

Chapter-14 Chemicals in agriculture

* Pesticides :

Pesticides are chemical compounds that are used to kill pests, including insects, rodents, fungi and unwanted plants (weeds).

The term pesticide includes all of the following :

- i. Insecticides
- ii. Herbicides
- iii. Fungicides

* (i) Insecticides :- Insecticides are substances used to kill insects.

Examples :- Chlorinated hydrocarbons like DDT, BHC (gamma-hexachlorocyclohexane), Aldrin, Dieldrin etc.

Uses : Insecticides are used in agriculture, medicine, industry and by consumers.

* (ii) Herbicides :-

A herbicide is a chemical substance used to kill unwanted plants. These are commonly known as weed killers.

Examples :- Acetochlor, Amifolol, Arsenic acid, dinitrophenol, dipyriddy, Carbamate, propanil, Paraquat etc.

Uses : Herbicides can be used to clear waste ground, industrial and construction sites, railways and railway embankments as they kill all plant material with which they come into contact. Also, these are applied in ponds and lakes to control algae and plants such as water grasses that can interfere with activities like swimming and fishing.

* (iii) Fungicides :

Fungicides are the pesticides that prevent, kill, mitigate, or inhibit the growth of fungi on plants.

Ex :- Bleaching powder, Custy solution, aluminium phosphide, Copper oxychloride, Carbendazim, Carbosin, Mancozeb etc.

Uses : These are used to control fungi that damage plants.

* Bio-fertilizers :-

Bio-fertilizers are the substance that contains living micro-organism. Bio-fertilizers increase the nutrients of host plants when applied to their seeds, plant surface or soil by colonizing the rhizosphere of the plant. These are environment friendly substitute for harmful chemical fertilizers.

The micro-organism in Biofertilizers restore the soil's natural nutrient cycle and build soil organic ~~on~~ matter. These are extremely advantageous in enriching soil fertility and fulfilling plant nutrient requirements.

Examples : Rhizobium, Azotobacter, Azospirillum, Blue green algae etc.

Uses :-

1. Rhizobium inoculant is used for leguminous crops.
2. Azotobacter can be used with crops like wheat, maize, mustard etc.
3. Blue green algae is used for paddy crops.
4. Azospirillum is used for maize, sugarcane, millets etc.