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Report Highlights:

In 2024, the Pakistan government issued revised Biosafety Rules and Regulations, creating a system to request genetically engineered (GE) commodity imports for food, feed, and processing (FFP). As of mid-October 2024, importers had submitted several applications to import GE soybeans for FFP. The National Biosafety Committee (NBC) must approve these applications before GE soybean imports can resume. Two sugarcane events cleared initial regulatory approval for domestic cultivation.

EXECUTIVE SUMMARY

In January 2024, the National Biosafety Committee (NBC) approved amendments to the 2005 Biosafety Rules (PBR). The PBR's changes provide an approval process to import genetically engineered (GE) commodities for food, feed, and processing (FFP). Previously, the PBR handled imports the same as domestic cultivation approvals, requiring in-country risk analysis. In addition, the Environmental Protection Agency (EPA) strengthened its Biosafety Clearing House to manage GE import license requests. EPA receives applications, checks them for sufficiency, and then refers them to a Technical Advisory Committee (TAC), which the EPA Director General Chairs. After TAC reviews the GE commodity import applications, TAC refers them to NBC for final approval. As of mid-October 2024, several GE soybeans import requests had passed the TAC review and were awaiting NBC approval. Once NBC grants the final approval and importers obtain soybean import licenses, imports of other GE commodities, mainly canola, will likely follow.

Pakistan's agricultural biotechnology regulatory framework consists of four key laws, the 2005 PBR; the Intellectual Property Organization of Pakistan Act of 2012; the Seed Amendment Act of 2015; and the Plant Breeders Rights Act (PBRA) of 2016. First generation genetically engineered GE cotton events have been approved for cultivation and use since 2010. About 95 percent of cotton crop area is BT cotton. Weak intellectual property enforcement hinders GE cotton seed development beyond the available first-generation traits. Citing sufficient domestic production using conventional non-GE varieties, regulatory authorities halted GE corn commercialization in 2019. GE sugar cane is close to final regulatory approval for domestic cultivation. Meanwhile, lack of regulatory clarity prevents life science companies from investing in and pursuing GE field crop research and development. In the absence of IP protection, technology developers lack incentive to invest in the seed business.

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CHAPTER 1: PLANT BIOTECHNOLOGY

PART A: PRODUCTION AND TRADE

Product Development

In 2024, regulators approved two GE sugarcane events: insect-resistant (CABB-IRS) and herbicidetolerant (CABB-HTS). NBC must still approve these events before domestic cultivation can occur. In addition, the NBC approved both public and private sector entities to do laboratory research using a variety of biotechnology techniques, including genome editing, CRISPR and genetic engineering. The NBC-approved laboratory research includes gene editing on potatoes, wheat, soybeans, sesame, alfalfa and cotton. The NBC also approved confined field trials for GE cotton (stacked traits) and sugarcane.

The Ministry of National Food Security and Research (MNFSR) and Ministry of Climate Change (MOCC) are the two main ministries involved in the approval and regulation of GE products. MNFSR approves GE seed for cultivation and issues GE product import permits. The NBC, under MOCC, reviews and approves laboratory procedures, monitors field trials, and regulates GE product trade and commercialization. After the PBR amendments, MOCC now also reviews and issues import licenses for GE commodities for FFP.

Institutional Biosafety Committees (IBCs) from public and private sector entities regularly communicate with regulatory authorities to track the status of approvals. NBC's preference for technology providers

to conduct all their basic and primary research in-country, even if it has already been done previously in another country, leads multinational seed companies to be reluctant to invest in GE seed development.

The approval status of various GE traits is shown below:

Crop	Trait	Approval Stage	Applicant	Status
	Diamondback moth resistance gene	Field trials	СЕМВ	In process
	Virus (CLCV) resistance with Tr AC gene	Field trials/ready to release	СЕМВ	In process
	Virus (CLCV) resistance with RNA interference (RNAi)	Field trials	CEMB & NIBGE	In process
	AVP1-H+ for salt and drought tolerance	Field trials	NIBGE	In process
Cotton	Cry1Ac and Cry2Ab	Field trials	CEMB/NIBGE + 4 Domestic Seed Companies	In process
	Cry1Ac + Cry2Ab and Glyphosate	Field Trials	CEMB/NIBGE + 4 Domestic Seed Companies	In process
	Fiber improvement	Experimental	CEMB	In process
	RNAi based silencing in cotton	Experimental	CAS-AFS	Approved
	Crispi based genome editing in cotton to reduce pigment land Formation	Experimental	CAS-AFS	Approved
	Rust, drought, and salt tolerance	Experimental/Field Trial	NIBGE	On hold
XX71 /	Bio-fortified wheat for increased iron and zinc bioavailability	Field Trial	FCCU/AARI	On hold
Wheat	Increased phosphorus use efficiency	Field Trial	FCCU+ 1 Domestic Seed Company	On hold
	Rust resistance markers	Experimental	AARI	On hold
	Insect Resistance (Cry1Ac+Cry2A)	Field trials	CEMB/ NIGAB	On hold
Maize	CEMB-Gegen	Field trials	CEMB	On hold
	CEMB-AFP	Field trials	CEMB	On hold
	cry2Ab2 & cry1A.105	Field trials	Pioneer	On hold

Table 1: Development of Biotech Crops in Pakistan

	and cp4epsps			
	cry1F, cry1Ab and	Field trials	Pioneer	On hold
	cp4epsps			
	cry1Ab x mESPSPS	Field trials	Syngenta	On hold
	mESPSPS	Field trials	Syngenta	On hold
	Insect resistance with	Experimental	NIBGE	In process
	Cry gene	1		1
	Chloroplast	Experimental	CEMB	In process
	transformation			
	Drought tolerance	Experimental	AARI	In process
	SIG1+SIG2+SIG3	Experimental	CEMB	In process
	CHiA+CHiB+CHiC	Experimental	CEMB	In process
	Insect resistance with	Experimental	CEMB	In process
	VIP3+ASAL			1
Sugarcane	Herbicide tolerant	Experimental	CABB	In process
	sugarcane			1
	Biotic stress tolerant	Experimental	CABB	In process
	sugarcane using	1		1
	SUGARWIN 2 gene			
	Abiotic stress tolerant	Experimental	CABB	In process
	sugarcane using scdr1	-		
	gene			
	Antifungal sugarcane	Experimental	CEMB, IBGE	In process
	virus resistance			
Chickness	Insect resistance	Experimental	CEMB/NIGAB	In process
Спіскреаз	(Bt gene)			
	Insect	Experimental	NIBGE	In process
	(Helicoverpaarmigera)			
	resistance with a novel			
	synthetic spider venom			
	gene			
	Salt tolerance with	Experimental	NIBGE	In process
	yeast, Arabidopsis			
	Na+/H+ antiporter			
Tobacco	genes			
	Salt tolerance with	Experimental	CABB	In process
	ArDH chloroplast			
	transformation (Biosafe			
	GM)			
	Non-edible vaccine	Experimental	CABB	In process
	development against			
	Bursal and Newcastle			
	diseases of poultry			
Potato	Virus (PLRV, PLXV,	Experimental	NIBGE	In process
	PVY) resistance,			

	Chitinase gene for			
	fungal disease			
	resistance			
	Insect-resistant	Experimental	CABB	In process
	transplastomic potato –			
	chloroplast			
	transformation			
	Fungal resistance using	Experimental	CABB	In process
	glucanase gene			
	Herbicide resistance,	Experimental	NIGAB	In process
Peanut	Tikka disease			
	resistance			
	Glyphosate resistance,	Experimental	AARI	In process
Brassica	FAEI gene for reduced		IBGE	
	erucic acid and MAX1			
	gene for maximum			
	axillary branches to			
	enhance yield			

- CEMB Centre of Excellence in Molecular Biology, University of the Punjab, Lahore
- NIBGE National Institute for Biotechnology and Genetic Engineering, Faisalabad
- FCCU Forman Christian College University, Lahore
- AARI Ayub Agriculture Research Institute, Faisalabad
- NARC National Agriculture Research Center, Islamabad
- CABB Centre of Agricultural Biochemistry and Biotechnology, University of Agriculture, Faisalabad
- NIGAB National Institute for Genomics and Advanced Biotechnology, NARC, Islamabad
- IBGE Institute of Biotechnology and Genetic Engineering, Ag. Univ. Peshawar
- IIUI International Islamic University, Islamabad
- CAS Center for Advanced Studies in Agriculture and Food Security (CAS-AFS), University of Agriculture, Faisalabad

Commercial Production

GE cotton is currently the only crop approved for planting in Pakistan. Regulators are close to finalizing approval for GE sugarcane cultivation. In 2024, GE cotton accounted for about 95 percent of the 2 million hectares in cotton area. Most of the approved biotech cotton seed varieties contain one of the two first generation events: MON 531 (Cry1Ac gene) or (Cry1Ab gene). Varieties with these events protect cotton from the larvae of lepidopterans (i.e., butterflies, moths). The CEMB developed five double gene transgenic cotton varieties that are now being marketed commercially. Seed companies are very interested in marketing GE corn varieties, but MNFSR's current policy of no GE corn production prevents that. In 2024, two GE sugarcane events proceeded through the approval process and are close to final approval.

Exports

During marketing year (August/July) 2023/24, GE cotton exports totaled about 100,000 bales (480 lbs./bale). Pakistan also exports cotton yarn, cotton fabric, and other items derived from both domestic and imported GE cotton. The textile sector comprises a major share of the economy, with textiles accounting for more than 60 percent of total exports.

Imports

In October 2022, Pakistan banned imports of GE oilseeds. Prior to that, Pakistan had been importing 2.5 to 3 million tons of GE oilseeds annually. The ban remains in place, pending NBC's approval of GE soybean import licenses. In 2023/24, Pakistan imported 690,000 tons of cotton, mostly from the United States and Brazil.

Food Aid

There are no known issues or restrictions affecting the importation of food aid.

Trade Barriers

In October 2022, without providing any prior notice, the MNFSR's Department of Plant Protection asked importers to present an import license from MOCC as a condition for releasing GE soybean and canola arrivals. However, MOCC had no system for receiving and/or processing import licenses for oilseeds destined to FFP. As a result, GE oilseed imports have been effectively banned since October 2022.

In January 2024, the NBC approved amendments to the PBR. The changes to the PBR provide a separate approval process for importers to request licenses to import genetically engineered (GE) commodities for FFP. Previously, the PBR addressed import approvals the same as domestic cultivation approvals. In addition, the EPA strengthened its Biosafety Clearing House to handle GE import license requests. EPA receives applications, checks them for sufficiency, and then refers them to a TAC, which the EPA Director General Chairs. After TAC reviews the applications for GE imports, they are then sent to the NBC for final approval. As of mid-October 2024, several GE soybeans import requests had passed the TAC review and were awaiting NBC approval. Once NBC grants the final approval and importers obtain soybean import licenses, imports of other GE commodities, mainly canola will follow.

PART B: POLICY

Regulatory Framework

In 2005, Pakistan established its federal biotechnology regulatory structure for approving new technologies under the provisions of the Environmental Protection Act of 1997. Under this Act, Pakistan created the PBR in April 2005. The PBR is the first of four foundational laws of the country's agricultural biotechnology framework and govern the following:

• The manufacture, import and storage of micro-organisms and gene technological products for teaching and research at development institutes and/or private companies involved in the uses and applications of "genetically modified organisms" and products thereof.

- All work involved in field trials of genetically manipulated plants, animals (including poultry and marine life), micro-organisms, and cells.
- The import, export, sale, and purchase of "living modified organisms," substances, or cells, and products thereof, for commercial purposes.

The PBR is supposed to be consistent with the Cartagena Protocol of Biosafety, which Pakistan ratified the (CPB) in 2009.

The PBR also established the following entities:

- The NBC, which reviews and approves laboratory procedures, monitors field trials, regulates trade and commercialization of GE crops and products. The NBC is located within the Environmental Protection Agency (EPA) under the MOCC. There are seventeen members of the NBC, which include representatives from the Ministries of National Food Security and Research (1), Ministry of Climate Change (2), Health (3), Science and Technology (4), Commerce and Textiles, (5), Planning and Development (6), the Pakistan Agricultural Research Council (7); the Pakistan Atomic Energy Commission (8); Board of Revenue (9), Industries and Production (10), Education (11), and representatives from Pakistan's four provinces (12-15) and two territories (16-17).
- The Technical Advisory Committee (TAC), which reviews applications for new GE crops and organisms and makes recommendations to the NBC on technical matters related to laboratory and field activities, and on placing GE crops and organisms on the market. The EPA's Director General chairs the TAC and committee members include representatives from Pakistan's provinces and territories.
- Institutional Biosafety Committees (IBC), which conduct risk assessments, implement safeguards, and monitor and inspect all regulated research and product development that has been authorized by the NBC. The IBCs' findings are forwarded to the TAC for review and to formulate recommendations to the NBC.
- According to the PBR amendments importers were required to apply for import licenses of GE commodities solely through a public sector IBC. However, with the revised guidelines, private sector IBCs are now also permitted to submit applications.

The Intellectual Property Organization of Pakistan Act (IPOP) of 2012 is the second of four foundational laws of the country's agricultural biotechnology framework. Intellectual property laws of Pakistan include the copyright laws, patent laws and trademark laws. This law is supposed to protect the proprietary work of individuals and businesses from unauthorized use or exploitation by third parties. By utilizing intellectual property laws, seed developers are supposed to be able to protect and recoup their investment in GE products.

The Seed Amendment Act of 2015 is the third of four foundational laws of the country's agricultural biotechnology framework. This amended act allowed the private sector to import new seed technologies. It's regulations also helped to organize the seed industry and facilitated opportunities for all stakeholders to expand knowledge and resources on new technology.

The Plant Breeders Rights Act (PBRA) of 2016 is the fourth of four foundational laws of the country's agricultural biotechnology framework. The PBRA was passed in 2016, MNSFR finalized the

implementing rules in May 2018, and established the seed registry in October 2018. The eventual complete implementation of this Act will establish Pakistan's first-ever intellectual property protection for seeds and plant varieties and should attract investment in seed development and marketing. The PBRA will provide 20 to 25 years of legal protection to firms who register their seeds, granting them exclusive rights to conduct all facets of seed production and commercialization. Pakistan's public sector research institutes will be able to sell intellectual property rights to agricultural firms to raise funds for their research and development. In addition, plant breeders in public research facilities will have a much greater incentive to develop innovative seed technologies. So, when fully implemented, this Act should accelerate agricultural biotechnology development in Pakistan, and incentivize seed research and development in both the public and private sector.

Approvals

The TAC and NBC meet irregularly. During the past two years, based on TAC recommendations, the NBC approved several GE applications, mainly involving cotton events.

The committees are currently reviewing results of many GE cotton trials, including some with stacked traits. The following are details of NBC approved events for commercialization.

	11			
S. No	Institute	Crop	Trait	Status ²
1	CEMB NIBGE NARC	Cotton	More than 40 cases of Bt cotton approved	Commercialized
2	Cotton Research Institute (CRI) Faisalabad	Cotton	Bt cotton variety FH- Lalazar, MNH- 988, BH-184	Commercialized
3	Auriga, Lahore	Cotton	Bt cotton Variety Sayban -202	Commercialized
4	CABB, Faisalabad University	Sugarcane	Insect-resistant transgenic sugarcane (CABB-IRS) and the	Approved by TAC, pending NBC approval
5	CABB, Faisalabad University	Sugarcane	Herbicide-tolerant transgenic sugarcane (CABB-HTS)	Approved by TAC, pending NBC approval
6	Bayer Pakistan	Maize	Roundup Ready corn® (NK603 Genuity VT Double Pro (MON89034XNK603)	On hold
7	Corteva Pakistan	Maize	Maize 1507xNK603; MON 810xNK603	On hold

Table 2: Approvals for Commercialization

TAC – Technical Advisory Committee

NBC – National Biosafety Committee

The PBR specifies a timeline for the approval process (i.e., laboratory work, field trial or for commercialization) for each event. Once regulatory officials receive an application for any event, a final decision is supposed to be communicated to the applicant within:

• 60 days for work bearing either low or considerable level of risk for laboratory work, green house, and field testing.

- 90 days for experimental release; or
- 120 days for commercialization.

Stacked or Pyramided Event Approvals

The PBR states that single or multiple gene transformations will be treated as a single, separate event. A seed with multiple GE genes would be treated as a single event in the approval process. With the passage of the IPOP in 2012 and the PBRA in 2016, Pakistan's regulatory officials have confirmed that each new genetic trait will be protected separately.

Genes	Crop	Approval Stage	Company	Status
cp4epsps	Maize	Commercial	Bayer	On hold
cry2Ab2 & cry1A.105 and	Maize	Commercial	Bayer	On hold
cp4epsps				
cry1F, cry1Ab and cp4epsps	Maize	Commercial	Corteva	On hold
Cry1Ac + Cry2Ab + Glyphosate	Cotton	Commercial	CEMB	In use
Insect Resistance	Maize	Field trials	CEMB, NIGAB	On hold
cry1F, cry1Ab and cp4epsps	Maize	Field trials	Corteva	On hold
cry1Ab x mESPSPS	Maize	Field trials	Syngenta	On hold
mESPSPS	Maize	Field trials	Syngenta	On hold

Table 3: Details for	commercial a	annrovals and	field trials f	or stacked e	vents are as follows:
Lable 5. Details for	commercial e	appiorals and	nona anais r	or statheu c	

Field Testing

Research institutes are only doing cotton and sugarcane field trials. There are more than 50 public sector research institutes doing laboratory work in agriculture biotechnology, but NBC has approved only a few of them do field trials.

S.	Institute	Crop	Trial	Status
No				
1	NIBGE	Wheat	Increased salinity and heat tolerance	On hold
2	NIBGE	Cotton	Abiotic stress tolerance, insect resistance	In process
			(IR-NIBGE+8)	
3	NIBGE	Cotton	NIAB Bt-1 +NIAB Bt2	In process
4	CEMB	Cotton	CEMB Klean Cotton	In process
5	CEMB	Cotton	CEMB-77, CEMB-88	In process
6	CEMB	Potato	By transmission of Multiple genes	On hold
7	AARI	Cotton	Bt cotton variety 181	In process
8	AARI	Cotton	Synthetic Bt gene Cry 1Ac & Cry 2Ab	In process
9	FCCU	Wheat	Bio fortified wheat for increased	On hold
			bioavailability of iron and zinc	
10	FCCU	Wheat	Increased phosphorus use efficiency	On hold
11	CRI	Cotton	Bt cotton CIM 600 &616; Cyto-177	In process

Table 4: Approvals for Field Trials

	Faisalabad			
12	CRI	Cotton	Bt cotton Variety Eagle1-6	In process
	Faisalabad			
13	CABB, UAF	Wheat	Salinity and drought tolerance	On hold

Innovative Biotechnologies

A few Pakistani academic and research institutions have been working on gene editing technology, such as CRISPR-Cas. Biotechnology research funding is very limited.

Coexistence

At present, Pakistan has not developed a policy governing how GE and non-GE crops will coexist in cultivation.

Labeling and Traceability

Pakistan has no labeling requirements for bulk imports of foods, seeds, fibers, oils, or feeds that are derived from GE crops.

Monitoring and Testing

Although monitoring and testing requirements are outlined in the PBR, neither is occurring. However, the amended guidelines on GE imports might contain monitoring and testing protocols.

Low Level Presence (LLP) Policy

Pakistan does not yet have an LLP policy.

Additional Regulatory Requirements

Once a GE seed is approved by the NBC, the applicant must register the product with the Federal Seed Certification and Registration Department (FSC&RD) of MNFSR before it can be commercialized in line with the requirements of the Seed Amendment Act of 2015. Similarly, provincial seed councils and all national research funding agencies require NBC approval prior to providing funding for any GE-research.

Intellectual Property Rights (IPR)

The IPOP, the PBRA, and their implementing regulations, once finalized, should establish Pakistan's first-ever intellectual property protection for seeds and plant varieties. Enforcement of the IPOP and its implementing regulations falls under the Ministry of Commerce. The FSC&RD of MNFSR finalized the PBRA implementing regulations and established the plant registry in 2018, but enforcement remains lax.

Cartagena Protocol Ratification

Pakistan ratified the Cartagena Protocol on Biosafety on March 2, 2009.

International Treaties and Forums

Pakistan is a member of the International Plant Protection Convention and the Codex Alimentarius (Codex). Pakistan is a founding member of the World Trade Organization (WTO) and has a permanent representative in Geneva.

Related Issues

Pakistan's agricultural biotechnology framework is dependent on four key laws: the 2005 PBR, the IPOP Act of 2012, the Seed Amendment Act of 2015, and the 2016 PBRA. None of these laws have the full suite of implementing regulations or the deep bench of technical staff needed to make them fully operational.

PART C: MARKETING

Public/Private Opinions

The previous MNFSR leadership was opposed to GE commodities. MOCC and the ministries of Health, Education, Science and Technology, Commerce and Textiles, Planning and Development, as well as Pakistan's agricultural industry are generally supportive of GE technology. The ban on GE imports for FFP and the moratorium on GE corn commercialization are making multinational technology providers reluctant to invest in GE seed development. Patent laws were modified in 2001 to be consistent with WTO guidelines, but enforcement, especially on agricultural products (e.g., seeds, cuttings), is weak. Piracy and imitation are common.

Consumer attitudes on GE technology are mixed, but they are nonetheless generally accepting of GE products in the marketplace. Consumers are generally unaware of the regulatory landscape.

Market Acceptance/Studies

There are two PhD thesis on Bt cotton in Pakistan from the University of Melbourne in Australia and the University of Guelph in Canada. The Australian study focused on the commercialization of GE cotton in Pakistan, while the Canadian one focused on farmers' well-being in Pakistan. In addition, the International Food Policy Research Institute and International Life Sciences Institute and Agriculture universities/Research Institute have published papers on the development of agriculture biotechnology in Pakistan.

CHAPTER 2: ANIMAL BIOTECHNOLOGY

PART D: PRODUCTION AND TRADE

Product Development

There is no commercial production or sale of animals derived from biotechnology. There has been research on developing a recombinant vaccine for Newcastle disease in Pakistan's poultry industry. Research and development work on producing this vaccine is occurring at NARC's NIBGE in Faisalabad and Islamabad, CABB, and the University of Agriculture in Faisalabad.

Commercial Production

None.

Exports

None.

Imports

None.

Trade Barriers

While there is no regulatory framework for animal biotechnology, GE animals and related product imports would likely be restricted. Imports must first receive a "No Objection Certificate" from the relevant ministry, where officials would likely raise concerns if the products were significantly unique or substantially different from conventional animals or their products.

PART E: POLICY

Regulatory Framework

The PBR mentions organisms (e.g., animal, plants, insects, fungi, and microbes) and it includes separate chapters on animals and plants. These rules would be the basis for any regulation of GE animals, livestock clones, or their products, with the NBC the likely entity to be charged with the responsibility of reviewing any new product applications.

Approvals

The approval process has not yet started on a commercial scale as no production or trade of GE animals or activity in animal cloning is taking place in Pakistan. Only in-vitro experiments are occurring at some research institutes.

Innovative Biotechnologies

Mice embryo cloning was done in the University of Veterinary and Animal Sciences (UVAS) in Lahore as an academic model for animal cloning in milking cattle especially buffalo, goats, and sheep.

Labeling and Traceability

There is currently no labeling policy.

Additional Regulatory Requirements

None.

Intellectual Property Rights (IPR)

There are no existing IPR provisions for animal biotechnology.

International Treaties and Forums

Pakistan is a member of the WTO member and, as such, participates in WTO fora and relevant associated bodies such as the World Organization for Animal Health and Codex.

Related Issues

None.

PART F: MARKETING

Public/Private Opinions General awareness is limited.

Market Acceptance/Studies

There is no production or sale of GE animals in Pakistan.

CHAPTER 3: MICROBIAL BIOTECHNOLOGY

PART G: PRODUCTION AND TRADE Not applicable.

PART H: POLICY Not applicable.

PART I: MARKETING

Not applicable

Annex I

Approved GE Cotton Events

The following are the genes currently approved for commercial use; they are only in cotton crop varieties. Approval for commercialization (deregulation) was granted by the National Biosafety Committee in the Ministry of Climate Change. 1. Cry 1Ac---- maximum cases

2. Cry 1Ac+ Cry 2A

3. Cry1Ac+ Cry 2A+ GTG (local equivalent to glyphosate).

Annex-II

Serial No	Statute	Year
1	The Seed Act	1976
2,	The Seed (Amendment) Act	2015
3,	The Plant Breeders' Rights Act	2016
4	The Seed (Business Regulation) Rules,	2016
5	The Plant Breeders' Rights Rules,	2018
6	The Seed (Registration) Rules 1987 amended in	1998
7	The Seed (Truth-in-Labeling) Rules 1991, amended	1993 and 1998
	in	
8	The Pakistan Fruit Plants Certification Rules	1998
9	Pakistan Environmental Protection Act (PEPA)	1997
10	Pakistan Plant Quarantine Act	1976
11	Plant Quarantine Rules	1967
12	Pakistan Biosafety Rules	2005
13	Patent Ordinance 2000 as amended up to	2016
14	The Seed (Amendment) Act	2024
15	Pakistan Biosafety Rules (Amendment) 2005	2024

Pakistan's legal framework regulating the Seed Sector Evolution and Amendment

Source – FSC&RD

Annex – III Cotton Imports (1000 MT)

Marketing Year	August - July	August -July	August -July
	2021/2022	2022/23	2023/24
United States	351	426	295
Brazil	190	187	197
Australia	126	55	34
Cote d'Ivoire	74	65	15
Afghanistan	24	90	11
Argentina	33	12	27
Turkey	28	50	32
Tanzania	27	17	4
Benin	14	5	2
Greece	14	15	1
Тодо	13	3	4
EU 27 External Trade	13	48	20
Others	64	9	25
Total	982	982	667

Source: (Trade Data Monitor LLC)

Soybean Imports (1,000 MT)

Marketing Year	2020/21	2021/22	2022/23	2023/24
	(Oct-Sep)	(Oct-Sep)	(Oct-Sep)	(Oct-Aug)
United States	700	770	70	
Brazil	1,600	1,240	57	
Nigeria			44	306
Ethiopia			18	52
Others			32	23
Total	2,300	2,010	221	381

Source: (Trade Data Monitor LLC)

REFERENCES:

1. Pakistan Biosafety Rules, 2005

https://environment.gov.pk/Detail/MDUzMDI1OGItYWYzZC00NzQ0LTlhZWItZjYzY2RkOTkyZGV h

2. Pakistan Biosafety Guidelines, 2005

https://environment.gov.pk/Detail/Nzk4N2ZhMmQtM2VIYy00NWNjLWE4NzUtOTZkYmMyMmIyY 2E2

3. Seed Act 1976

http://extwprlegs1.fao.org/docs/pdf/pak16066.pdf

4. Seed (Amendment) Act 2015

https://pakistanlawyer.com/2016/07/03/seed-amendment-act-2015/

5. Plant Breeders Rights Act 2016

http://www.na.gov.pk/uploads/documents/1485437584_777.pdf

6. Pakistan Intellectual Rights Act 2012 <u>http://www.na.gov.pk/uploads/documents/1355912657_971.pdf</u>
7. Plant Breeders Rights Registry Rule 2018 <u>http://www.federalseed.gov.pk/Detail/ZjdlZTFhMTMtZWI1MC00MWI1LWExZjctMGMwNmYwYm</u> <u>ViNTkw</u>

8. Pakistan Biosafety Rules 2005 (Amended2024) https://www.environment.gov.pk/SiteImage/Misc/files/Rules/BIOSafety%20Rules%202005%20(Amended2024).pdf

Attachments:

No Attachments