

# Pest Management

## B.Sc. Part-3, Paper-VII, Group-B, Economic Zoology

### Lecture-I

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#### Pest

Any organism that reduces the availability, quality, or value of a human resource can be classified as a pest. According to Arther Woods (1974), "A pest is an organism which harm man and his property, or is likely to do so. The harm must be significant; the damage of the economic importance." But most of the authors defined the pest by adding "We must be able to control it" otherwise they are not considered as pests. According to Peter G. Fenemore (1982), the plant pests are recognised in three categories- Key pests, occasional pests and Potential pests.

**Key pest-** These are recognised as the real pest for specific crops. For the economic production of the specific crop, effective control is very necessary. If key pests remain uncontrolled, their population will always remain above the economic damage threshold.

**Occasional pests-** The population of these pests often remain above the economic damage threshold but for a long time they remain insignificant. Their occurrence or the cause of occurrence cannot be pronounced properly. Their occurrence above the economic damage threshold may be on regular interval and the reason for their occurrence may be ecological or natural.

**Potential pests-** These pests are usually not recognised as pests but these have the potential to occur above the economic damage threshold. When the potential pests occur above the economic damage threshold, they are recognised as pests. These pests are generally suppressed by the ecological or natural factor.

Three types of pest have also been recognised

**Monophagous-** pests which feeds on a single species of plant.

Oligophagous-pest which feeds on plants of a single family.

Polyphagous-the pests which feeds on large no. of cultivated or uncultivated plants of different species.

#### Paddy Pest

Paddy is one of the major crops cultivated in India. Pests of paddy can damage 25% of paddy production. Some of the important paddy pests are-

##### 1.The Stem Borer (*Tryporyza incertulus*)

More than 12 known species of the larvae bore the stem of the paddy plants. More severe damage is caused by the larvae of *Tryporyza incertulus*. It is a *monophagous species*. Its life cycle is completed within 30 to 40 days. It appears in early summer. The size of the moth ranges from 1 cm. to 1.5 cm. The adult moth lays eggs in masses and each egg mass contains about 50 to 100 eggs. About six hundred eggs are laid at a time. Egg hatches in 5 days. The young larva after hatching begins to crawl on the plant. The larva cuts open the small hole in stem and enters it. The larva feeds on plant tissue and attain the length of about 2 cm.



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## 2. The swarming caterpillar (*Spodeptera Mauritia*)

The swarming caterpillar also known as army worms. Spread all over the country as a serious paddy pest. The swarm of the caterpillar migrate from one field to another. The swarm browse the crop like cattle. They are polyphagous but prefer paddy plants. Life cycle about 40 to 50 days.



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## 3. The Gundhi Bug (*Leptocorisa oratorius*)

It is among one of the serious paddy pests, although polyphagous prefer paddy plants. It has an unpleasant odour which it uses for defence. It sucks the milky juices of paddy grains. Life cycle about 20 to 30 days.



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#### **4.The gall fly (*Orselio oryzae*)**

Spread all over the paddy growing region of country. It is polyphagous pest. The fly lays eggs on the base of the leaves and each egg are of 0.5mm in length. The egg hatch after 3 to 5 days the young hatched larva creeps till it reaches the apical point of the shoot of the paddy plant. The young larva cuts open a small hole in the apical region of the shoot and enters it. Here the young larva destroys the apical bud. Normal growth of the plant is checked and a small tubular gall is formed.



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