

Pests of crops

Meaning of crop pests

A pest can be described as an organism, whether plant or animal, which causes economic damage to crop plants, livestock, man and his possessions. They attack crops on the field as well as in the store. They may harm crops directly or introduce diseases into them.

Examples of pests are insects, rodents, higher parasitic plants, etc.

Classification of Crop Pests

Pests are classified in different ways as follows:-

Insect Pests

Non-Insect Pests

Insect Pests

These are the most serious pests of agricultural importance, and the group includes all insects which cause damages to crops and crop products. Examples of insect pests are grass hoppers, weevils, beetles, white flies, termites, crickets and locusts. They feed on crops ~~though they are not~~ either on the field or in the store.

These are organisms other than insects which attack and feed on crops. They cause a lot of damages to crops though they are not as many as insect pests. Examples of non-insect pests include rodents like giant rats, grass cutters, monkeys, nematodes and birds.

Classification of Insect pests Based on Mouth parts / Mode of feeding

Insect pests are classified into different groups based on their mouth parts and the mode of feeding. The groups include: (a) Biting and chewing insects (b) Piercing and sucking insects (c) Boring insects

Biting and chewing insects

This group of insects has mouth parts adapted for biting and chewing. They possess strong mandible and maxillae which they use for biting and chewing plant parts. Other parts of their mouth are labrum and labium. They consist of insect larvae or caterpillars as well as adult ones. Examples of insects with biting and chewing mouth parts are grass hoppers, crickets, locusts, mantis, termites, leaf worm, army worms and yam beetles.

Piercing and Sucking Insects

These insects have mouth parts that have been modified to pierce the tissues of plants and suck the contents of the part of the plants they attack. They have strong mouth part called proboscis which enables them to pierce through plants and suck liquid material (sap) from the plant tissues. They weaken and inject poison (toxin) into the plants they attack. Examples of piercing and sucking insects are cotton stainer, capsids, mirids, aphids, mealy bugs, moths, Scale Insects, white flies and butter flies.

Boring Insects

The insects in this group have mouth parts that are modified for boring into stems, fruits and seeds. Examples of boring insects include stem borers, maize weevils, rice weevils, bean weevils, palm weevils and rhinoceros beetle of coconut palm.

Evaluation

1. State three (3) major classifications of insect based on their mode of feeding.
2. Mention five (5) examples of piercing and sucking insects and the crops they attack.

Pests of cereal crops

- (i) Stem Borers: These are pests that attack all cereal crops causing damage to their stems. The borer is a larvae of moth. It eats out the inner center of stem thereby damaging the growing crops. The adult female lays eggs in the axils of leaves, these later hatches into the larvae which then bore into the stem.
- (ii) Army Worms: These are caterpillars (larvae of insects of the lepidoptera order) which eat the leaves and succulent shoots of crops causing mechanical damage to the plants.
- (iii) Ear Worms: These are larvae of insects which bore into the ears of maize thereby eating the fresh grains.

Pest of Legumes

- (i) Pod borers: These attack cowpea and other legumes with pods. The adult female which is a nocturnal moth lays eggs on leaf buds, flower buds and flowers. These hatch into larvae which feed on the tender parts of the stem, flowers and the pods. The pupa stage takes place in the soil during which time they molt into adults.
- (ii) Aphids: These are small green or black flies which feed on crops by piercing and sucking fluid thereby causing distortion and stunted growth. Without mating, the wingless females produce live nymphs after feeding on the host plants. This is called parthenogenesis. The nymphs develop into wingless adult in about 15 days and later into winged male and female and migrate to other plants.

- 1) Leaf beetles: These are small beetles that eat the green leaves of cocopea and soybeans. They eat up the leaves in patches creating different patterns on the surface.

Pests of Beverage crops.

- 1) cocoa myriads / cecidids: These are piercing and sucking insects which attack young cocoa shoot and introduce toxic saliva into the sap. They also transmit fungal diseases.

Pests of Root and Tuber crops.

- 1) Yam beetle: These beetles feed on yam tubers creating holes on them. These beetles are black in color and have their breeding areas around river banks.

- 2) Cassava mealy bugs: These are tropical pests of cassava which was first observed in Nigeria in 1979. The shoot becomes stunted and develops bunchy tops. The leaves of the shoot die off, the stem is twisted while the final stage is a candle stick appearance of the plant.

- 3) Cassava green spider mite: This mite is given in color at a young age, turning yellow later. The very young leaves remain small and spiny while the already expanded leaves show various degrees of yellowish spotting.

Pests of fibre crops

- 1) cotton stainer: These are small reddish insects which attack the opening cotton bolls. They do it by sucking and feeding on the undeveloped cotton seeds. The excreta passed out during the feeding stains the cotton lint, giving it yellow coloration. They also transmit viral diseases. They have some crops as alternative host, and these include okra, maize and tomato.

- 2) Boll worms: These are larvae of certain moths. They eat into the succulent buds and damage them. This leads to premature boll dropping and subsequently

field reduction...

Pests of fruits and vegetables

Thrips: These are very small slender insects with black to dark brown colour. Both the nymphs and the adults feed by piercing into and sucking out juice from the soft tissue of crops like tomato and onion. They cause browning of leaves, wilting of plants and reduction in yield.

1) Variegated grasshoppers: These are biting and chewing insects whose adults and larvae eat up the leaves and stems of plants.

2) Scale insects: These belong to the family of insects called Hemiptera. They are piercing and sucking insects, and attack crops such as cashew and citrus. The insects also transmit virus disease leaf rollers: These attack vegetables, causing rolling and twisting of leaves. They reduce photosynthetic activities.

leaf beetles: These eat up the leaves and stems of vegetable crops such as pepper, okra and tomato. They reduce photosynthesis and yield of crops.

Pests of stored produce,

Weevils: These attack grains in the store. The adult of these weevils lay eggs in the grains while still growing in the field. After harvesting and the grains kept in the store, their larvae emerge and start to feed on the grain cotyledon. This reduces the value of the seed both for food and for sale.

Beetles: These attack legumes and tubers in the store. They bore holes in grains and eat them up, reduces viability of infected grains, reduce the market quality and low income for farmers.