

Lecture 05

Insects of Leguminous Plants

Include the following crops:

(Bean, Pea, Cowpea, Lentil, Chickpea, Green gram, Alfalfa and Clover)

Some Insects of Leguminous Plants:

- 1-** Large Bean Seed Weevil
- 2-** Black Bean Aphid
- 3-** Pea Blue Butterfly (Long-tailed Blue)
- 4-** Alfalfa Weevil
- 5-** Cowpea Weevil
- 6-** Bean Leaf Borer
- 7-** Green Leafhopper
- 8-** Pea Leaf Miner
- 9-** Spotted Alfalfa Aphid
- 10-** Green Peach Aphid
- 11-** Cotton Whitefly
- 12-** Cotton Aphid
- 13-** Lentil Aphid

1- Large Bean Seed Weevil *Bruchus rufimanus* (Boheman) (Coleoptera: Bruchidae)

Description:

Egg: 0.6 mm long, greenish yellow.

Larva: the 2nd-instar larva reaches 5 to 6 mm once its development is complete; arched, apodous, brown head, and ivory white body.

Adult: 3.5 to 5 mm. Prothorax a little shorter than wide, anterior legs entirely yellow, middle and posterior legs black. Posterior tibiae bearing a long spike on the internal angle.



Damage:

The presence of beetles in the seeds of broad beans, peas or beans renders them unsuitable for consumption, reduces the germination rate of the sowings and presents a risk of re-infestation of crops. One broad bean can harbor 5 to 6 individuals.

2- Black Bean Aphid *Aphis fabae* Scopoli (Homoptera: Aphididae)

Description:

The **black bean aphid** is a small, soft-bodied insect that has specialized piercing and sucking mouthparts which are used to suck the juice from plants.

This aphid is usually seen in large numbers and is a tiny, plump insect about two millimeters long with a small head and bulbous abdomen. The body is blackish or dark green in colour. Many adults are devoid of wings, a state known as aptery. Winged forms, known as alates, are longer and more slender than aptates and have shiny black heads and

thoraxes. The membranous wings of the alates are held angled over the body.



Black Bean Aphid
Aphis fabae Scopoli (Homoptera: Aphididae)

Damage:

This well-known **aphid** is a major pest of field bean and broad bean. The aphids suck the plant sap also contaminate host plants with honeydew, upon which sooty molds develop; on field bean, chocolate spot disease can also develop on excreted honeydew. The aphids transmit bean yellow mosaic, bean leaf roll, beet yellow net, pea mosaic and potato leaf rolls. Heavy infestations on field and vegetable crops can reduce yields significantly; leaves and shoots may become malformed and plants noticeably stunted.



3- Pea Blue Butterfly (Long-tailed Blue)

Lampides boeticus (L.) (Lepidoptera: Lycaenidae)

Description:

The eggs are flattened, white and only 0.2 mm across. **Larvae** reach 10 mm in length. Larvae are variable in colour ranging from a uniform pale cream to pale pink with darker pink markings. **Pupae** are mottled brown with a length of 8 mm. The **Adult** males' wings are pale blue on top, whereas females are blue with wide dark brown edges. Underneath, both sexes are pale brown with white markings and have a distinctive broad white band across the outer sector of both wings.

Both sexes have a small thin tail on each hind wing. There are two small black eye spots, ringed with orange, at the base of each tail, on the

underside of the wings. The wingspan is 24–32 mm for males and 24–34 mm for females.



Pea Blue Butterfly (Long-tailed Blue)
Lampides boeticus (L.) (Coleoptera: Lycaenidae)

Damage:

The larva feeds on pods of long bean and other beans, eating the young seeds; on small pods the larvae makes a hole in the pod wall in order to reach the seeds. The damage characterized by round holes in pods and feeding on pod contents.



4- Alfalfa Weevil (Clover Leaf Weevil)

Hypera punctata (Fabricius), (Coleoptera: Curculionidae)

Description:

Egg - The oval, 1 mm long, egg is pale yellow when first laid but gradually darkens to black. **Larva** - The young, legless larva is green. Reaching a mature length of 12 to 13 mm, the grub is greenish or yellowish with a white or pink line down the center of the back and a dark line along each side.

Pupa - The yellow-green pupa is 5.5 to 7 mm long and has a dark green abdomen. It is enclosed by a straw colored cocoon 9 to 10 mm in length.

Adult - About 5 to 10 mm long, this snout beetle is covered with small gray, brown, and yellow scales which make it appear mottled and indistinctly striped.



Alfalfa Weevil (Clover Leaf Weevil)
Hypera punctata (Fabricius), (Coleoptera: Curculionidae)

Damage:

Alfalfa weevil larvae begin feeding on plants early in the spring. Infested plants become ragged as the grubs chew out small holes and irregular patches from leaves. Damage is most severe during late, cool, dry springs. During wet or humid weather, many larvae are killed by a fungal disease.

