

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

**RAJYA SABHA**  
**UNSTARRED QUESTION No. 222**  
**TO BE ANSWERED ON 08.12.2022**

**Conferment of herbicide tolerance to genetically modified mustard**

222. SHRI ANEEL PRASAD HEGDE:

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

- (a) whether the bar gene in parental lines and hybrid offspring of Delhi University's GM mustard confers herbicide tolerance to genetically modified mustard plants, even as it is useful as a marker gene;
- (b) whether India has put into place regulatory protocols to specifically test for the safety of HT GM crops as opposed to any other GM crop, and whether the parental lines of DMH-11 and DMH-11 itself have been tested for this herbicide tolerance trait, even if only for seed production purposes; and
- (c) if not, the reason thereof?

**ANSWER**

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE  
(SHRI ASHWINI KUMAR CHOUBEY)

- (a) to (c)** The bar gene in Mustard hybrid DMH-11 is expressed which encodes phosphinothricin N-acetyl transferase enzyme that confers resistant to herbicide glufosinate ammonium.

Genetically Modified (GM) Hybrid Mustard DMH11 has not been approved for Herbicide Tolerant (HT) trait but for a GM technology for hybrid seed production. The HT characteristic/trait present in the GM mustard hybrid seed is essential for eliminating fertile plants that are not transgenic in the hybrid seed production plots to maintain the purity of hybrid seed. The use of herbicide will be limited to seed production stage by the seed producing company/institute and not during the commercial cultivation of DMH-11 by the farmers. The use of herbicide will be after obtaining label claim and approval from Central Insecticide Board & Registration Committee (CIB&RC).

The biosafety research trials including environmental safety studies have been conducted for transgenic mustard hybrid DMH-11 containing barnase, barsar and bar genes, events bn 3.6 (Barnase line) and modbs 2.99 (Barstarline).

The issue of environmental release of GM Mustard is under adjudication in the Writ Petition (Civil) 115/2004 and Writ Petition(Civil) 260 of 2005 titled as Gene Campaign Vs. UoI & Ors. and Aruna Rodrigues Vs. UoI & Ors., respectively before the Hon'ble Supreme Court of India.

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