Edible Oil Sector in India

For Prelims: Genetically Modified (GM) mustard, Dhara Mustard Hybrid (DMH-11).

For Mains: GM Crops and their significance, Edible Oil Sector of India and its Significance.

Why in News?

Recently, Centre pointed out that India is **already importing and consuming oil derived from Genetically Modified (GM) crops** in a **plea challenging the clearance for environmental release of** GM mustard**.**

- Also, **around 9.5 million tonnes (mt) of GM cotton seed is produced annually** and 1.2 mt of GM cotton oil is consumed by human beings, and about 6.5 mt of cotton seed is consumed as animal feed.

What is the State of Edible Oil Sector in India?

- **Place in Country's Economy:**
  - India is **one of the largest producers of oilseeds** in the world.
  - Oil sector occupies an important position in the agricultural economy.
  - It accounts for the estimated **production of 36.56 mt of nine cultivated oilseeds during the year 2020-21** as per the data released by the Ministry of Agriculture.
  - India is the **world's second-largest consumer and number one importer of vegetable oil.**
    - The **present rate of edible oil consumption** in India **surpasses the domestic production rate**. Hence, the country has to rely on imports to meet the gap between demand and supply.
    - At present, **India meets nearly 55% to 60% of its edible oil demand through imports.** Therefore, India needs to be independent in oil production to meet the domestic consumption demand.
    - **Palm oil (Crude + Refined)** constitutes roughly around **62% of the total edible oils imported** and are imported mainly from **Indonesia and Malaysia**, while **Soyabean oil (22%)** is imported from **Argentina and Brazil** and **Sunflower oil (15%)** is imported mainly from **Ukraine and Russia.**
- **Types of Oils Commonly Used in India:**
  - In India, **groundnut, mustard, rapeseed, sesame, safflower, linseed, niger seed** and **castor** are the major traditionally cultivated oilseeds.
  - **Soyabean** and **sunflower** have also assumed importance in recent years.
  - **Coconut** is most important amongst the plantation crops.
  - Among the non-conventional oils, **rice bran oil** and **cottonseed oil** are the most important.
- **Export Import Policy on Edible Oils:**
  - Import of edible oils is under **Open General License (OGL).**
  - In order to harmonize the interests of farmers, processors and consumers, Government

reviews the duty structure of edible oils from time to time.

What are the Related Government Initiatives?

- The government of India launched **National Mission on Edible Oils-Oil Palm as a centrally-sponsored scheme,** being implemented jointly by the central and state governments with a **special focus in the northeast region and the Andaman and Nicobar Islands.**
  - It is proposed to have an additional 6.5 lakh hectares for palm oil by 2025-26.
- In order to improve and systemize the data management system in the vegetable oil sector, the **Directorate of Sugar & Vegetable Oils under Department of Food and Public Distribution** has developed a **web-based platform (evegoils.nic.in) for online submission of inputs** by vegetable oil producers on monthly basis.
  - The portal also provides **window for online registration and submission of monthly production returns.**

UPSC Civil Services Examination, Previous Year Questions (PYQ)

Prelims

Q1. Consider the following statements: (2018)

1. The quantity of imported edible oils is more than the domestic production of edible oils in the last five years.
2. The Government does not impose any customs duty on all the imported edible oils as a special case.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Ans: (a)

Q2. Other than resistance to pests, what are the prospects for which genetically engineered plants have been created? (2012)

1. To enable them to withstand drought
2. To increase the nutritive value of the produce
3. To enable them to grow and do photosynthesis in spaceships and space stations
4. To increase their shelf life

Select the correct answer using the codes given below:

(a) 1 and 2 only
(b) 3 and 4 only
(c) 1, 2 and 4 only
(d) 1, 2, 3 and 4

Ans: (c)

Exp:

- Genetically modified crops (GM crops or biotech crops) are plants used in agriculture, the DNA of which has been modified using genetic engineering methods. In most cases, the aim is to introduce a new trait to the plant which does not occur naturally in the species. Examples of traits in food crops include resistance to certain pests, diseases, environmental conditions, reduction of spoilage, resistance to chemical treatments (e.g., resistance to a herbicide), or improving the

nutrient profile of the crop.

- Some potential applications of GM crop technology are:
    - Nutritional enhancement – Higher vitamin content; more healthful fatty acid profiles; **Hence, 2 is correct.**
    - Stress Tolerance – Tolerance to high and low temperatures, salinity, and drought; **Hence, 1 is correct.**
    - There is no such prospect that enables GM crops to grow and do photosynthesis in spaceships and space stations. **Hence, 3 is not correct.**
    - Scientists have been able to create certain genetically modified crops which stay fresh for a month longer than usual. **Hence, 4 is correct. Therefore, option (c) is the correct answer.**

Q3. Bollgard I and Bollgard II technologies are mentioned in the context of (2021)

(a) clonal propagation of crop plants
(b) developing genetically modified crop plants
(c) production of plant growth substances
(d) production of biofertilizers

Ans: (b)

Exp:

- Bollgard I Bt cotton (single-gene technology) is first biotech crop technology approved for commercialization in India in 2002, followed by Bollgard II- double-gene technology in mid-2006, by the Genetic Engineering Approval Committee, the Indian regulatory body for biotech crops.
- Bollgard I cotton is an insect-resistant transgenic crop designed to combat the bollworm. It was created by genetically altering the cotton genome to express a microbial protein from the bacterium Bacillus thuringiensis.
- Bollgard II technology contains a superior doublegene technology - Cry1Ac and Cry2Ab, which provides protection against bollworms and Spodoptera caterpillar, leading to better boll retention, maximum yield, lower pesticides costs, and protection against insect resistance.
- Both Bollgard I and Bollgard II insect-protected cotton is widely planted around the world as an environmentally friendly way of controlling bollworms. Therefore, option (b) is the correct answer.

Mains

Q. How can biotechnology help to improve the living standards of farmers? **(2019)**

Source: IE