Lecture 08

Insects of Industrial Crop (Oil Crops Insects) (Sesame, Sunflower, Castor and Safflower)

The Insects of Oil Crops:

1- **Deaths Head Hawk Moth**
2- **Sesame Webworm**
3- **Spotted cucumber beetle**
4- **Sunflower Moth**
5- **Lesser Sesame Leaf Worm**
6- **Safflower Bud Weevil**
7- **Cotton Whitefly**
8- **Cotton Aphid**
9- **Leafhoppers**
10- **Green Peach Aphid**
11- **Sunflower Head clipping Weevil**
12- **Sunflower beetle**

1- Deaths Head Hawk Moth

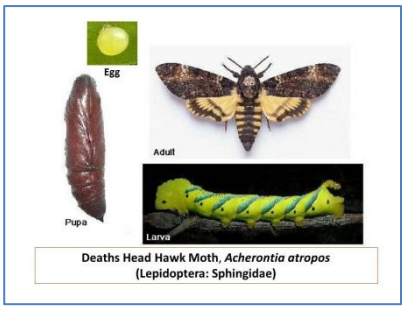
Acherontia atropos

(Lepidoptera: Sphingidae)

Description:

Eggs often coloured reddish or blue. The **larva** is white initially, with a yellow head, but when larger the colour is predominantly yellow, green or grey with diagonal blue stripes. Mature larvae measure up to 10 cm in body length. As with all Sphingidae **pupation** takes place in the soil in an earthen cocoon. It overwinters in the pupal stage and is univoltine. The length of the pupa is about 80 mm.

The **adult** is a large stout-bodied moth of striking appearance with long, dark forewings and short, yellow hind wings. The abdomen is banded yellow and black. Body length is 50–55 mm and wingspan 8–12 cm.
The adult is recognized by the presence of death head symbol on the dorsal side of its thorax.



Deaths Head Hawk Moth, *Acherontia atropos*
(Lepidoptera: Sphingidae)

Damage:

The larvae eat leaves, and although solitary they are very large caterpillars so a small number can cause defoliation of the host plant. However, frequently there is only one larva per plant.

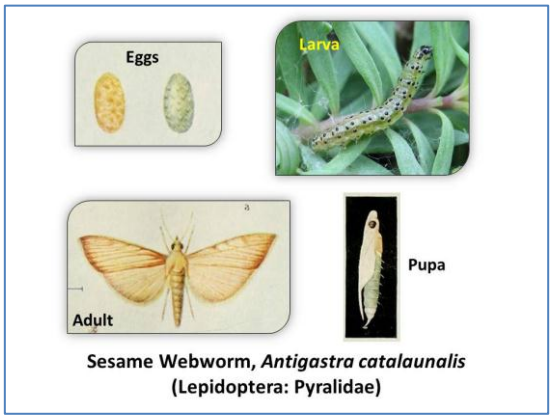
2- Sesame Webworm
Antigastra catalaunalis
(Lepidoptera: Pyralidae)

Description:

Eggs are oblong, 0.36 × 0.25 mm, change from greenish-white, through yellow, grey, and finally to red before hatching. The **larva** is a white caterpillar when first hatched, but later turns green with small black spots. There are five larval instars. The mature caterpillar is about 14 mm long.

The **pupa** is slender, greenish-brown, and 9–10 mm long.

The **adult** is an orange-brown, night-flying moth with a wingspan of about 16 mm.



Sesame Webworm, *Antigastra catalaunalis*
(Lepidoptera: Pyralidae)

Damage:

Young leaves and shoots are webbed together and eaten, and pods are bored by small caterpillars.

3- Lesser sesame leaf worm
Utetheisa pulchella
Lepidoptera: Arctiidae

Description:

Adults: The wingspan of Adults can reach 29–42 mm. The front wings are narrow, white or cream colored with a variable pattern of numerous small black spots located between the larger-sized bright red spots. Sometimes the red spots are merged to transversal bands. The hind wings are wide, white, with an irregular black border along the outer edge and two black markings in the middle of the cell. The head and thorax range from cream color to buff yellow, with the same pattern as the wings. The antennae are long and monofiliform. The abdomen is smooth, with a white background.

Caterpillars are warty, dark brown or grayish, with tufts of grayish hairs, an orange cross-line on each segment, a wide whitish line along the back and two other lateral white lines.

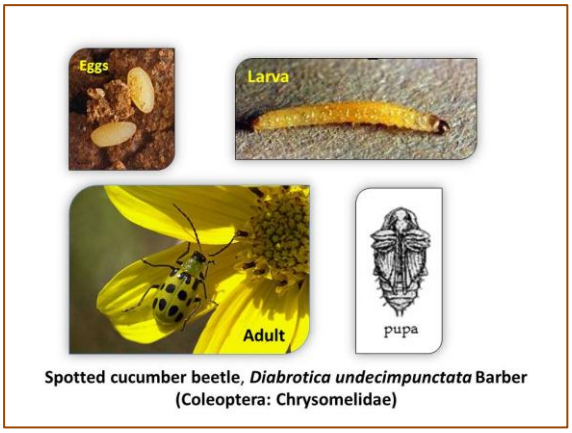
Damages:

The damaging stage is larvae and they feed on the leaves of Sesame plants as a primary host by chewing leaves also feed on the weeds as a secondary host such as Heliotropium sp.

4- Spotted cucumber beetle
Diabrotica undecimpunctata Barber
(Coleoptera: Chrysomelidae)

Description:

Egg - the oval orange-yellow and about 0.6 mm long.
Larva - larvae have a yellow-white, when fully grown, spotted cucumber beetle larvae are 13 to 19 mm long.
Pupa - pupae are white, tinged with yellow and 6 to 8 mm long.
Adult - the spotted cucumber beetle has a bright yellowish-green body with black head, legs, and antennae. Wings are marked with 12 black spots, and 5 mm long.



Spotted cucumber beetle, *Diabrotica undecimpunctata* Barber (Coleoptera: Chrysomelidae)

Damage:

Spotted cucumber beetle adults feed on the foliage and stems of cucurbits all season long. As plants develop, beetles also feed on blossoms and leave scars on the fruit. Adult cucumber beetles harbor bacterial wilt organism (*Pseudomonas lachrymans*) in winter and transmit it during the growing season. They also help spread squash mosaic virus. Larvae injure plants by feeding on roots and tunneling through stems.

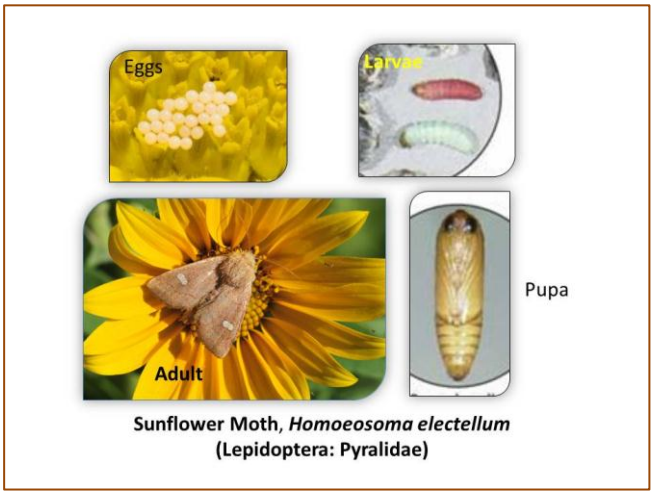
5- Sunflower Moth

Homoeosoma electellum

(Lepidoptera: Pyralidae)

Description:

Egg: pearly white, Oval in shape, from 0.60-0.80 mm long.
Larva: brown head capsule, purplish or reddish brown body with alternate dark and light stripes running longitudinally; from 19-25 mm long.
Pupa: reddish-yellow to brown, 10 mm long.
Adult: buff to gray moth with body length of 9-11 mm.



Sunflower Moth, *Homoeosoma electellum*
(Lepidoptera: Pyralidae)

Damage:

The young larvae of the sunflower moth feed primarily on florets and pollen. Older larvae tunnel through immature seeds and other parts of the head. A single larva may feed on three to 12 seeds and forms tunnels in both the seeds and head tissue. Larvae spin silken threads, which bind with dying florets to give the head a trashy appearance. Severe larval infestations can cause 30 percent to 60 percent loss, and in some cases, the entire head can be destroyed.

6- Sunflower head clipping weevils:
Haplorhynchites aeneus
Coleoptera: curculionidae

The adult head-clipper weevil is shiny black, measuring about eight millimeters (5|16 in.) from the tip of the snout to the rear of the abdomen. Larvae are cream colored, C-shaped and grub-like in appearance. Adults emerge in mid-July and may be found on plants for a two to three week period. The females feed on pollen and nectar of flowering heads.
After making a series of punctures around the circumference of the stalk just below the head, the female lays an egg in the head. The girdled head falls to the ground where the larvae develop and overwinter inside the fallen head.

Damages:

The adult weevil, especially the females, will girdle the flower's peduncles and leaf petioles, leaving the partially severed flower or leaves to hang from the stem. The female will then crawl into the sunflower's head to eat pollen and mate, and then will lay her eggs at the base of the head. The larvae will feed on the flower, pollen, and decaying tissue after the flower head has fallen to the ground.