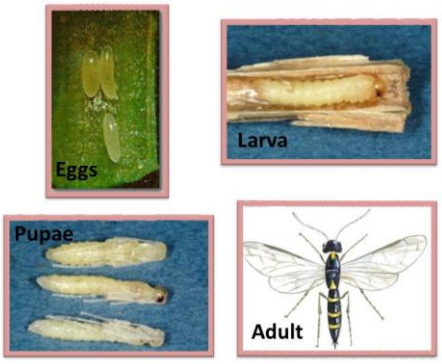
Lecture 04

6- Wheat Stem Sawfly *Cephus pygmaeus*

(Hymenoptera: Cephidae)

Description:

. Larva up to 12 mm long; body elongate and mainly yellowish-white; head yellowish-brown and the body is apodous. Adult female 9-10 mm long, elongate, mainly black and shiny, with bright yellow bands on the abdomen ; antennae black, filiform and noticeably thickened towards the tip; *wings* hyaline, with black veins. Adult male similar in appearance to female but marked more extensively with yellow



Wheat Stem Sawfly, *Cephus pygmaeus*
(Hymenoptera: Cephidae)

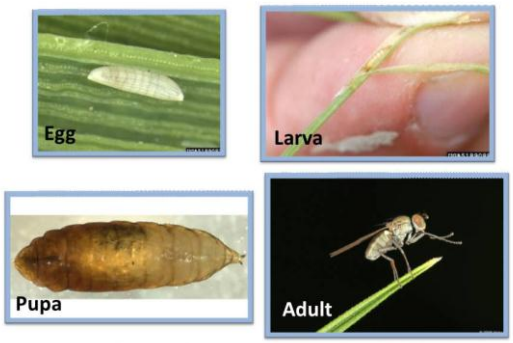
Damage:

To a lesser degree, it damages oats and millet. It also damages various sown and wild grasses, including brome, couch-grass (false wheat), timothy, and wild oat. Weight of grain decreases, and grain quality decreases because of damage to conducting vascular fibers by larvae. The under-sawed stems easily break off; as a result, losses of grain increase at harvest. Harmfulness of the Wheat Stem Sawfly varies widely, from 3 to 30%, depending on stem infestation.

7- Cereal Leaf Miner (Rice Whorl Maggot), *Hydrellia griseola* (Diptera: Ephydridae)

Description:

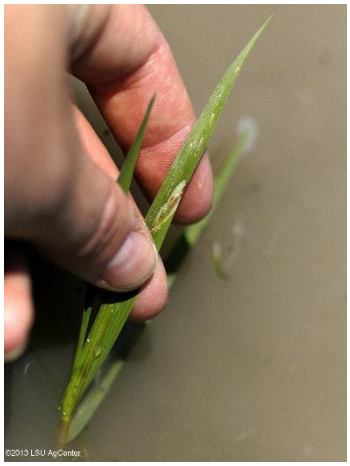
Cream-colored **larvae** emerge in less than one week and feed between the layers of the rice leaf. Larvae become yellow to light green while feeding for one to two weeks before pupation. **Adults** are metallic blue-green to gray flies with clear wings.



Cereal Leaf Miner (Rice Whorl Maggot), *Hydrellia griseola* (Diptera: Ephydridae)

Damage:

Larvae tunnel between the layers of the leaf, attacking and killing leaves closest to the water. Larvae move up the plant, killing additional leaves, and under heavy infestations the entire plant may die, reducing stands severely. The larvae or pupae can be found by separating the layers of the leaf.

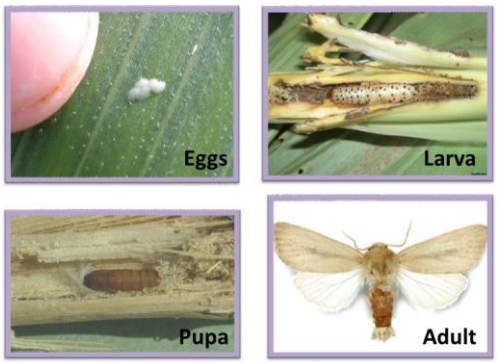


8- Corn Stem Borer *Sesamia cretica* (Lepidoptera: Noctuidae)

Description:

Eggs are hemispherical (about 1.5 mm across), ribbed, white when newly laid, changing to orange-pink before hatching. **Larvae** generally develop through five or six instars but up to eight have been recorded in Egypt, plus an inactive prepupal stage. Full-grown larvae are up to 4 cm long, cream-yellow with pink suffusions. **Pupae** are light brown, up to about 20 mm long, and with a terminal cremaster bearing one pair of long, fine spines. The pupae are often enclosed in a light, silken cocoon that is spun by the larvae before pupation. **Adult** wing span is 26-40 mm, with males generally smaller than females. The

forewings are pale whitish brown, variously marked with darker brown, and the hind wings are white.



Damage:

The larvae bore in the stem of the various Cereal crops, weakening the stem mechanically, and reducing the crop yield. Early damage results in cereal 'dead-hearts' with the destruction of the central shoot.

Corn Stem Borer, *Ses*
(Lepidoptera: Nc

9- European corn borer *Ostrinia nubilalis* (Lepidoptera: Pyralidae)

Description:-

The fully-grown larva is three-quarters to one inch in length. This borer is usually flesh-colored, but may range from light gray to faint pink, with conspicuous small, round, brown spots on each segment. The adult corn borer moth is about one inch long with a one inch wingspan. The female moth is light yellowish-brown with dark, irregular, wavy bands across the wings. The male is slightly smaller and darker in coloration. The tip of its abdomen protrudes beyond its closed wings. Female corn borer moths lay clusters of eggs on corn leaves, usually on the undersides.

Larva Adult

Damage

This is a very serious pest of both sweet corn and grain corn, and before the availability of modern insecticides this insect caused very marked reductions in corn production. Young larvae feed on tassels, whorl and leaf sheath tissue; they also mine midribs and eat pollen that collects behind the leaf sheath. Sometimes they feed on silk, kernels, and cobs, or enter the stalk. Older larvae tend to burrow into the stalk and sometimes the base of the corn ear, or into the ear cob or kernels. Feeding by older larvae is usually considered to be most damaging, but tunneling by even young larvae can result in broken tassels. Heavily tunneled stalks of grain corn suffer from lodging, reducing the capacity for machine harvesting. Boring by corn borers also allows several fungi to affect corn plants.

10- Corn earworm/ Tomato fruit worm, *Helicoverpa zea* (Boddie), (Lepidoptera: Noctuidae)

Description:-

Egg:

The dome-shaped egg, about 0.5 mm in diameter, is pale white when first laid and develops a reddish-brown band before hatching.

Larva:

The 5 to 6 larval instars vary considerably in color. Newly hatched larvae are about 1.5 mm long and yellowish-white with dark head capsules. Their head capsules are reddish-brown to brown with raised black spots on the body, all instars have 5 pairs of fleshy prolegs.

Pupa: The larva prepares a pupal chamber 5 to 10 cm below the surface of the soil. The pupa is mahogany-brown in color, and measures 17 to 22 mm in length and 5.5 mm in width. Duration of the pupal stage is about 13 days during the summer.

Adult:

The corn earworm moth has a wingspan of 26 to 38 mm and is usually light yellowish-olive in color. Each forewing has a dark spot near the center. Eyes are usually light green.

Damage:-

Though foliage is attacked early in the growing season, corn earworms prefer fruiting stages of their host plants. On seedlings, corn earworms eat the leaves, buds, and tender new growth. On corn, first generation larvae feed in the tightly coiled blades. As a result, numerous ragged holes appear when the blades unfurl. Wet, tan to brown excrement lodges in the whorl and blade axils. This condition often is referred to as "shatter worm" injury.

11- Corn leaf aphid *Rhopalosiphum maidis* (Homoptera : Aphididae)

Description

Corn leaf aphids vary from blue-green to gray and are small and measure about 1.7 mm and 2.4 mm for apterae. But the males are length for both forms is 1.5 mm, soft-bodied, and pear-shaped. A pair of tubes (cornicles) projects from the insect's rear, this aphid recognized by darkened area around the base of cornicles. Legs, antennae and head are black. Adults may or may not have wings. If wings are present they are clear, contain few veins, and are held roof-like over the body. Young aphids look just like adults except they are smaller.

Damage:

Feeding by colonies of these aphids causes mottling and discoloration of leaves. Heavily infested leaves turn red or yellow, shrivel, and die. The important damage usually occurs during and after flowering. At this time the aphid population peaks and feeds on corn tassels and silks. Areas fed upon become covered with sweet, sticky honeydew secretions. Black mold (sooty mold) grows on the honeydew and may result in poor corn pollination, interference with photosynthesis and, in severe cases, reduced grain development.