



## GM Crops

//



# Genetically Modified Crops

## About

- Genetic modification of plants involves **adding a specific stretch of DNA into the plant's genome**, giving it new or different characteristics
- Also called **Transgenic crops**

## Global Cultivation

- Top 5 GM growing countries - **USA, Brazil, Argentina, India and Canada**
- Major GM Crops - **Soybean, maize, cotton and canola**

## Concerns

- Manipulation of GM Seed Cost
- Seeds don't create viable offsprings
- Insect-resistant plants harm non-targeted species too
- Intermixing violates natural plants' intrinsic values



## Objective

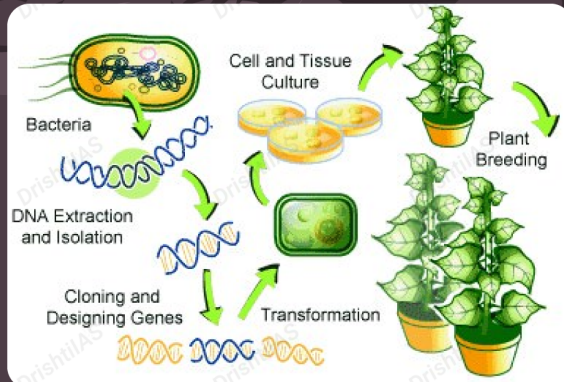
- Increase yield
- Increase tolerance to herbicides
- Improve nutritional value
- Provide resistance to disease/drought

## GM Crops in India

- **Bt cotton - only one GM crop approved**, (90% of India's total cotton acreage) (resistance against pink bollworm)
- **Ht Bt cotton** - resistance against **glyphosate** (herbicide)
- **DMH-11 mustard - recommended for commercial use** (high yield)
- **Golden rice** - probably the best variety of GM rice (**Vitamin A**)

## GM Crop Regulation

- **Statutory Provision:**
  - Rules for Manufacture, Use, Import, Export and Storage of Hazardous Microorganisms (HM) Genetically Engineered Organisms or Cells, 1989 under the Environment Protection Act (1986).
- **Statutory Bodies:**
  - **Genetic Engineering Appraisal Committee (GEAC)** (under MoEF&CC) - **administers commercial release** of GMC
  - Recombinant DNA Advisory Committee (RDAC)
  - Institutional Biosafety Committee (IBSC)
  - Review Committee on Genetic Manipulation (RCGM)
  - State Biotechnology Coordination Committee (SBCC)



## Cartagena Protocol on Biosafety (2000)

- It seeks to protect biological diversity from the potential risks posed by **Living Modified Organisms** resulting from **modern biotechnology**.
- **India is a signatory** to this protocol.

[Read more...](#)

PDF Refernece URL: <https://www.drishtias.com/printpdf/gm-crops-2>

