

2. FSSAI Draft Regulations for GM foods

Prelims Syllabus: Bio-Technology

Mains Syllabus: GS-III Awareness in the fields of IT, Space, Computers, robotics, nano-Technology, Bio-Technology and Issues relating to Intellectual Property Rights.

Why in News?

- Social activists working among farmers have come out against the Food Safety and Standards Authority of India's (FSSAI) draft regulations on genetically modified (GM) food, terming it "Unacceptable".

What's their Demand?

- They want FSSAI to explicitly say that GM foods will not be allowed into India by way of production or imports. Because, according to them, any kind of GM food in India is a threat to the health of our people, to our environment, and to the diverse food cultures of India.

Background:

- The Food Safety and Standards Authority of India (FSSAI) has released draft regulations for GM foods.

What's the Issue?

- The Draft proposed that all food products having individual genetically engineered ingredients of 1% or more will be Labeled as "Contains GMO/ingredients derived from GMO". Activists claimed this as a tacit approval to import of GM food instead of prohibiting them.

Overview of the Draft:

- No one can manufacture or sell any food products or food ingredients derived from Genetically modified organisms (GMOs) without prior approval.
- Specifies norms that labs will need to adhere for testing GM foods.
- The proposed regulations will apply to "Genetically Modified Organisms (GMOs) or Genetically Engineered Organisms (GEOs) or Living Modified Organism (LMOs) intended for direct use as food or for processing."
- The Regulations' ambit will include food products that may have been made using food ingredients or processing aid derived from GMOs, even if GM content is not present in the end-product.

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- Genetically Modified Organisms or Genetically Engineered Organisms “shall not be used as an ingredient” in infant food products.
 - The draft also Proposes labelling norms for food products that contain one per cent or more than one percent of GMO content.

GMO Regulation in India:

- The task of regulating GMO levels in imported consumables was initially with the Genetic Engineering Appraisal Committee (GEAC) under the Union environment ministry.
- Its role in this was diluted with the enactment of the Food Safety and Standards Act, 2006 and FSSAI was asked to take over approvals of imported goods.

What is Genetically Modified Organism (Transgenic Organism)?

- In GMO, genetic material (DNA) is altered or artificially introduced using genetic engineering techniques.
- Genetic modification involves the mutation, insertion, or deletion of genes.
- Inserted genes usually come from a different organism (e.g. In Bt cotton, Bt genes from bacterium *Bacillus thuringiensis* are induced).
- Genetic modification is done to induce a desirable new trait which does not occur naturally in the Species.

Applications of Genetic Modification Techniques:

- **GM techniques are used in:**
 - ✓ Biological and medical research,
 - ✓ Production of pharmaceutical drugs,
 - ✓ Experimental medicine (e.g. gene therapy),
 - ✓ Agriculture (e.g. golden rice, Bt cotton etc.),
 - ✓ Genetically modified bacteria to produce the protein insulin,
 - ✓ To produce biofuels from some GM bacteria, etc.