

THE GENOME

The NEWSLETTER

Cartagena Protocol (CP)

Pakistan is signatory to 15 Multilateral Environmental Agreements (MEAs). Out of all MEAs, the Cartagena protocol on Biosafety is the supplementary agreement to the Convention of Biological Diversity (CBD) dealing primarily with the safe handling, transport, and use of living modified organisms (LMOs)/Genetically modified organisms (GMOs). **At present, 173 countries are party to the protocol.** The protocol ensures that modern biotechnology does not harm biodiversity or human health.

The Cartagena Protocol encompasses 40 articles outlining the fundamental provisions for the safe handling of GMOs/LMOs.

For more information:

<https://bch.cbd.int/protocol>

Articles under Cartagena Protocol



Administrative and Decision-Making Procedures
Article 1,2, 8,9, 10, 12, & 13



Risk Assessment and Management
Article 15, 16, 17



Information and Public Awareness
Article 20, 21, 22, 23, 29



Legal and Compliance Measures
Article 25, 26, 27, 28, 30, 31, 32, 33, 34, 35



Technical and Operational Provisions
Article 18, 19, 24, 36, 37, 38, 39, 40

Main Pillars of CP

ARTICLE 7: ADVANCED INFORMED AGREEMENT (AIA)

Requires exporters to notify about any intended transboundary movement of LMOs

ARTICLES 15 & 16: RISK ASSESSMENT AND MANAGEMENT

Establishes guidelines for assessing and managing risks associated with LMOs

ARTICLE 20: BIOSAFETY CLEARING HOUSE (BCH)

A mechanism to facilitate the exchange of information on LMOs

ARTICLE 22: CAPACITY BUILDING

Promotes the development of human resources and institutional capacities

ARTICLE 23: PUBLIC AWARENESS AND PARTICIPATION

Encourages public involvement in biosafety decision-making processes

Establishment of Biosafety Clearing House (BCH)

Pakistan Biosafety Clearing House (Pak-BCH) is established to regulate GMOs/LMOs to comply with the Cartagena Protocol on Biosafety under **Pakistan Environmental Protection Act 1997, Pakistan Biosafety Rules, 2005 (amended 2024)** and the **National Biosafety Guidelines, 2005 (amended 2024)**.

Regulation of GMOs for all 04 categories i.e. laboratory manipulation work, field trial, commercialization and import of GMOs for Food Feed or for Processing (FFP) purposes are regulated under the following three tiers:

- Institutional Biosafety Committee (IBC)
- Technical Advisory Committee (TAC)
- National Biosafety Committee (NBC)



Goals of PAK-BCH

Establish the Biosafety Clearing House (BCH) to implement the Cartagena Protocol under the CBD

Regulate GMOs through the development and enforcement of necessary procedures

Enforce Pakistan's Biosafety Rules & National Biosafety Guidelines (2005), amended 2024

Oversee the import/export, storage, handling, and release of GMOs in compliance with biosafety regulations



GMOs Regulation



The NBC and TAC meetings underscore Pakistan's commitment to regulating GMO activities. **34th TAC** and **27th NBC meetings** have been held so far. Between 2007 and 2024, the NBC has approved 537 licenses for laboratory manipulation work, field trials, and commercialization. These efforts play a crucial role in safeguarding and promoting modern biotechnology in Pakistan.



DID YOU KNOW?

The Pakistan Environmental Protection Agency initiated in-house capacity building by providing a platform to its officers to present their research conducted in the field of Modern Biotechnology and Environmental Science. Weekly presentation sessions were arranged to cultivate a culture of organizational learning and promote awareness about biotechnology and environmental conservation. 12 presentations were delivered on various fields of Biotechnology research: CRISPR-Cas9, nanoparticle preparation, Bioremediation, Antimicrobial Resistance (AMR), vaccine development, gene identification, cancer cell identification and etc.

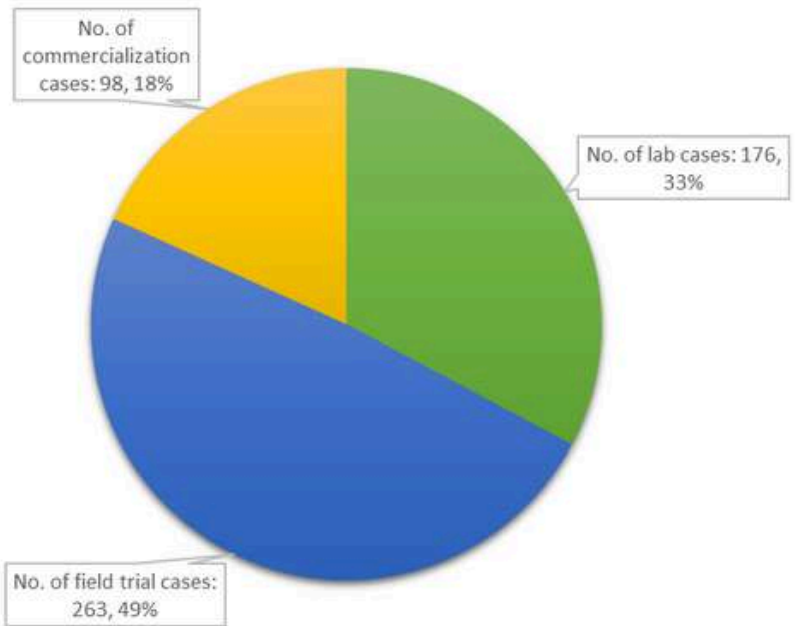


Presentation on polymorphism for cancer identification in patients

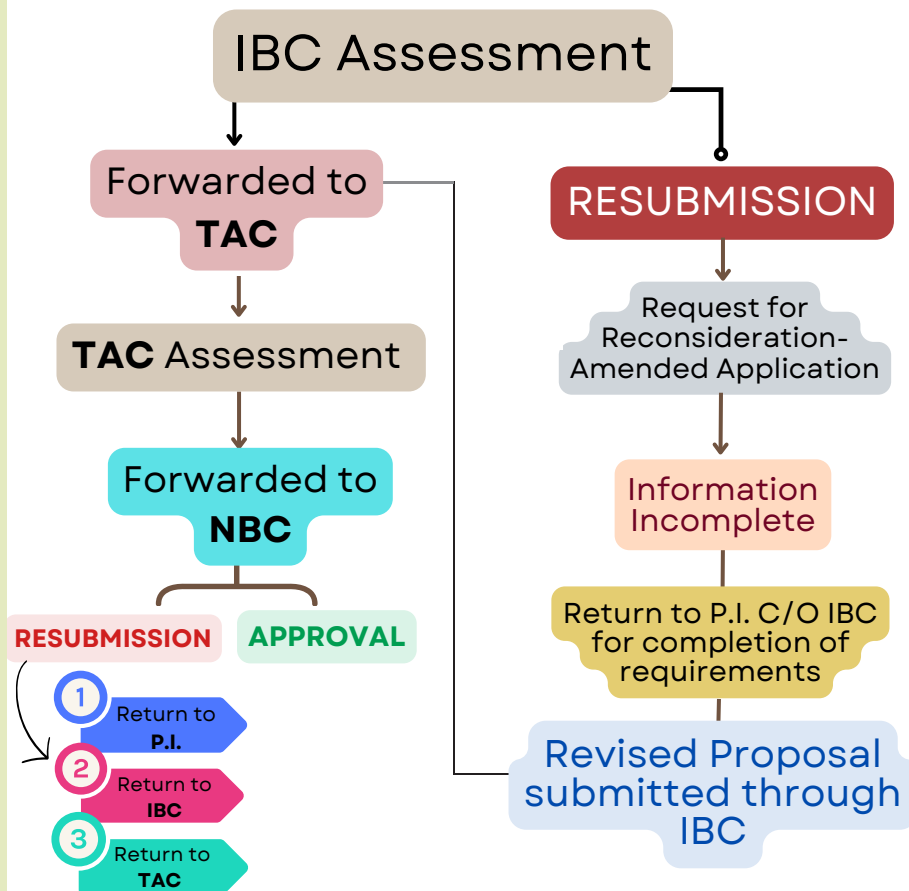


Presentation and Discussion about identification of Salt-Responsive genes and characterization of Soybean

Cases Approved by NBC (2007-2024)



MECHANISM FOR GM LICENSING



Key Achievements

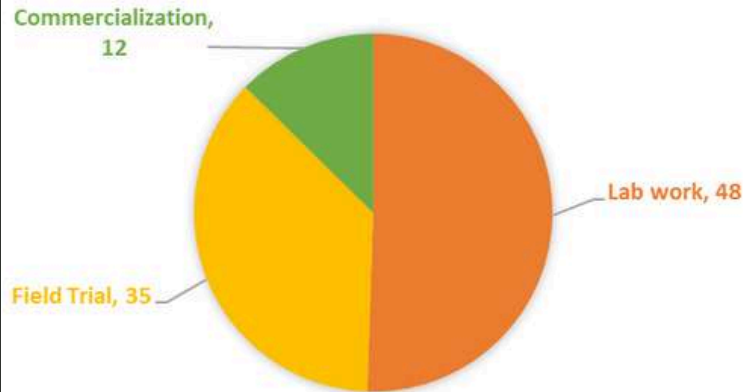
27th NBC Meeting

The 27th meeting of the **National Biosafety Committee (NBC)** was held on 22nd April, 2024 at the Ministry of Climate Change and Environmental Coordination (MoCCEC), Islamabad under the Chairmanship of Secretary, MoCCEC/ Chairman NBC.



A total of 95 cases pertaining to Genetically Modified Organisms (GMOs) were presented: 48 cases for laboratory manipulation, 35 cases for field trials, and 12 cases for commercialization.

CASES APPROVED IN 27TH NBC MEETING



34th TAC Meeting

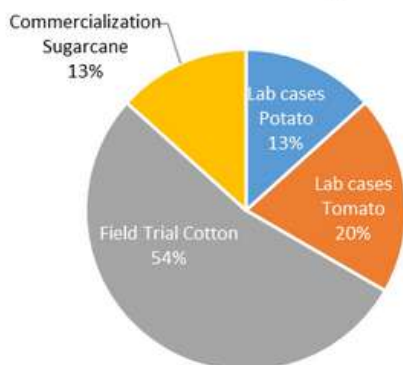
The 34th TAC meeting convened on **13th June, 2024** at PAK-EPA chaired by Director General PAK-EPA/Chairperson TAC. **15 cases** were recommended by TAC for the approval by the NBC. **05 cases** were submitted for laboratory manipulation, **08 cases** for field trial and **02 cases** for commercialization.



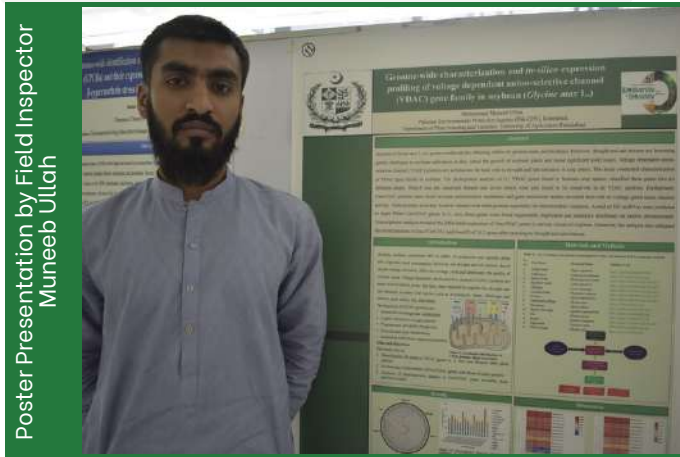
Collaborations

The University of Agriculture Faisalabad (Cas-UAF) hosted the International Conference on Role of Environment in Biodiversity Conservation. The event took place from 26th to 28th May, 2024. The Director General of PAK-EPA delivered a keynote speech, highlighting the vital role of environment in biodiversity conservation. The speech also emphasized the need for better coordination between legislative bodies and the scientific community.

Cases Submitted in 34th TAC Meeting



Whereas Deputy Director (DD)-BCH delivered presentation on the role of BCH in implementing the Cartagena Protocol, and PAK-EPA team presented research posters. The EPA's active participation in the conference demonstrated the agency's commitment towards advancing biosafety protocols and environmental conservation.



Poster Presentation by Field Inspector Muneeb Ullah



Green Journalist Awards: Award presented by Miss Romeena Khurshid Alam, Coordinator to PM and Miss Farzana Altaf Shah, DG-PAK EPA



Chief Guest Ms. Romina Khurshid Alam, Coordinator to the Prime Minister Shehbaz Sharif on Climate Change and Environmental Coordination, along with other notable dignitaries, Mr. Tanveer Ahmed, DG Federal Directorate of Education (FDE), Mr. Adeel Rehmat, CEO, Pak Mission Society, and Mr. Muhammad Irshad Ramay, Coordinator National Cleaner Production Center attended the grand event of World Environment Day.

5th June-World Environment Day Celebration

Pak-EPA celebrated World Environment Day on the theme of **“Land Restoration, Desertification, and Drought Resilience”** under the banner of **#GENERATIONRESTORATION**

Given the significance of environmental conservation and the PAK-EPA's ongoing efforts for a sustainable environment, this year's World Environment Day featured series of events. For instance, **Green Journalist Awards** held on 3rd June, **Awareness Walk** on 4th June, and **Inter-School Competitions** on 5th June, 2024.



PAK-BCH Portal: An online portal for GM-related license applications is currently under development to streamline case submissions for approval. Organizations and institutes will upload required documents to facilitate efficient data management, ensuring streamlined processes. The portal is expected to become operational in the near future.

In 34th TAC meeting the first-ever GM food crop **“SUGAR CANE”** recommended for **commercialization.**

Two high yield varieties of GM sugar cane **CABB-IRS (insect resistant) and CABB-HTS (herbicide resistant)** developed by Dr. Muhammad Sarwar Khan, Pro-Vice Chancellor, University of Agriculture Faisalabad. It will be the first food crop in Pakistan which will be cultivated on a large scale.

More news related to GM sugarcane will be coming soon.

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