

Q. Write a critical note on GM crops and its significance. 10 marks

- Biotechnology is an emerging field to provide the solution for multiple problems from genetic disorder to organ transplantation to fortified food products and GM organisms.
- GM crops are the product of genetic engineering where we insert some outside gene, bacteria or organism to make the seed naturally pest, insect or disease resistant. For Example – BT Cotton where we insert *Bacillus Thuringiensis* to make it naturally resistant to wool worm and to enhance productivity.
- Over time, vast controversy regarding GM crops and associated bio-pollution. In India, we have Genetic Engineering Appraisal Committee with a task to give field trials clearance. But we do not have a National Biotechnology Authority to take decisions.

Government formulated Vasudev Acharya Committee regarding GM crops and their viability. As per the committee:

- GM crops are result of terminator seeds farmers cannot utilize it to grow the crop again. Therefore, increasing financial burden.
- Since independence we enhance our agricultural productivity by using hybrid variety of seeds. Therefore, there is no link of GM crops with food security.
- After Green Revolution by introducing HYV seeds, India lost good amount of biodiversity. After introducing GM crops, we can further lose it.
- Model of GM crops is suitable only for developed countries and not for India where majority of farmers have less than two hectares of land.
- GM crops are more water intensive while India is a water deficit country.
- Like antibiotic resistance, after some time insects and pests will generate natural resistance for GM crops which further result into more R&D and investment.
- Still we do not know the impact over human body, associated bio-pollution and mutation which may be irreversible.
- Therefore, any policy can be implemented only after full research. As per Vasudev Acharya, more than GM crops, India should focus on indigenous seed varieties.
- Supreme Court (SC) also appointed Technology Advisory Committee. As per it, there must be infinite moratorium on trial of GM crops, a special GM tag for food made of GM crops and separation of GM and non-GM seeds.
- Since SC judgement, India is not moving with any field trials, but they are

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highly important for industries as they increase productivity and decrease the input cost, trade and doubling farmer's income.

Therefore, there is a need that India should establish National Biotechnology Authority as soon as possible

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