

ICRISAT intern developed Bio-insecticide

December 20, 2022

In news– A 17-year-old research intern at the **International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)** bagged the third prize at the **International Science and Engineering Fair** in the United States – the world’s largest pre-college science fair.

About Bio-insecticide-

- It is a cost-effective bio-insecticide from the leaves of bullock’s heart tree (*Annona reticulata*), popularly known as *ramphal*.
- Extracts from different parts of this plant have traditionally been used to cure conditions including *dysentery* and *pediculosis* (louse infestation).
- **Extracts from its leaves may be useful against three destructive pests – Pod borer, Green peach aphid and fall armyworm** – with a mortality rate of 78-88 per cent. All these pests are known for incurring crop losses to farmers.
- Pod borer (*Helicoverpa armigera*) alone may cause losses worth more than \$300 million (over Rs 24 billion) annually.
- **Green peach aphid** (*Myzus persicae*) causes 38-42 per cent yield loss in various crops and fall armyworm (*Spodoptera frugiperda*) causes 21-53 per cent losses in the absence of pest management.
- The fall armyworm impact on Indian agriculture was considerable. So much so that the country had to import Bio-insecticides to healthy and pesticide-free produce, costing between \$9 and \$12 per acre of cropland. It costs a humble \$0.33 per litre to produce pesticide from the leaves of the bullock’s heart.

- This makes it a cost-effective pesticide for smallholder farmers and provides an additional source of revenue through the sale of fruits for human consumption and the leaves for bio-pesticide extracts.

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)–

- ICRISAT is an international organization which conducts agricultural research for rural development, headquartered in Patancheru(near Hyderabad) with several regional centers.
- It was founded in 1972 by a consortium of organisations convened by the Ford and the Rockefeller foundations.
- Its charter was signed by the FAO and the UNDP.
- Since its inception, host country India has granted a special status to ICRISAT as a UN Organization operating in the Indian territory making it eligible for special immunities and tax privileges.