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South Asia Biosafety Program

BANGLADESH

Workshop on Standard Operating Procedures for Research and Release of Genome Edited Plants in Bangladesh

Mohammad Kamrul Hasan, Kamrun Nahar, and Mahmuda Khatun, Biotechnology Division, Bangladesh Agricultural Research Institute (BARI)

Participants and speakers at the Workshop on Standard Operating Procedures for Research and Release of Genome Edited Plants in Bangladesh (22 April 2024)

Genome editing, a cutting-edge revolutionary technology for precise and efficient targeted modification in the genome of plants, is being widely used by researchers worldwide. Recently, the "Standard Operating Procedures for Research and Release of Genome Edited Plants of Categories SDN-1 and SDN-2 in Bangladesh" (SOPs) was approved by the Ministry of Agriculture, Government of the People's Republic of Bangladesh. To keep pace with continued developments in agricultural biotechnology in Bangladesh, the Agriculture and Food Systems Institute's South Asia Biosafety Program (SABP), in cooperation with the Bangladesh Academy of Sciences (BAS) and Biotech Consortium India Limited (BCIL), organized the "Workshop on Standard Operating Procedures (SOPs) for Research and Release of Genome Edited Plants in Bangladesh" on 22 April 2024 at the BRAC CDM, Savar, Dhaka. This training was repeated on 23 April 2024 for a different audience. The workshops aimed to establish a network of practitioners who can exchange experiences and knowledge about the research, development, and regulation of plants derived from modern biotechnology.

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The workshop on 22 April 2024 included discussions on the SOPs and capacity building activities for researchers related to the guidelines and necessary activities for developing and releasing genome edited plants in Bangladesh. The event was honored by the presence of dignitaries in the field of genome editing. A total of twelve participants, including scientists from the National Agricultural Research System (NARS) and university teachers, attended the workshop. Presentations were made by eminent experts from Bangladesh and abroad, with representatives working on genome editing research from leading research institutions, universities, and the private sector. The program included presentations by subject-specific experts on the SOPs, the global regulatory landscape, the process and techniques for demonstrating the absence of transgenes, and document preparation for releasing genome edited plants.

The event was facilitated by Ms. Dil Afroj Moni, Program Officer, SABP, Bangladesh. The workshop commenced with welcome remarks by Dr. Rakha Hari Sarker, Professor, Dhaka University and Country Coordinator, SABP, followed by opening remarks by Dr. Md. Tofazzal Islam, Professor and Founding Director, Institute of Biotechnology and Genetic Engineering, Bangabandhu Sheikh Mujibur Rahman Agricultural University (BSMRAU). Dr. Kutubuddin Molla, Scientist, Crop Improvement Division, ICAR National Rice Research Institute (ICAR-NRRI), India, delivered a lecture introducing genome editing in the context of agriculture and plant breeding, during which he highlighted genetic variation, base editing, prime editing, intellectual property issues, and the commercialization of genome edited organisms.

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Participants at the workshop (22 April 2024).

Dr. Kutubuddin Molla and Dr. Karen Hokanson at the workshop (22 April 2024)

He also delivered a talk about the process and techniques for demonstrating the absence of transgenes in genome edited plants, covering how to screen for transgene-free genome edited plants in detail. Dr. M.K. Reddy, Visiting Scientist and former Group Leader of the Crop Improvement Group, International Centre for Genetic Engineering and Biotechnology (ICGEB), briefed participants on the practical considerations for the application of genome editing techniques in crops, sharing his knowledge and research experience with the participants. He talked about the challenges he faced and how he overcame various constraints during his research work, as well as previous training programs he delivered in Bangladesh. Dr. Aparna Islam, Professor, Brac University and AFSI Fellow, gave an informative talk on the "Standard Operating Procedures for Research and Release of Genome Edited Plants of Categories SDN-1 and SDN-2 in Bangladesh," during which she discussed the approval procedures for genome edited plants in the country.

Dr. Kutubuddin Molla [...] delivered a talk about the process and techniques for demonstrating the absence of transgenes in genome edited plants, covering how to screen for transgene-free genome edited plants in detail.

Dr. Karen Hokanson, Senior Manager, Scientific Programs, AFSI, in her presentation titled "Understanding the Global Regulatory Landscape for Genome Edited Plants," explained Bangladesh's position with respect to the global status of national genome editing plant policies/regulations and ideal regulatory landscape. Dr. Vibha Ahuja, Chief General Manager, Biotech Consortium India Limited (BCIL), covered the format and review of SDN-1 and SDN-2 genome edited plants in her lecture on the preparation of documents for the release of genome edited plants. As per the published SOPs in Bangladesh, there are no regulatory barriers to releasing SDN-1 and SDN-2 categories of genome edited plants, which will promote genome editing research in Bangladesh. The workshop concluded with an interactive discussion with the participants.

Dr. Vibha Ahuja answering questions at the workshop (22 April 2024).

Participants at the workshop (22 April 2024).

BANGLADESH

Personal Experience at the Workshop on Standard Operating Procedures for Research and Release of Genome Edited Plants in Bangladesh

Pronabananda Das, Senior Scientific Officer, Institute of Food and Radiation Biology, Bangladesh Atomic Energy Commission

Participants and speakers at the Workshop on Standard Operating Procedures for Research and Release of Genome Edited Plants in Bangladesh (23 April 2024).

I am writing to extend my heartfelt gratitude for the opportunity to participate in the "Workshop on Standard Operating Procedures for Research and Release of Genome Edited Plants in Bangladesh," hosted by the South Asian Biosafety Program (SABP) on 23 April 2024 at BRAC CDM, Savar, Bangladesh. The event proved to be immensely enlightening and enriching, thanks to the distinguished resource persons and the diverse pool of participants from various research organizations, including the National Institute of Biotechnology, Bangladesh Atomic Energy Commission, Bangladesh Agricultural Research Council, etc., and academic institutions like Barisal University.

As a researcher involved in crop mutation breeding programs under the Bangladesh Atomic Energy Commission's Institute of Food and Radiation Biology, I am interested in genome editing and, particularly, CRISPR-Cas9 technology. I am deeply grateful for this opportunity to delve into the intricacies of genome editing technology. The expertise and insights shared by esteemed speakers, such as Prof. Dr. Rakha Hari Sarker, Prof. Dr. Aparna Islam, Dr. M. K. Reddy, Dr. Vibha Ahuja, Dr. Karen Hokanson, and Dr. Kutubuddin Molla were truly remarkable. Their presentations not only elucidated the technical aspects of genome editing but also shed light on the ethical and regulatory considerations associated with this revolutionary technology. Dil Afroj Moni, Program Officer of the South Asia Biosafety Program (SABP), was very amiable and cooperative with the participant's needs.

Understanding the precise nature of CRISPR-mediated trait modification and its implications for biosafety has enhanced my perspective on crop improvement strategies.

As someone whose work revolves around creating random, nonspecific changes in plant traits through mutation breeding, I found the comparison between mutation breeding and CRISPR-Cas9 gene editing mechanisms particularly illuminating. Understanding the precise nature of CRISPR-mediated trait modification and its implications for biosafety

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Participants at the workshop (23 April 2024).

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Dr. Kutubuddin Molla delivering a presentation at the workshop (23 April 2024).

has enhanced my perspective on crop improvement strategies and regulatory frameworks. This workshop taught me about the status of research on genome editing using plants worldwide, including in Bangladesh. I am glad to know that there are several universities and research organizations currently working on genome editing of important crop varieties in Bangladesh, and that the Ministry of Agriculture has released the standard operating procedures for research and release of genome edited crop plants.

Moreover, the interactive sessions and discussions facilitated fruitful exchanges of ideas and experiences among participants from diverse backgrounds. Engaging with fellow researchers and university teachers provided valuable insights and perspectives, enriching my understanding of the challenges and opportunities inherent in genome edited plant research and release.

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Moving forward, the knowledge and insights gained from this workshop will undoubtedly inform my research endeavors and contribute to the advancement of modern biotechnology, including genome editing in Bangladesh's agricultural sector. I am truly grateful for the opportunity to be part of such a meaningful and thought-provoking event, and I look forward to applying the learnings from this workshop to my work at the Bangladesh Atomic Energy Commission.

I would like to express my appreciation for the exceptional management of the workshop. The entire event was smoothly organized, from registration to the conclusion of the sessions. The clarity of communication, the punctuality of the schedule, and the overall professionalism demonstrated by the organizing committee were truly commendable. It made the entire experience seamless and enjoyable for all participants. Additionally, I would like to extend my gratitude for the provision of snacks and lunch during the workshop. It was evident that careful consideration was given to ensuring the satisfaction and comfort of all attendees. The opportunity to network and converse with fellow participants over a shared meal further enriched the overall experience of the workshop.

Once again, I extend my sincere appreciation to the organizing committee, speakers, and fellow participants for their contributions to making this workshop a resounding success. I eagerly anticipate future opportunities for collaboration and learning within this esteemed community.

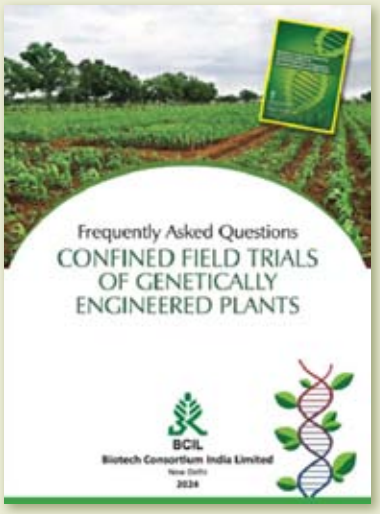
INDIA

Brochure on Frequently Asked Questions – Confined Field Trials of Genetically Engineered Plants

Dr. Vibha Ahuja, Chief General Manager, Biotech Consortium India Limited

Confined field trials (CFTs) are an integral part of the development of genetically engineered crops. In India, the approval of these trials follows the *Rules for the Manufacture, Use/Import/Export and Storage of Hazardous Micro Organisms/Genetically Engineered Organisms or Cells (Rules,1989)* and *Guidelines & Standard Operating Procedures (SOPs) for Confined Field Trials of Regulated, Genetically Engineered (GE) Plants, 2008*. Recognizing the need for a better understanding of CFTs among stakeholders, particularly at the state level, Biotech Consortium India Limited (BCIL) prepared a brochure on "Frequently Asked Questions – Confined Field Trials of Genetically Engineered Plants." The brochure answers 20 questions covering important information about CFTs in easy-to-understand language.

The brochure was prepared in line with the rules, guidelines, and practices followed in India and can be accessed at: biotech.co.in/en/publications-0



Brainstorming Workshop on Biotech Intervention in Cotton: Challenges and Opportunities

Dr. Raghavendra K. P., Senior Scientist (Biotechnology), ICAR-Central Institute for Cotton Research (CICR)

Group photo of participants and speakers at the Brainstorming Workshop on Biotech Intervention in Cotton: Challenges and Opportunities (4 April 2024).

Cotton is an extremely important crop for India, and the adoption of Bt cotton more than two decades ago helped significantly in improving yield and reducing the need for chemical insecticides. To date, more than 90% of the cotton cultivation area is under Bt cotton. The "Brainstorming Workshop on Biotech Interventions in Cotton: Challenges and Opportunities" was organized on 4 April 2024 by ICAR-Central Institute for Cotton Research (CICR), Nagpur and Biotech Consortium India Limited (BCIL), New Delhi, with support from the Federation of Seed Industry of India (FSII) at the ICAR-CICR campus in Nagpur. The workshop deliberations focused on challenges faced in cotton cultivation, particularly infestation by insects and how innovative biotechnology research can enhance productivity. The program for the workshop included a series of presentations by experts from public and private sectors, followed by discussions among stakeholders. The workshop was attended by approximately 80 participants representing experts, research scientists, and industry representatives engaged in cotton research and trade. Representatives of the state agriculture department, the textile industry, and some farmers also attended the workshop.

The workshop deliberations focused on challenges faced in cotton cultivation, particularly infestation by insects and how innovative biotechnology research can enhance productivity.

The workshop started with a welcome address by Dr. Y. G. Prasad, Director, ICAR-CICR, wherein he spoke about challenges faced in cotton cultivation, *viz.,* infestation of pink bollworm (PBW), cotton leaf curl disease (CLCuD), and other pests, weeds, and climatic conditions leading to stagnancy or even reduction in yield at several locations. He called for collective deliberations on the challenges and how biotech interventions can help deal with these issues.

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Participants at the workshop (4 April 2024).

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Speakers at the workshop (4 April 2024).

Dr. Vibha Ahuja, Chief General Manager, BCIL, indicated that after the introduction of Bt cotton, no further genetically engineered (GE) cotton has been released in India. However, there has been a significant increase in both the number and area under cultivation of GM crops globally. It is important to discuss the available opportunities and ways to move forward with technology developers. The technical deliberations were chaired by eminent experts from the public and private sectors, Dr. C.D. Mayee, former Chairman of the Agricultural Scientists Recruitment Board (ASRB), and Dr. Paresh Verma, Executive Director, Bioseeds Division, DCM Shriram Limited, Hyderabad. Dr. C.D. Mayee expressed his concern that no new GM technology for cotton has been released in India in the past 23 years, which needs urgent attention. Dr. Paresh Verma highlighted the difficulties faced in conducting confined field trials of new GM events, particularly when seeking No Objection Certificates (NOCs) from states.

Presentations on the technology leads available were made by the following experts from public and private organizations engaged in the research and development of GM cotton: Dr. Vairamani Ramanathan from Rallis India Limited; Dr. M. Saravanakumar from Rasi Seeds; Dr. P.K. Singh from CSIR-National Botanical Research Institute (NBRI), Lucknow; Dr. K.P. Raghavendra from ICAR-CICR, Nagpur; and Dr. Rajasekharam V. from Bayer CropScience, Hyderabad.

Dr. M. Ramasami, Chairman of RASI Seeds, reiterated the need for collaboration at both public-private and private-private institutions in the development and commercialization of new GM technologies for the benefit of cotton stakeholders. Dr. Prasad indicated the willingness of ICAR-CICR to collaborate with all agencies to support the testing of their technology and to deal with the national problems of pink bollworm and cotton leaf curl disease.

Detailed discussions were held among the stakeholders in attendance on strategies to take the technologies under development forward. The key takeaways were as follows:

i. Collaborative efforts are required to take forward potential leads and facilitate commercialization in order to develop workable solutions for dealing with challenges in cotton cultivation.
ii. Currently, pink bollworm (PBW) infestation is the top priority, for which intensive efforts are required in a collective manner.
iii. Collaborative research between public-private on the one hand and private-private labs on the other is imperative for the much-needed speedy breakthrough in the development of biotech solutions, fulfilling regulatory requirements, early commercial deployment for the management of cotton PBW in the country. Efforts should also be made to source new GM events effective against PBW globally for introduction.
iv. Since weed management costs have increased due to the shortage of labor, fast-tracking of herbicide tolerance in cotton is warranted.
v. Partnerships among technology developers and other organizations are essential to expedite testing and make technological advances available to farmers at the earliest opportunity. This would also require stacking of genes/events.
vi. Field testing is a crucial step in the development and evaluation of new events/varieties before their commercial release, the approval process for which needs to be streamlined. Seeking NOCs from states is a major bottleneck for conducting confined field trials.
vii. A responsive regulatory environment is essential for expeditious testing both at the level of RCGM/GEAC and the state level for the conduct of confined field trials and biosafety evaluation. Major impediments include:
    - Limited regulatory capacity related to agricultural biotechnology at the central and state levels.
    - Lack of a defined process to appraise and approve confined field trial proposals at the state level.
    - Lack of clear regulatory guidelines for stacked events, delays in application processing, etc.
viii. Efforts should be made to use all available options, including genetic engineering, gene editing, and gene drives for solutions.
ix. Investments in the public and private sectors need to be hastened as stagnancy in cotton production is affecting not only cotton farmers but also the textile industry.
x. Extensive public awareness needs to be created around GM technology to create a positive ecosystem and acceptability.
xi. Genetic technologies need to be combined with other interventions for effective management of insects and other issues, and hence, a package of technologies through partnerships is essential.

Workshops on Agricultural Biotechnology in Maharashtra and Gujarat

Anita Sharma and Dr. Arlene Asthana Ali, Biotech Consortium India Limited

Speakers at the Workshop on Progress in Agricultural Biotechnology: Policies and Practices in Maharashtra (4 December 2023)

In association with state agricultural universities and research institutions, Biotech Consortium India Limited (BCIL) jointly organized a series of state-level workshops on disseminating information about the scientific aspects of genetic technologies, including genetically modified (GM) crops and genome editing.

The workshop in Maharashtra was organized on 4 December 2023, in association with Mahatma Phule Krishi Vidyapeeth (MPKV), Rahuri. The workshop in Gujarat was organized on 12 March 2024, in association with Navsari Agricultural University (NAU) and Gujarat Biotechnology Research Centre. These interactive workshops provided a platform for stakeholders, *viz.,* policymakers, academics, researchers, industry representatives, and farmers, to deliberate on issues relevant to the development, field testing, and commercialization of GM crops and gene edited plants. The workshops were supported by the Federation of Seed Industry of India (FSII). Approximately 100-150 stakeholders participated at each venue.

These interactive workshops provided a platform for stakeholders [...] to deliberate on issues relevant to the development, field testing, and commercialization of GM crops and gene edited plants.

WORKSHOP AT MAHATMA PHULE KRISHI VIDYAPEETH (MPKV), RAHURI

The workshop was coordinated by Dr. A. A. Kale, Professor and In-Charge, MPKV State Level Biotechnology Centre. Welcoming the participants, Dr. S.D. Gorantiwar, MPKV Director of Research, expressed his appreciation of this initiative, as it was very timely, in view of recent decisions by the Government of India. Col. Dr. Prashant Kumar Patil, MPKV Vice Chancellor, emphasized the need for adopting novel tools and techniques for increasing agricultural

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Participants at the workshop in Maharashtra (4 December 2023)

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Participants at the Workshop on Progress in Agricultural Biotechnology: Policies and Practices in Navsari (12 March 2024).

productivity. He also briefed the participants about various initiatives underway at MPKV and offered technology developers support.

Dr. B. Venkateswarlu, former Member, Genetic Engineering Appraisal Committee (GEAC) and former Vice-Chancellor, V.N. Marathwada Agricultural University, Parbhani, reiterated the urgent need for new technologies like GM crops and gene edited plants to meet the challenges faced by farmers in the state of Maharashtra. He indicated that the conduct of confined field trials (CFTs) is an extremely important step in the biosafety evaluation of GM crops and informed the audience about the committee constituted by the state government, comprised of Vice Chancellors of all four SAUs in the state and other experts, to evaluate requests to conduct CFTs in the state.

He indicated that the conduct of confined field trials (CFTs) is an extremely important step in the biosafety evaluation of GM crops.

The following experts from the public and private sectors provided updates about developments in agricultural biotechnology and policies: Prof. K.C. Bansal, Former Director, ICAR-National Bureau of Plant Genetic Resource; Dr. Paresh Varma, Executive Director-Bioseeds Division, DCM Shriram Limited, Hyderabad; Dr. K. P. Raghavendra, Sr. Scientist, ICAR-Central Institute for Cotton Research (CICR), Nagpur; Dr. Satendra Kumar Mangrauthia, Senior Scientist, ICAR-Indian Institute of Rice Research, Hyderabad; Dr. Vibha Ahuja, Chief General Manager, BCIL; Dr. Anup Nimbalkar, Mahyco Private Limited and Dr. Kirtikumar R. Kondhare, Assistant Professor, CSIR-National Chemical Laboratory.

The panel discussion was chaired by Dr. Ashok S. Jadhav, former Department Head of Agril. Botany and Professor and In-Charge of MPKV State Level Biotechnology Centre. Representatives from academia, including scientists from MPKV and other agricultural universities/colleges in Maharashtra, industry representatives, Maharashtra state agriculture department officials, progressive farmers, and students actively participated in the discussions. There was a clear consensus to undertake active research and field testing of GM and gene edited crops for crop improvement.

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Speakers at the workshop in Navsari (12 March 2024).

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WORKSHOP AT NAVSARI AGRICULTURAL UNIVERSITY (NAU), NAVSARI

The workshop was coordinated Dr. Vipul Kumar Patel, Assistant Professor, NAU College of Forestry. Dr. T.R. Ahlawat, NAU Director of Research, expressed his appreciation of recent initiatives by the Government of India, particularly those related to gene edited plants, GM mustard, and CFTs. He indicated that NAU has been at the forefront of providing support for Bt cotton adoption and conducting active research. He informed the audience that the university has also partnered with the Banana Biofortification Project, and event selection trials have been planted at Gandevi station. He spoke about the need for both public and private sector collaborations, trained manpower, and funds, and he highlighted the role of private companies in distributing seeds of good quality.

Participants spoke about the need to sensitize national and state-level policymakers about the benefits of the technology.

Dr. Madhvi Joshi, Joint Director, Gujarat Biotechnology Research Centre (GBRC), Gandhinagar, also stressed the need for novel technologies to deal with challenges in agriculture. She informed the audience about the extensive use of GM crops and CRISPR technology globally and opined that these developments can bring significant contributions to India. However, scientific innovations need policy support at both the central and state levels. She also spoke about research initiatives at GBRC and highlighted the example of fungus resistance in potato and cumin.

Presentations were made by the following speakers: Dr. Paresh Verma; Dr. M.C. Patel, Research Scientist (Cotton), Main Cotton Research Station, NAU, Surat; Dr. Siddharth Tiwari, Scientist-E, National Agri-Food Biotechnology Institute (NABI), Mohali; Dr. Vibha Ahuja; and Dr. Ankur P. Patel, Associate Research Scientist (Fruit), Fruit Research Station, NAU, Navsari.

The discussion with stakeholders was moderated by Dr. Lalit Mahatma, Associate Director of Research, NAU and Dr. Sanjay Jha, Principal and Dean of ASPEE SHAKILAM Biotechnology College, NAU, Surat. Representatives from the seed industry and state agriculture department, faculty, scientists, and students participated. During the discussion, participants spoke about the need to sensitize national and state-level policymakers about the benefits of the technology and socio-economic impact, in simple language through brochures and publications.

On this subject, Mr. Raghavan Sampathkumar, Federation of Seed Industry of India, informed the audience about their plan to launch a platform featuring scientists/students and explaining their research in a way that is easy to understand. It was agreed that workshops should be organized on a regular basis for SAUs, state agriculture departments, and students for sensitizing and training purposes. The need for government support for investment in agriculture research, along with the implementation of enabling policies, was emphasized.

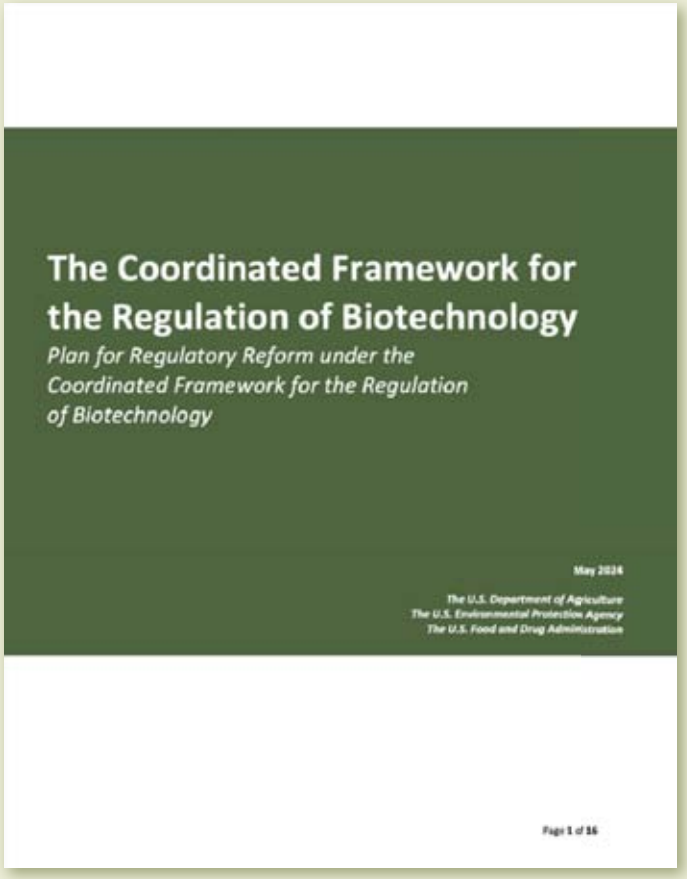
INDIA

Regulatory Reforms for Biomanufacturing

Dr. Vibha Ahuja, Chief General Manager,
Biotech Consortium India Limited

Biomanufacturing utilizes biological systems to produce commercially important biomolecules for use in multiple sectors, including health, agriculture, food, material, and energy. Biotechnology innovations and the use of advanced tools, including synthetic biology, genome editing, microbial bio-resources, and metabolic engineering, are key to achieving high-performance biomanufacturing. Many countries have recognized the need to strengthen the ecosystem and specific policies so that biomanufacturing can effectively contribute to shaping their bio-economies.

United States President Joe Biden issued Executive Order 14081 in 2022. Among other objectives, the Executive Order on "Advancing Biotechnology and Biomanufacturing Innovation for a Sustainable, Safe, and Secure American Bioeconomy" was highlighted to support the safe use of biotechnology products by clarifying and streamlining regulations in service of a science and risk-based regulatory system that is predictable, efficient, and transparent. It directed three U.S. agencies involved in the regulation of biotechnology, *viz.*, the U.S. Environmental Protection Agency (EPA), U.S. Food and Drug Administration (FDA), and U.S. Department of Agriculture (USDA), to identify regulatory ambiguities, gaps, and uncertainties, and to provide a plan for regulatory reforms to achieve the desired objectives. In May 2024, the three agencies, after consultation with stakeholders, released a plan to update, streamline, and clarify their regulations and oversight mechanisms for products of biotechnology.



The plan provides useful insights into potential regulatory requirements for expediting biomanufacturing initiatives. The Department of Biotechnology (DBT), Government of India, has also called for a paradigm shift towards a bio-based circular carbon economy by adopting an integrated and inclusive approach to bio-manufacturing. Within the larger framework of the biomanufacturing initiative, DBT has identified 14 sub-sectors across six thematic areas as India aims to become a leading biomanufacturing hub.

The Coordinated Framework for the Regulation of Biotechnology can be accessed at:
usbiotechnologyregulation.mrp.usda.gov/eo14081-section8c-plan-reg-reform.pdf

CALENDAR OF EVENTS

EVENT	ORGANIZED BY	DATE	WEBSITE
INDIA			
International Seminar on Spices KAU 2024 (ISSK 2024)	Kerala Agricultural University	5-7 June 2024 Thiruvananthapuram	http://issk2024.com https://www.kau.in
ISSCT 13th Germplasm & Breeding/ 10th Molecular Biology Workshop	ICAR-Sugarcane Breeding Institute and Society for Sugarcane Research and Development	8-12 July 2024 Coimbatore	https://sugarcane.icar.gov.in/index.php/issctworkshop2024/
Global Conference on Nano Connect 2024	Centre for Agricultural Nanotechnology, Directorate of Natural Resource Management, Tamil Nadu Agricultural University	20-24 August 2024 Coimbatore	https://tnau.ac.in/
INTERNATIONAL			
Eleventh Meeting of the Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol on Biosafety	CBD Secretariat	21 October-1 November 2024 Cali, Colombia	https://bch.cbd.int/protocol#tab=2
BIO 2024	Biotechnology Innovation Organization	3-6 June 2024 San Diego, California, USA	https://convention.bio.org/
3rd International Wheat Congress (IWC)	Murdoch University	22-27 September 2024 Perth, Australia	https://www.iwc2024.com/
Asian Seed Congress 2024	Asia & Pacific Seed Alliance (APSA) and the China National Seed Trade Association (CNSTA)	2-6 December 2024 Sanya, China	https://web.apsaseed.org/asc2024

SOUTH ASIA BIOSAFETY PROGRAM

The South Asia Biosafety Program (SABP) is an international development program implemented in India and Bangladesh with support from the United States Agency for International Development (USAID). 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.

Agriculture & Food Systems Institute

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