

South Asia Biosafety Program

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ANNOUNCEMENT

Standard Operating Procedures for Research and Release of Genome Edited Plants of Categories SDN-1 and SDN-2 in Bangladesh, 2023

Dr. Bhavneet Bajaj and Ms. Layla Tarar, Agriculture and Food Systems Institute

The Agriculture and Food Systems Institute (AFSI), through its South Asia Biosafety Program (SABP), at the request of the Bangladesh Academy of Sciences (BAS) and Bangladesh Agricultural Research Council (BARC), has collaborated with stakeholders in Bangladesh on a series of webinars and conferences on the topic of genome editing in plants since October 2021. These activities, such as the Conference on Genome Editing in Plants: Harnessing the Benefits for Bangladesh organized on 18-19 October 2022, have raised the profile of new plant breeding techniques in Bangladesh and spurred discussion on the appropriate regulatory framework for genome edited plants, particularly within the Ministry of Agriculture. On 19 July 2022, BAS, supported by SABP, assembled a technical committee for gene edited plants, which, upon invitation by the Secretary of the Ministry of Agriculture, proposed an appropriate mechanism to allow the use and introduction of gene edited plants in Bangladesh. Ensuing discussions with members of the BAS technical committee, Director Generals, senior scientists from research institutions within the National Agricultural Research System (NARS) in Bangladesh, and other academics, led to the drafting of *Standard Operating Procedures for Research and Release of Genome Edited Plants of Categories SDN-1 and SDN-2 in Bangladesh, 2023*, which BARC published in December 2023. The purpose of this SOP is to facilitate the research and release of genome edited plants falling under the categories of SDN-1 and/or SDN-2 in Bangladesh.

Download the SOP at:

<https://bangladeshbiosafety.org/bangladesh-doc/sop-genome-edited-plants-bangladesh-2023/>



Guests and organizers at the Conference on Genome Editing in Plants: Harnessing the Benefits for Bangladesh (18 October 2022)

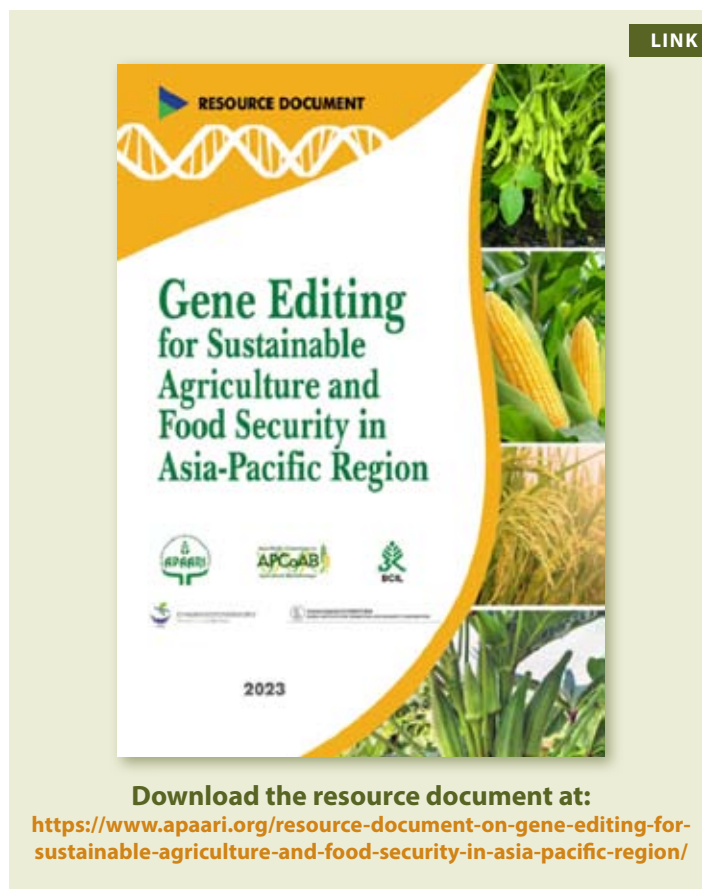
High-Level Policy Dialogue on Gene Editing for Sustainable Agriculture and Food Security in the Asia Pacific Region

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

Agricultural biotechnology has been used to produce several crops with improved agronomic properties, enhanced resilience to pests, diseases, and adverse environmental conditions (e.g., drought and flooding), and nutritional improvement, etc. More recently, the agricultural biotechnology toolbox has been expanded through the addition of newer molecular plant breeding techniques (NBTs) that make targeted changes within the plant DNA to alter specific traits. This toolkit is commonly referred to as genome (or gene) editing. The toolbox is still expanding, and techniques being used for gene editing include mega nucleases, Zinc Finger Nucleases (ZFNs), Transcription Activator-like Effector Nucleases (TALENs), CRISPR systems, Oligonucleotide Directed Mutagenesis (ODM), base editing, prime editing, etc.

Anticipating the eventual introduction of gene-edited plants and their products in the market, the Asia-Pacific Association of Agricultural Research Institutions (APAARI) led some initiatives in the Asia Pacific Region. As an outcome of the deliberations of a series of webinars and published literature, a Resource Document on “Gene Editing for Sustainable Agriculture and Food Security in Asia Pacific Region” was prepared. The document highlights the potential contribution of gene editing in enhancing food security and provides an overview of the science behind the techniques. It also presents more details on the status of gene edited plants under development and provides a rich source of reference materials and links to databases to facilitate a more comprehensive understanding of this technique.

A study of existing and emerging policies for genome edited plants indicates that there is a growing consensus that gene edited plants that do not contain exogenous DNA will not be regulated as transgenics or as classical genetically modified organisms (GMOs). Many countries are



Participants at the High-Level Policy Dialogue on Gene Editing for Sustainable Agriculture and Food Security in the Asia Pacific Region (11 December 2023).

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inclined to regulate SDN-1/SDN-2 genome edited products in the same way as products of conventional breeding. The need for harmonized, risk-proportionate, compatible regulatory approaches to products of genome editing has been emphasized.

A High-Level Policy Dialogue on Gene Editing for Sustainable Agriculture and Food Security in the Asia Pacific Region was organized on 11-12 December 2023 at the Berkeley Hotel, Bangkok, Thailand, to share experiences and the way forward, especially for the developing and the least developed countries in the region. Presentations were made by experts from leading research institutions working on gene edited plants, the private sector,

Many countries are inclined to regulate SDN-1/SDN-2 genome edited products in the same way as products of conventional breeding.

industry associations, and the Food and Agriculture Organization (FAO). Thirty participants attended the event, including researchers, representatives of various public institutions and the private sector, policy-makers, and scientists from member countries of APAARI, international agricultural research centers, and government departments and bodies.

Participants deliberated on strategies for the development and commercialization of gene edited products in the Asia Pacific region. They had in-depth discussions on capacity building requirements, institutional strengthening and human resource development, international linkages, collaborations and partnerships, and communication strategies.



Participants at the High-Level Policy Dialogue on Gene Editing for Sustainable Agriculture and Food Security in the Asia Pacific Region (11 December 2023).

INDIA

Workshop on GM Crops and Their Derivatives for the Livestock Sector

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

The ICAR-National Dairy Research Institute (NDRI) and Biotech Consortium India Limited (BCIL) organized a knowledge-sharing workshop on “GM Crops and Their Derivatives for the Livestock Sector” on 19 December 2023 at ICAR-NDRI in Karnal, India. The workshop’s objective was to provide an update on GM crops and their derivatives for the livestock sector, discuss their safety and nutritional aspects, understand the needs of the livestock sector, and deliberate on harnessing the opportunities to use GM crops/products for the benefit of the livestock sector.

Dr. Dheer Singh, Director, ICAR-NDRI, provided the opening remarks wherein he spoke about the developments in the dairy sector and the

targets for enhancing milk productivity. He expressed his appreciation of the initiative to organize a knowledge-sharing workshop on GM crops at ICAR-NDRI. He opined that the dairy sector has benefitted from the use of GM cottonseed meal following the approval of Bt cotton in India and expressed his hope that all such interventions would contribute to increasing feed availability. He indicated that the livestock sector, in general, is supportive of GM technology. However, knowledge dissemination among stakeholders is essential. He thanked BCIL for its efforts in creating awareness about the safety and nutritional aspects of GM crops.

In line with the objective, the program included presentations by subject-specific experts on the growth of the livestock sector, feed demand

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Dr. Dheer Singh, Director, ICAR-NDRI (center), seated with Dr. A.K. Singh (left) and Dr. Vibha Ahuja (right), at the workshop (19 December 2023).

and availability, nutritional and safety aspects of GM crops, biotech interventions for crop improvement in the context of global feed availability and quality, and the use of GM crops. Presentations were delivered by the following speakers: Dr. Ani Bency Jacob, Animal Nutritionist, Department of Animal Husbandry, Dr. Vibha Ahuja, Chief General Manager, BCIL, Dr. Sanjeev Kalia, Senior Manager, Government Affairs and Advocacy Executive, BASF India Limited, Mr. Amit Sachdev, Regional Consultant-South Asia, US Grains Council, Dr. Gautam Mondal, Principal Scientist,

Animal Nutrition Division. The workshop was coordinated by Dr. Nitin Tyagi, Principal Scientist, ICAR-NDRI, Karnal.

There was a panel discussion and interactive session with experts from institutions and industry associations, along with representatives of ICAR institutions engaged in livestock research, the state government, and progressive farmers. A total of 74 participants from research institutions, government, and industry (livestock sector and leading feed producers) attended this workshop.



Speakers and participants at the workshop (19 December 2023).



Speakers at the workshop (19 December 2023).

CALENDAR OF EVENTS

EVENT	ORGANIZED BY	DATE	WEBSITE
INDIA			
DST-SERB Sponsored Workshop on Application of Molecular and Genomic Tools for Biofortification in Crops	ICAR-Indian Agricultural Research Institute (IARI)	27-29 February 2024 New Delhi	https://www.iari.res.in/en/index.php
National Conference on Novel Strategies for Mitigating Biotic and Abiotic Stresses for Agricultural and Environmental Sustainability	ICAR-National Institute of Biotic Stress Management (ICAR-NIBSM), in collaboration with Amity University Chhattisgarh (AUC) and ICAR-National Institute of Abiotic Stress Management (ICAR-NIASM)	28- 29 February 2024 Raipur	https://nationalconference2024.raipur.org/
12 th Indian Seed Congress 2024: Seeds for Sustainable Agriculture	National Seed Association of India	28 February-1 March 2024 Pune	https://isc.nsai.co.in/
DST-SERB Sponsored Workshop on Genomics Mediated Breeding Strategies to Develop Climate Resilient Nutrient-Dense Pulse Crops	ICAR-Indian Institute of Pulses Research (IIPR)	6-8 March 2024 Kanpur	https://iipr.icar.gov.in/
SKV National Conference 2024: Agriculture in 2050 - Technology Development and Dissemination	Jawaharlal Nehru Krishi Vishwa Vidyalaya	1-3 March 2024 Jabalpur	http://jnkvv.org/
ISSCT 13 th Germplasm & Breeding/ 10 th 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/
INTERNATIONAL			
Second Meeting of the <i>Ad Hoc</i> Technical Expert Group on Risk Assessment	CBD Secretariat	27 February-1 March 2024 Montreal, Canada	https://bch.cbd.int/protocol#tab=2
Nineteenth Meeting of the Compliance Committee under the Cartagena Protocol on Biosafety	CBD Secretariat	20 April-2 May 2024 Montreal, Canada	https://bch.cbd.int/protocol#tab=2
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 <i>Venue TBD</i> , Colombia	https://bch.cbd.int/protocol#tab=2



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.


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