



GM MUSTARD: ENVIRONMENT / ECOLOGY

NEWS: *Supreme Court delivers split verdict on nod for GM mustard*

WHAT'S IN THE NEWS?

The Bench of Justices B.V. Nagarathna and Sanjay Karol however asked the Centre to formulate a national policy with regard to GM crops for research, cultivation, trade and commerce in the country.

Verdict Summary:

Split Verdict: Supreme Court delivered a split verdict on Centre's 2022 approval of GM mustard's environmental release.

Directive : Centre instructed to create a national policy for GM crops.

Court Directions:

- **Policy Scope:** Research, cultivation, trade, and commerce of GM crops.
- **Consultation:** Experts, state governments, and farmers' representatives must be consulted.
- **Timeline:** National consultation should occur within the next **four months**.

Background:

- **GEAC Recommendation:** On October 18, 2022, the Genetic Engineering Appraisal Committee recommended GM mustard release.
- **Approval Date:** Environmental release of GM mustard hybrid DMH-11 was approved on October 25, 2022.

Next Steps:

- **Further Consideration:** Case referred to a three-judge Bench, to be constituted by the Chief Justice of India.

Aspect	Bt Cotton	Bt Brinjal	Dhara Mustard Hybrid-11 (DMH-11)	Golden Rice
Introduction	Introduced in 2002 to combat bollworm. Incorporates a gene from Bacillus	Genetically modified to resist fruit and shoot borer. Incorporates a gene from Bt.	Genetically modified mustard to increase yields and herbicide tolerance.	Genetically modified to produce beta-carotene (precursor of vitamin A).



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	thuringiensis (Bt).		Developed by the University of Delhi's CGMCP.	Developed by IRRI and partners
Impact	Reduced insecticide use, increased yields, made India the largest cotton producer globally.			Aims to address vitamin A deficiency, causing blindness and other health issues.
Challenges	Pest resistance (pink bollworm), high seed costs.	Moratorium on release due to safety concerns, protests.	Concerns about biodiversity, honey production, and farmer livelihoods.	Acceptance by farmers and consumers, impact on traditional varieties, long-term health and environmental effects.
Economic & Environmental Benefits	Reduced insecticide use, improved farmer health, doubled yields, increased exports. Mixed reports on farmer profits.			Designed to provide a dietary source of vitamin A, especially in regions with VAD.
Regulatory Approval	Approved in 2002.	GEAC recommended approval in 2009, but moratorium placed in 2010.	GEAC approved in 2017, pending final government clearance.	Not approved for commercial cultivation in India. Ongoing regulatory and bio-safety assessments
Research & Trials	Ongoing research to address pest resistance,	Limited field trials under strict regulations.	Extensive trials on yield, safety, environmental impact.	Ongoing research and trials, focus on bio-safety and nutritional benefits.



	develop new varieties.			
Current Status	Widely cultivated in India.	Cultivation banned in India, approved in Bangladesh.	Not commercially released pending further approval and resolution of debates.	Approval processes underway, not yet commercially cultivated in India.

Genetic Engineering Appraisal Committee (GEAC)

- **Role:** Apex body for approval of genetically modified (GM) crops in India.
- **Function:** Assesses the environmental and health safety of GM crops.
- **Composition:** Includes scientists, regulatory experts, and representatives from relevant ministries.
- **Decisions:** Recommends approval for environmental release and commercial cultivation of GM crops.

Notable Approvals:

- **Bt Cotton (2002):** First GM crop approved in India.
- **Bt Brinjal (2009):** Recommended, but faced a moratorium in 2010.
- **DMH-11 Mustard (2017):** Approved, pending final government clearance.
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Regulations: Ensures compliance with biosafety guidelines and international standards.

Controversies: Faced public and scientific scrutiny over safety, environmental impact, and ethical concerns.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/sc-delivers-split-verdict-on-nod-for-gm-mustard/article68438360.ece>

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