#### **3RD EDITION**

# THE GENOME

#### THE NEWSLETTER

## HEADLINES

#### GM SOYBEAN A step forward for GM

Soybean regulation in Pakistan and its economy: In 29th NBC Pakistan Grants Approval for Import of GM Soybean Grain for Food, Feed, and Processing (FFP)



This decision is set to pave the way for improved poultry feed availability, leading to reduced poultry prices and supporting food security in Pakistan

Participation of Pak-BCH members in 7th Asian Short Course on Agribiotechnology, Biosafety Regulation, and communication





#### A Message from Director General Pak-EPA

I emphasize our unwavering commitment to safeguarding Pakistan's biological diversity while facilitating the safe transfer and use of Genetically Modified Organisms (GMOs). Our transparent information-sharing mechanisms and stringent regulatory framework ensure compliance with the

Cartagena Protocol on Biosafety, serving our nation's sustainable development goals.

#### CULTIVATING BIOSAFETY IN PAKISTAN Innovation Meets Responsibility

Modern biotechnology offers groundbreaking solutions—from agricultural resilience to healthcare advancements. Yet, with innovation comes responsibility. For ensuring biosafety, Pakistan's commitment to promoting safe and sustainable biotechnology practices is firmly anchored in the Pakistan Biosafety Rules 2024 and the National Biosafety Guidelines 2024. Established under the Pakistan Environmental Protection Act, 1997 (PEPA), these rules and guidelines have been notified by the Pakistan Environmental Protection Agency to provide comprehensive oversight of Genetically Modified Organisms (GMOs) and products thereof. The guidelines integrate the global biosafety standards, i.e. The Cartagena Protocol together with

Pakistan's unique needs of regulation for research on GMOs. Institutional Biosafety Committees (IBCs) play a central role in monitoring compliance and fostering a culture of accountability and responsibility among the relevant stakeholders.

#### Looking Ahead

With increasing focus on GMOs and cross-cutting research on biotechnological advancement, collaboration among scientists, policymakers, and institutions is more critical than ever. Together, it can ensure that innovation thrives in an environment of safety and responsibility. *For full text visit*:

Pakistan Biosafety Rules 2024 National Biosafety Guidelines 2024

### BRIEFS

#### From Lab to Global Fields: How did GM Soybean Change the World?

Do know soybean vou that transformation was reported in 1988? **Scientists** successfully transformed soybean using the Agrobacterium tumefaciens, а method that allowed genes to be inserted into the soybean genome. Genetically Modified (GM) Soybean became one of the main crops in 1996 when the first crop was commercialized on a large scale.

GM Soybean is currently the most important source of feed protein in Europe and other countries around the world. The economic importance of soybean as a source of animal feed, cooking oil, soy milk and other food items for human, and industrial use (biofuel production) has made this crop one of the main targets for genetic improvement.

Soybean is planted on large scales in USA, Brazil, & Argentina, which are the three main GM crop producers. Today, over 70% of the global soybean production is genetically modified. USA is the first largest producer of soybean in the world followed by Brazil which is expected to take the first place in the future.

#### FRAMEWORK FOR GM SOYBEAN GRAIN

#### Regulating Pakistan's Path to Safe and Sustainable FFP

In 2024, Pakistan amended the National Biosafety Guidelines 2005, adding Chapter 14 to outline the procedure for regulating the import of Genetically Modified (GM) Soybean grain for Food, Feed, and Processing (FFP), ensuring robust safety assessments and food security.

Each case is evaluated for GM events, sourcing, processing, and risk assessments on environment, nutrition, allergenicity, and toxicity, ensuring safe, authorized imports of GM Soybean in compliance with international standards.

Importers must provide detailed documentation, including origin certificates, GMO content declarations, and safety assessment reports from the country of origin. This structured approach addresses specific food security and safety needs of Pakistan.

There are 47 events/products of GM soybean grain

Chicken remains the Per capita poultry crown jewel of meat consumption is protein sources for set to soar by 1.1 Pakistanis, with kilograms in the nearly 40% of the coming years, population relying on underscoring its it as an affordable growing demand dietary staple. across the nation. Poultry industry In 2020 alone. meets 50% of the Pakistan's domestic total demand for sovbean oil consumption hit a meat in the country staggering 530,000 metric tons.

#### **CHICKEN: PAKISTAN'S FAVORITE PROTEIN**



Rising poultry demand is driving increased consumption of soybean-based products for feed, highlighting the growing synergy between the poultry and soybean sectors to meet the nation's need for affordable protein.

GM soybean offer enhanced resilience, economic advantages, and play a crucial role in bolstering global food security, making them an essential part of contemporary agriculture.

# Insider Feeds –

#### Technical Advisory Committee (TAC) Meetings



Pakistan is prioritizing the advancement of GM research and strengthening its regulatory framework for GMO adoption. Recent discussions in the 35th, 36th & 37th reviewed GM soybean imports for food, feed, and processing (FFP).

Efforts are underway to generate local biosafety data, foster public-private partnerships, and invest in research to ensure safe and sustainable GMO practices. The focus remains on positioning Pakistan as a global leader in agricultural biotechnology through innovation and increased public awareness.

#### National Biosafety Committee (NBC) Meetings



The 28th, 29th, and 30th NBC meetings, held between July and October, focused on advancing GM regulation in Pakistan. These sessions aimed to streamline regulatory processes for greater efficiency and transparency. Key decisions included the approval of GM grain imports for Food, Feed, and Processing (FFP), addressing food security needs. The committee also reviewed strategies for the commercialization of GM crops to enhance agricultural productivity. These discussions marked significant progress in aligning Pakistan's biosafety framework with global standards.

#### PAKISTAN GREENLIGHTS GM SOYBEAN IMPORT

NBC Approves the First-ever License for Import of GM Soybean Grain for 77P

In a historic breakthrough during the 29th NBC meeting, Pakistan made a stride with the approval of its first-ever license for importing GM Soybean grain for FFP purposes. This approval was made possible after amendments in the Pakistan Biosafety Rules, 2005 (amended 2024), and formal approval from the Cabinet.

This landmark decision opens new Biosafety licenses are issued per avenues for food security and biotechnological development. The Biosafety Rules 2024, and notable role of NBC in strategic National Biosafety Guidelines deliberations on the import of GM 2024, and laws enforced by the soybean grain promises economic progress and research (DPP) or any other relevant development of Pakistan.

By granting licenses to importers of GM soybean grain, NBC has demonstrated its commitment to thorough scientific assessment. This strategic move ensures a balanced analysis of biosafety regulation, economic welfare, and agricultural prosperity.



#### EMPOWERING CHANGE: BRIDGING SCIENCE AND SAFETY

Capacity Building of Pak-BCH Officers through Agribiotechnology and Communication

The Pakistan Biosafety Clearing House (Pak-BCH) delegation participated in a high-level regional event - the 7th Asian Short Course on Agribiotechnology, Biosafety Regulation, and Communication, held from September 2-6, 2024, in Bangkok, Thailand. This strategic gathering provided an immersive learning experience focusing on emerging developments in agricultural biotechnology and biosafety frameworks. Our team gained invaluable insights into global best practices and innovative approaches through collaborative sessions with international experts. The knowledge acquired from this intensive five-day program will strengthen Pakistan's biosafety regulatory mechanisms and foster advancement in biotechnology applications. This international exposure reinforces our commitment to implementing robust biosafety measures while promoting sustainable agricultural innovations for national food security.



ASCA7 2024

7<sup>th</sup> Asian Short Course on Agribiotechnology, Biosafety Regulation, and Communication September 2 - 6, 2024 | Maruay Garden Hotel | Bangkok, Thailand

#### A STEP TOWARDS A DIGITALIZED AND STREAMLINED GM APPLICATION PROCESS

- The Pakistan Biosafety Clearing House (Pak-BCH) has launched an online portal, currently in its trial phase, to facilitate the Institutional Biosafety Committees (IBCs) to submit and process applications for approval of GMrelated work.
- This portal offers all relevant information, simplifying the submission process and reducing paperwork.
- It'll also update the IBCs and related institutes about the rules and guidelines governing GM-related cases.
- This digital transition marks a key step toward technological efficiency and transparency in Pakistan's biosafety processes. For a preview, you can visit the demo version of the portal at: <u>https://bch.environment.gov.pk/</u>

#### SAFEGUARDING COMPLIANCE STANDARDS

🖉 🚟 🤬 🚯 Aramigon Mutata & Corteva 🕼 attal 🗶 USSR Cus. Granes Cropler

Meeting of the Variety Evaluation Committee (VEC) for Cotton

On 9th August 2024, a team from Pak-BCH including Deputy Directors, Field Coordinators, and Field Associate monitored GM cotton varieties during the First Variety Evaluation Committee (VEC) meeting at CCRI Multan. Pak-BCH's involvement ensured that biosafety regulations were strictly followed when evaluating candidate cotton varieties. Their oversight focused on assessing biosafety standards for pest and disease resistance, environmental adaptability, and the safe commercialization of GM cotton in line with This Pakistan's biosafety regulatory framework. participation underscores Pak-BCH's commitment to ensuring that GM cotton varieties introduced in Pakistan meet rigorous safety and performance criteria.



/Website: https://environment.gov.pk/ LinkedIn: https://www.linkedin.com/in/pakistan-biosafety-clearing-house-5b40782bb