

BT Cotton

April 16, 2020

Why in news?

Recently, a group of farmers was congregated in Akola village in Maharashtra in defiance of government rules to plant seeds of non-approved, genetically modified cotton.

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- BT cotton is genetically modified cotton, and BT cotton remains the only GM crop to be grown in the country.
- The insertion into cotton seeds of both genes, viz **“Cry1Ab”** and **“Cry2Bc,”** is developed by the US giant Bayer-Monsanto.
- This change codes the plant to make it resistant to attacks with a protein toxic to **Heliothis bollworm (rosé bollwürm)**.
- In 2002, the government approved the commercial release of this hybrid.
- The Environment Ministry of India is responsible for evaluating the safety of a plant that is genetically modified and determining its suitability for culture by means of the Genetic Engineering Appraisal Committee (GEAC).

Now what's the issue?

- A herbicide tolerant variety of Bt cotton has been planted by the farmers in Akola. This type of variety (Cp4-Epsps) consists of adding another gene, *Agrobacterium tumefaciens*, from another soil bacterium.
- The GEAC does not approve it. The farmers claim that the HtBt species is able to withstand glyphosate spray, a herbicide used to remove weeds, thus saving de-weeding costs significantly.
- Genetic modifications made to plants can cause an

insecurity in consumption, adverse human and animal health effects, or cause soil and neighboring plant problems.

- The tests and field trials have to be followed by an elaborate process.
- GM technology critics argue that only after many generations some traits of the genes begin to express themselves, and so we can never be certain of their safety.
- It is a legally punishable offense under the Environmental Protection Act of 1986 for the sale, storage, transport and use of unauthorized GM seeds.
- The sale of unapproved seeds may also be subject to action pursuant to the 1966 Seed Act and the 1957 Cotton Act.