DEPARTMENT OF BOTANY AND MICROBIOLOGY
ST. ALOYSIUS COLLEGE (AUTO.) JABALPUR
REACCREDITED A+ BY NAAC WITH CGPA 3.68/4.0
COLLEGE WITH POTENTIAL FOR EXCELLENCE BY UGC
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NATURE- TRANSGENIC CROPS

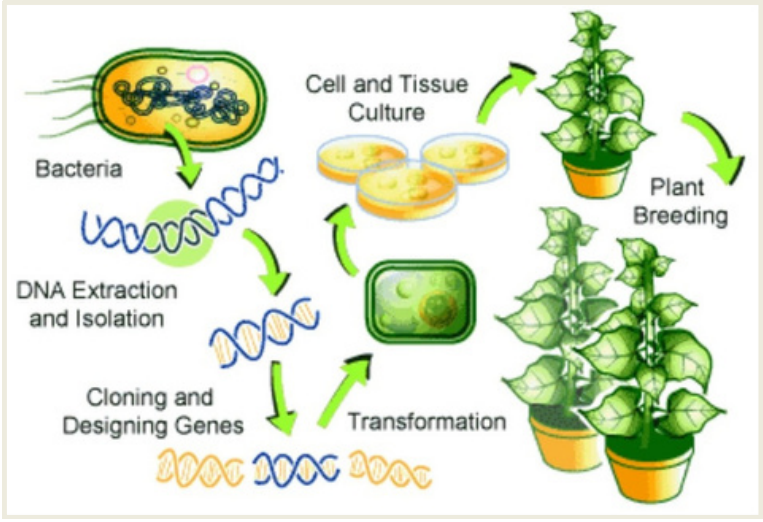
July-September 2023

Transgenic plants are crops which has a gene artificially inserted into it from another species, even unrelated, to give it some desired properties. They are also known as genetically modified crops and are mostly pest- resistant or herbicide-resistant.
Genetic modification of crops involves adding a specific stretch of DNA into plants genome, giving it new or different characteristics.

OBJECTIVE

1. Increase yield
2. Increase tolerance to herbicides
3. Improve nutritional value
4. Provide resistance to disease / drought
5. Modify metabolism

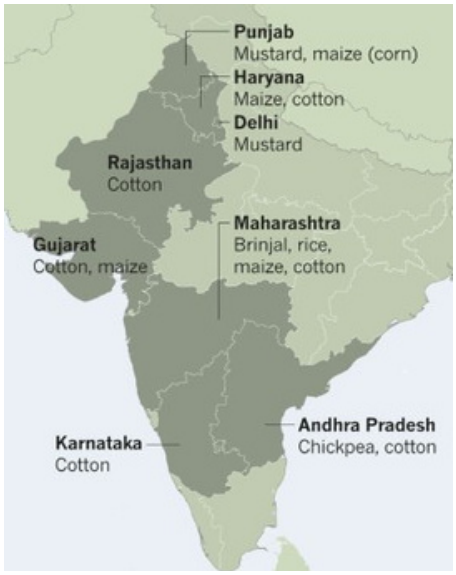
MAKING OF A TRANSGENIC CROP



WHEN DID INDIA GET ITS FIRST TRANSGENIC CROP?

The first genetically modified crop variety approved for commercialisation was Bt cotton. Bollgard-I, which provided immunity against the pink bollworm and developed by Monsanto, was given the go ahead in 2002. Monsanto released Bollgard-II in 2006. India has become the world's largest producer of cotton, which accounts for over 90% of the total acreage in the country.

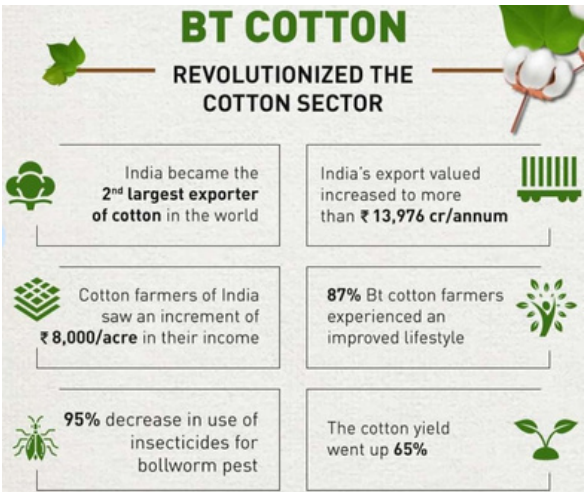
DISTRIBUTION OF TRANSGENIC CROP IN INDIA



EDITORIAL

STATUS OF TRANSGENIC CROPS IN INDIA

- There is an array of crops- brinjal, tomato, maize, chickpea- in various stages of trails that employ transgenic technology.
- However, cotton remains the only transgenic crop that is being commercially cultivated in India.



WHY IN NEWS?

Recently, Gujarat, Maharashtra and Telangana, have deferred a proposal, approved by the Centre's Genetic Engineering Appraisal Committee (GEAC), to test a new kind of Transgenic Cotton Seed that contains a gene, Cry2Ai.

Gene Cry2Ai purportedly makes cotton resistant to pink bollworm, a major pest. The conflict shows that a broad acceptance of genetically modified crops continues to be elusive.

HOW ARE TRANSGENIC CROPS REGULATED IN INDIA?

- In India, the regulation of all activities related to GMOs and products are regulated by the Union Ministry of Environment, Forest and Climate Change (MoEFCC) under the provisions of the Environment (Protection) Act, 1986.
- Genetic Engineering Appraisal Committee (GEAC) under MoEFCC is authorised to review, monitor and approve all activities including import, export, transport, manufacture, use or sale of GMO.
- GEAC recently approved commercial cultivation of genetically modified mustard.

DEPARTMENTAL ACTIVITIES

DISEASE AWARENESS

Awareness Program on Conjuctivitis was conducted by the Department of Botany and Microbiology on 12th August 2023. Dr. Femina Sobin gave an insight of the precautionary measures of Conjuctivitis.

BIOPATENTING

A guest lecture on Biopatenting was organized by Department of Botany and Microbiology on 26th August 2023.The resource person for the session was Mr. Agranshu Dwivedi, Incubation Manager.

SUSTAINABLE AGRICULTURE

A workshop on Sustainable Agriculture was conducted at the Department of Botany and Microbiology on 9th September 2023. Dr. Rajendra Sahu, Asstt. Professor, JNKVV was the speaker.

INTERNATIONAL MICROORGANISM DAY

Department of Botany and Microbiology celebrated International Microorganism Day on 16th September 2023. It included various events like Doodles On Agar , E-Poster, Reel Making, Quiz and Meme making.