

GOVERNMENT OF INDIA  
MINISTRY OF AGRICULTURE AND FARMERS WELFARE  
DEPARTMENT OF AGRICULTURAL RESEARCH & EDUCATION

**RAJYA SABHA**  
**UNSTARRED QUESTION NO. 1950**  
ANSWERED ON- 17/03/2023

**CONCERNS REGARDING DMH-11 HYBRID**

1950 **DR. ASHOK KUMAR MITTAL:**

Will the Minister of *Agriculture and Farmers Welfare* be pleased to state:

- (a) whether the Ministry is aware of the concern raised by the Genetic Engineering Appraisal Committee (GEAC) regarding the utilization of GM mustard (DMH-11 hybrid) in India;
- (b) whether the Ministry has commissioned any study to understand the long-term, ecological, economic and social consequences of releasing DMH-11;
- (c) if so, the details thereof;
- (d) whether the Ministry is aware of the potential impact of DMH-11 on the population of honey bees as mustard flowers are a source of nectar for honey bees;
- (e) if so, the details of the steps taken to address the potential impact; and
- (f) if not, whether the Ministry is planning to commission studies to understand the above mentioned impacts?

**ANSWER**

THE MINISTER OF AGRICULTURE AND FARMERS WELFARE  
(SHRI NARENDRA SINGH TOMAR)

**(a) to (c):** Keeping in view the totality of the issue, the Genetic Engineering Appraisal Committee (GEAC) recommended the environmental release of Genetically Modified (GM) mustard (DMH -11 hybrid) on following conditions:

- i. The environmental release of genetically engineered mustard parental lines bn 3.6 carrying barnase and bar genes, and modbs 2.99 containing barstar and bar genes, so that these events can be used for developing new parental lines and hybrids under supervision of ICAR.
- ii. The environmental release of mustard hybrid DMH-11 for its seed production and testing as per existing ICAR guidelines and other extant rules/regulations prior to commercial release.
- iii. Further, to generate scientific evidences in Indian agro-climatic situation and also as a precautionary mechanism, the field demonstration studies with respect to the effect of GE mustard on honey bees and other pollinators, shall also be conducted post environmental release, simultaneously by the applicant, within two years under supervision of ICAR, as per ICAR guidelines and other extant rules/ guidelines/ regulations and the report be submitted to the GEAC.

Hybrid DMH-11 was tested in the Biosafety Research Level Trials (BRL) I and II during 2010-11 to 2014-15. Field trials for three years were conducted to assess the impact on human health and environment as per the stipulated guidelines and applicable rules. Extensive studies carried out on toxicity, allergenicity, compositional analysis, field trials and environmental safety studies of GM mustard lines vs. their non-transgenic comparators have provided evidence that the GM mustard hybrid DMH-11 and its parental lines are safe for cultivation and for food and feed use.

**(d) to (f):** Visitation of bees to the transgenic lines is similar to the non-transgenic counterparts during the BRL-I and BRL-II trials conducted as per the protocols approved by Review Committee on Genetic Manipulation (RCGM) and GEAC. GM mustard has been cultivated for more than two decades in Canada and USA, where no adverse effect has been reported. For close monitoring of the effect of GM mustard hybrid DMH 11, a Post Release Monitoring Committee (PRMC) for GM Mustard has been constituted by the Ministry of Environment Forests & Climate Change, Govt. of India.

GEAC has prescribed the post-environmental release field demonstration studies with respect to the effect of GM mustard on honey bees and other pollinators simultaneously by the applicant within two years under supervision of Indian Council of Agricultural Research.

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