

FIELD TRIALS OF GM MUSTARD DMH-11 SHOWED HIGH YIELD, SAYS SCIENCE MINISTER

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The Centre has defended the approval accorded to DMH-11 in the Supreme Court, which is hearing a petition filed by activist Aruna Rodrigues questioning the GEAC approval to DMH-11. File | Photo Credit: VIJAY SONEJI

Field trials of the [transgenic mustard variety, DMH-11](#), revealed them to be higher yielding and they didn't deter the pollination habits of honey bees, Union science minister Jitendra Singh said in Rajya Sabha in a written response to a query.

Dhara Mustard Hybrid-11 (DMH-11) had recently been [approved by the Genetic Engineering Appraisal Committee \(GEAC\)](#) for cultivation in farmer fields, as a precursor to commercial cultivation. The GEAC is an autonomous body of experts authorised by the Union environment ministry to appraise the safety of genetically modified seeds. Mr. Singh's statement in Rajya Sabha is the first time that a Central ministry has endorsed the safety and benefits of the seed in Parliament. The only other transgenic seed permitted to be commercially cultivated in India is Bt cotton.

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The Centre has defended the approval accorded to DMH-11 in the Supreme Court, which is [hearing a petition filed by activist Aruna Rodrigues](#) questioning the GEAC approval to DMH-11.

DMH-11 has been tested for three years against national check Varuna and zonal check RL1359 during confined field trials at multiple locations. DMH-11 showed approximately 28% more yield than the national check and 37% more than the zonal checks, Mr. Singh said on Thursday. 'Checks' refer to reference varieties of mustard in a region and usually, new varieties must prove themselves superior to be considered for commercial release.

Field trials were conducted to assess the impact on human health and the 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 they are safe for

cultivation and for food and feed use. Visitation of bees to the transgenic lines is similar to the non-transgenic counterparts as per the data recorded during the trials,” the statement added.

Transgenics were safe for bees and pollination as per studies conducted on Bt cotton, Mr Singh said. “Studies conducted during 2018-19 and 2019-20 indicated that there is no negative impact of Bt transgenic cotton cultivars on bees, brood rearing, pollen and nectar hoarding of *Apis mellifera* colonies as compared to non-transgenic cotton cultivars,” Mr. Singh explained.

Replying to the questions by Parliamentarian Sushil Kumar Modi, on why DMH-11, which contains three foreign genes to make it amenable to creating more hybrid varieties, wasn't classified as a 'herbicide-tolerant' seed despite the presence of the 'bar' gene, Mr. Singh said it was because farmers weren't permitted to use herbicides, and they could only be used for 'hybrid seed production'. The 'bar' gene in the plant makes it resistant to a family of herbicides containing a chemical called glyphosate.

The question of herbicide tolerance in DMH-11 is one of the most contentious issues with activists claiming this will encourage farmers to more widely use a weedicide called glyphosate to protect mustard. Though largely used in tea plantations to save on labour costs, glyphosate has been indicted globally as a 'probable carcinogen' with the Union agricultural ministry this year issuing rules to limit its use.

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