Chapter Twenty Five

Crop Protection:

- This is the study of living and non living things that cause damage to our crops, and how to control them.
- These therefore include pests and diseases.
- A pest is anything that causes economic damage to our crops.
- Disease is anything that does not allow a plant to grow in the normal way.

Groups of pests:

- Crop pests can be put into four groups and these are:

(1) Rodents. (3)Nematodes.
(2) Birds. (4) Insects.

Rodents:

- These are small animals which move on four limbs and have strong teeth.
- They gnaw and chew stored cereals, nuts, and tubers and so on.
- Rodents that cause damage to agricultural crops include rats, grasscutters, mice and squirrels.

Control of rodents:

-- Rodents can be controlled on a farm by:

(a) setting traps to catch and destroy them.

(b) creating a barrier such as a fence to keep them off the farm.
(c) poisoning them

Birds:

- This group of pests feed mainly on grains or cereals and fruits.
- They also eat seeds which are germinating.

Control of birds:

- They can be controlled on the farm by:
(1) Creating noise to frighten them away.

(2) Using scarecrow to drive them away.

Nematodes:

- They are also called eelworms and they live in the soil.
- They cause damage by feeding on the roots of plants.
- They attack crops such as pineapple and tomato.
- Nematodes can be controlled by:

(i) Using chemicals.
(ii) Soil sterilization.
(iii) Crop rotation.

Insects:

- They form the largest group of pests.
- Despite the fact that many insects are pests, there are some which are of benefit to man.
- This is due to the fact that some insects pollinate crops, and produce useful products such as honey.
- Insects are divided into three groups and these are:

(a) Chewing and biting insects.
(b) Sucking and piercing insects.
(c) Boring insects.

Biting and chewing insects:

- This group of insects has strong mouthparts.
- These strong mouthparts are used in biting and chewing leaves and so on.
- Examples are cockroach.

Sucking and piercing insects:

- They have special mouthparts called proboscis, which is used to pierce into fruits, leaves and stems.
- Examples are capsids and the whitefly.

Boring insects:

- This group of insects creates holes in the stems or the fruits of plants.
-They have strong mouthparts which they use in boring into plants, fruits and stored grains. -
Examples are weevils and beetles.

Storage pests:

- These are those pests which are found in the place, where harvested crops are stored or kept.
- They include mice, rat and weevil.

Effects of pests on crop production:

- This is also referred to as the economic importance of pests.
- Some of these effects or economic importance are:

(1) They reduce crop yield.
(2) They make crops unwholesome, and this affects the price at which the crops are sold.
(3) They can destroy the whole crop farm.

Diseases of crops:

- A disease is any change in the normal function of any part of the plan.
- Plants which are attacked by diseases show such symptoms such as reduced leaf size, appearance of swellings on the plant and reduced yield.

Effects of diseases on crops:

- These effects are:

(i) Reduction in crop yield.

(ii) Reduction in the market price or value of the crops.

(iii) Because chemicals are bought to control these diseases, the cost of production of the crops increases.

(iv) A disease can destroy all the crops in a farm.

Types of crop disease:

- In plants, diseases can be grouped into two and these are:

(1) Pathogenic diseases:

- These are those diseases which are caused by micro organisms called pathogens.
- Examples of pathogens are fungi, virus and bacteria.

(2) Non – pathogenic diseases:

- This refers to those diseases which are not caused by pathogens.
- They may be due to certain factors such as lack of light or the lack of certain nutrients.

Control of crop diseases:

- Some of the methods used are:

(i) Cultural control:

- In this method, normal farming practices such as the planting of resistance varieties are used.
- These resistance varieties are seedlings or young plants, which cannot easily be attacked by diseases.

(ii) Chemical control:

- In this method, appropriate chemicals are used to control diseases of crops.

(iii) Biological control:

- In this method, the enemies of disease causing organisms are used to destroy them.

Questions:

(Q1) What do you understand by crop protection?

Ans:

- It is the study of the living and non – living things that cause damage to crops and how to control them.