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News: GEAC gives its nod for commercial cultivation of GM mustard yet again

- The Genetic Engineering Appraisal Committee (GEAC) that functions under the Union Environment Ministry has yet again cleared the proposal for commercial cultivation of genetically modified (GM) mustard.
- Though the GEAC cleared the proposal in 2017, the Ministry vetoed it and suggested that the panel hold more studies on the GM crop.

Genetic Engineering Appraisal Committee (GEAC)

- Genetic Engineering Appraisal Committee (GEAC) is constituted under the Rules for the Manufacture, Use/Import/ Export and Storage of Hazardous Microorganisms/ Genetically Engineering Organisms or Cells, 1989.
- It was formed as Genetic Engineering Approval Committee and was renamed to its current name in 2010.
- GEAC works under Ministry of Environment, Forest and Climate Change (MoEFCC).
- It is the Ministry of Environment who makes the final decision on approving the GM Crops.

- Use of the unapproved GM variant can attract a jail term of 5 years and fine of Rs. 1 lakh under the Environment Protection Act, 1986.
- It is GEAC who assesses proposals regarding the release of Genetically Engineered products and organisms to the environment and this includes experimental trials as well.
- GEAC includes a Chairman who is a Special secretary or Additional Secretary to MoEFCC, a Co-chairman who is a Representative of Dept. of Biotechnology and as many other members who meet every month to review the applications in the Committee purview.

GM Mustard

- The Genetically Engineered Mustard DMH-11 has been developed by University of Delhi.

Benefits of GM Mustard

- Indigenously developed seeds, the patent remains with government unlike with cotton it remains with corporates.
- India Plans for food fortification to achieve SDG, this will help to achieving its goal.
- Yields are expected to rise by up to 30 per cent.

- India imports 15 million tonnes (Mt) of edible oils worth almost \$11 billion annually, Mustard oil production from this variety of crop will save a lot on Foreign exchange exchequer.
- The GEAC initially cleared DMH - 11 for commercial cultivation, however, they retracted their approval upon deciding that more tests, and additional data concerning the effect of DMH - 11 on insect pollinators, in particular honeybees, and on soil microbial diversity was needed prior to commercialisation.

Genetically Modified Crops

- Genetic modification aims to transcend the genus barrier by introducing an alien gene in the seeds to get the desired effects. The alien gene could be from a plant, an animal or even a soil bacterium.
- In India, the Genetic Engineering Appraisal Committee (GEAC) is the apex body that allows for commercial release of GM crops.
- In 2002, the GEAC had allowed the commercial release of Bt cotton. More than 95% of the country's cotton area has since then come under Bt cotton.
- Use of the unapproved GM variant can attract a jail term of 5 years and fine of Rs. 1 lakh under the Environment Protection Act, 1986.

- Advantages of GM Crops include Higher Yields, Enhanced nutritional value, longer shelf life, increased resistance to droughts, increased resistance to insects, pests & locusts and increased resistance to herbicides.
- Disadvantages of GM crops are it may cause allergies, Antimicrobial resistance and may lead to Cancer.