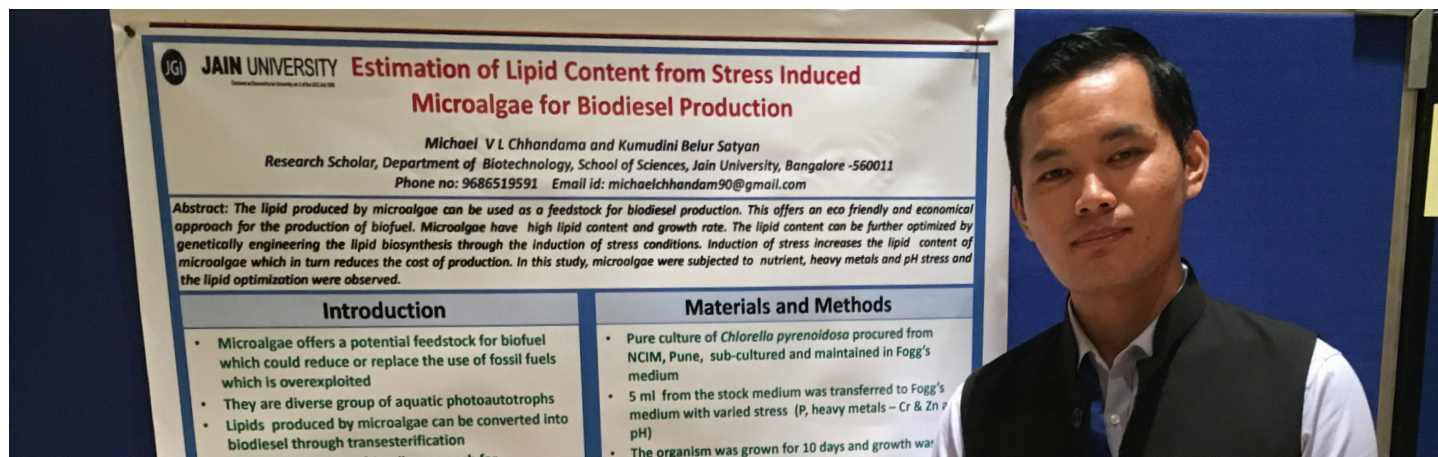
The most productive session for me was the poster session. Words cannot describe the value of the suggestions and advice given to me by experts who have been working in the field for so many years. They have suggested protocols that could work more efficiently than my current protocols and steps that could improve my results and inference. I am deeply thankful for their advice.

Another thing that SABC has given me is new friendships with other attendees. People from all over the world came together to exchange views and ideas. After the third day, you could see so many people sharing their contact details because they want to contribute to each other's growth. In addition, the venue, food, and service available at the conference were beyond compare.

This conference was one of the most educative and fruitful experiences of my research career. Once again, I am extremely thankful to the organizers and judges for appreciating my work and considering me as the recipient of the 2nd prize in the poster presentation. This will be the highlight of my career."

"I have had the opportunity to witness and understand works done in industries of high repute and world class laboratories, and the levels and depth of their work was amazing. I sincerely appreciate all the speakers in the plenary sessions for their commitment and dedication to their work."

Interested in learning more about the
International Society for Biosafety Research?
Visit: <http://isbr.info/>



New Study: Groundnut Immunity to Aflatoxin Could Be Within Reach, Thanks to a Double-Defence Approach

Reproduced from ICRISAT (originally published in October 2017).



Aflatoxin-immune groundnut (<1 ppb after 3 days fungus inoculation) compared to heavily contaminated seeds (over 3,000 ppb)

Aflatoxin contamination in peanuts is a complicated problem with significant food safety and economic impacts for vulnerable populations in sub-Saharan Africa and South Asia. Developing peanut varieties to combat pre-harvest *Aspergillus flavus* infection and resulting aflatoxin contamination has thus far remained a major challenge, confounded by the highly complex peanut-*Aspergilli* pathosystem.

Using innovative biotechnology approaches, researchers at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in Patancheru, India have developed groundnuts free from aflatoxins using a double-defence line. By producing small proteins called defensins, these groundnuts can stop the deadly fungus from propagating and infecting crops. Using another approach, the groundnut seeds are altered to emit gene-silencing RNA molecules that help shut down the synthesis of aflatoxin by the fungus. When exposed to the aflatoxin-producing moulds, *Aspergillus flavus* and *A. parasiticus*, over three days, the double defence groundnut seeds remain untouched, unlike the green and mouldy petri dishes of other tested groundnut varieties.

Working together with the Donald Danforth Plant Science Center, defensin genes from alfalfa (a protein-rich fodder legume) and Mediterranean clover were transferred into the DNA of the JL24 *Aspergillus*-susceptible peanut variety widely grown in India and Africa. The second approach, called Host-Induced Gene Silencing or HIGS, uses a naturally occurring biological mechanism where plants and pathogens



Aflatoxin infected groundnuts in Malawi. Aflatoxin affects 5 billion people globally with severe impacts on health and livelihoods.

Photo credit: A. Paul-Bossuet, ICRISAT

often exchange small nucleic acid molecules, RNAi, during the infection process. It is somewhat like a vaccine, where bits of the pathogen are injected into our bodies to later initiate a strong immune response. In collaboration with researchers from the USDA's Food and Feed Safety Research Unit and Louisiana State University, ICRISAT researchers were able to transfer specific small RNA molecules involved in the aflatoxin biosynthetic pathway from the *Aspergillus* fungus into the groundnut, so the groundnut seeds would produce these RNA molecules during fungus attacks, inactivating the target genes in the fungus responsible for aflatoxin synthesis.

Both approaches show great heritability (tested over three generations) and remarkable levels of aflatoxin resistance. Using a highly sensitive detection tool (High-Performance Liquid Chromatography), researchers could hardly detect any trace of aflatoxin (below 1 ppb) after three days of fungus inoculation, compared to the control seeds that accumulated over 3000 ppb.

This study shows that groundnut lines infected with the fungus, in conditions well above the field reality, were able to suppress toxin levels to below detectable limits. ICRISAT researchers have already planned extensive field tests with partners from Asian and African breeding programmes to cross these very promising aflatoxin-resistant lines and validate their agronomic performance according to biosafety regulations.



ECONOMIC SURVEY PITCHES FOR GM CROPS TO INCREASE PRODUCTIVITY

The mid-year Economic Survey (2016-17) recommended the adoption of genetically modified (GM) seeds to increase productivity, suggesting that the government extend the use of high yielding varieties (HYV) and GM seeds to all crops rather than limiting them to transgenic mustard. Finding the uncertainty surrounding GM crops to be one of the policy risks in agriculture, the survey indicated that "An important measure that can reduce risk is the introduction of HYV and GM seeds that have been stuck in controversies over decades." The matrix to the right has been suggested as the basis for resolving this issue—one of the many measures the government should take to minimize risk in agriculture and address agrarian distress through increasing productivity.

Sl. No	Issue	Tick
1	Terminator Gene	X
2	High cost	X
3	Disease and pest resistant	✓
4	Moisture variation resistant	✓
5	Resistant to soil variation	✓
6	Longer shelf life	✓
7	Shorter crop duration	✓
8	Tree format of crop	✓
9	Non food crops	✓

Matrix on Introduction of HYV and GM seed

The full text of the Mid Year Economic Survey is available at: <http://indiabudget.nic.in/survey.asp>

Applications Being Accepted for the 2018 USDA Borlaug Fellowship Program

The United States Department of Agriculture (USDA) is pleased to announce the 2018 *Norman E. Borlaug International Agricultural Science and Technology Fellowship Program* (Borlaug Fellowship Program) for India.

The program promotes food security and economic growth by increasing scientific knowledge and research to improve agricultural productivity, economic development, and food security. It offers training and collaborative opportunities for agricultural research, international agricultural economics, leadership, and policy to researchers in India. Competitively selected fellows will work one-on-one with a U.S. mentor who will coordinate the training program. After completion of the 10-12 week fellowship, the mentor will visit the fellow's home institution to continue collaboration on the research topic. USDA will select U.S. host institutions and mentors for each fellow.

The Borlaug Fellowship Program honors Norman E. Borlaug, the American agronomist, humanitarian and Nobel laureate known as the "father of the Green Revolution." Since the program's inception in 2004, approximately 800 fellows from 64 countries have participated in research and training focused on a wide array of agriculture-related topics, including agronomy, veterinary science, nutrition, food safety, sanitary and phytosanitary issues, natural resource management, agricultural biotechnology, agricultural economics, and agricultural policy. By improving participants' understanding of agricultural science, the program helps foster science-based trade policies that improve international market access for U.S. agricultural products.

The 2018 Borlaug Fellowship Program is administered by the USDA Foreign Agricultural Service (FAS).



APPLICATION DEADLINE: November 5, 2017

OBJECTIVES

- Provide early to mid-career agricultural economists, research scientists, faculty, and policymakers with one-on-one training opportunities in the fields of agricultural policy and research (see targeted research areas below)
- Provide economists, scientists, faculty, and policymakers with practical experience and exposure to novel perspectives and/or new technologies that can be applied in their home institutions
- Foster collaboration and networking to improve agricultural productivity and trade
- Facilitate the transfer of new economic, scientific, and agricultural technologies to strengthen agricultural practices
- Address obstacles to the adoption of technology such as ineffectual policies and regulations

TARGETED RESEARCH AREAS

Plant Health: to research wheat blast/plant and disease pathology

Food Safety: to research food safety measures, including laboratory analysis, to develop higher food safety standards

Biofuels: to research cellulosic biomass (e.g., agriculture waste stream) supply chain including methods for the development and utilization for sustainable biofuel development

APPLICATION REQUIREMENTS

Eligible candidates can submit an application using the Review Room application website no later than November 5, 2017: <https://borlaug.myreviewroom.com/>.

Applicants must submit the following documents to complete an application:

- Application form (using Review Room website)
- Program proposal and action plan (2-3 pages)
- Signed approval from applicant's home institution
- Two letters of recommendation (academic and professional preferred)
- Official copies of transcripts for college/university degree(s) received
- Copy of passport identification page

CONTACT INFORMATION

For questions related to the application process please contact:

USDA-FAS New Delhi

U.S. Embassy
Mona.Kapoor@fas.usda.gov

Borlaug Fellowship Program

BorlaugFellowships@fas.usda.gov

Additional Information: <http://www.fas.usda.gov/programs/borlaug-fellowship-program>

EVENT	ORGANIZED BY	DATE	WEBSITE
INDIA			
Refresher Training Course for GLP Inspectors	National Good Laboratory Practice Compliance Monitoring Authority (NGCMA)	October 26-27, 2017 New Delhi	http://www.dst.gov.in/ngcma
Short Course on Modern Genomic Tools and Breeding Strategies for Biotic and Abiotic Stress Management in Sugarcane	ICAR-Indian Institute of Sugarcane Research	October 25- November 3, 2017 Lucknow	http://bit.ly/2y0ec2N
International Conference and Expo on Biotechnology and Healthcare	Centre for Good Governance and Prof. Jayashankar Telangana State Agricultural University (PJTSAU)	October 26-27, 2017 Hyderabad	http://biotechconference.org
National Conference on Emerging Trends in Agrinotechnology	Acharya N.G. Ranga Agricultural University & Society of Agrinotechnology	November 2-3, 2017 Tirupati	http://www.agrinano.co.in/
Training Programme: Use of Biotechnological and Conventional Tools in Understanding Virus-Host	ICAR-Indian Agricultural Research Institute	November 7-27, 2017 New Delhi	http://bit.ly/2wavDwz
TERI-ITEC Courses 2017-18: Course IV - Applications of Biotechnology and its Regulation	The Energy and Resources Institute	November 20- December 8, 2017 Gual Pahari, Gurgaon	http://www.teriin.org/events/upcoming
Fostering Innovations in Fisheries and Aquaculture: Focus on Sustainability and Safety	ICAR-Central Institute of Fisheries Technology and Asian Fisheries Society Indian Branch (AFSIB)	November 21-24, 2017 Bangalore	http://bit.ly/2wqW3g7
Training Workshop: Strengthening Capacities of Enforcement Agencies (Plant Quarantine & Customs Officials) for Transboundary Movement of LMOs	ICAR-National Bureau of Plant Genetic Resources (ICAR-NBPGR)	November 22-23, 2017 Raxaul, Bihar	http://bit.ly/2xmaTpo
INTERNATIONAL			
Asian Subregional Workshop on Strengthening Capacities for the Integrated Implementation of the Cartagena Protocol on Biosafety, the Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress, and the Convention on Biological Diversity	CBD Secretariat	November 6-10, 2017 Kuala Lumpur, Malaysia	http://www.cbd.int/meetings



SOUTH ASIA
BIOSAFETY PROGRAM

The South Asia Biosafety Program (SABP) is an international developmental program implemented in India and Bangladesh 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.



CONTACT SABP

BANGLADESH

Prof. Dr. M. Imdadul Hoque
Department of Botany
University of Dhaka
Dhaka - 1000
Bangladesh
Email: mimdadul07@yahoo.com

UNITED STATES

Mrs. Libby Williams
Communications Manager
ILSI Research Foundation
1156 Fifteenth Street N.W., Suite 200
Washington, D.C. 20005-1743 USA
Email: lwilliams@ilsr.org
Twitter: @ILSIRF

INDIA

Dr. Vibha Ahuja
Chief General Manager
Biotech Consortium India Limited
Anuvrat Bhawan, 5th Floor
210, Deendayal Upadhyaya Marg
New Delhi 110 002 India
Email: vibhaahuja.bcil@nic.in

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