

Salahaddin University - Erbil  
Collage of Agricultural Engineering  
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plant protection Department



## **Field crop insects**

### **Lab 5**

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## **Insects of Industrial Crops (Cotton Insects)**

**The Insects are:**

- 1- Spiny Bollworm**
- 2- Cotton Leaf Worm**
- 3-Green Vegetable Bug**
- 4 Cotton Thrips**
- 5 Cotton Whitefly**
- 6- Cotton or Melon Aphid**
- 7- Cotton Jassids (Leafhoppers)**
- 8- Two-Spotted Cricket**

# 1- Spiny Bollworm

## *Earias insulana* (Boisd.)

### (Lepidoptera: Noctuidae)

#### Description:

**Eggs :** Blue colored eggs laid singly on shoot tips and flowers.

**Larva:** Dark brown colored with attractive white spots and when fully grown, is 15–18 mm long.

**Pupa:** Pupates in silken cocoon on plant or side soil and is about 13 mm long.

**Adult:** The adult is a small moth with green or yellowish-green wings, pale hind wings, and a wing-span of 20–22 mm.



## Damage:

- The larvae bore into growing points or into the internodes, feeding on soft tissue, and causing death of the tips.



•**Flowers and squares:** The larvae will feed on the flowers and squares (immature bolls) of the plant, causing them to shed.

•**Bolls:** The larvae can also burrow into developing bolls, causing them to become damaged and rot. This can significantly reduce crop yield.



## 2- Cotton Seed Bug

*Oxycarenus hyalinipennis* (Costa)

(Hemiptera: Lygaeidae)

### **Description:**

The **eggs** are 1mm long, oval shaped, creamy white and lay in open bolls.

The **nymphs** are bright red and can be found in clusters among the lint (fine fibers).



**Adults** are oval-elongate, 3-5mm long and their forewings are transparent with a black spot in the center. Their bodies are dark brown/ black and are visible through the wings.



### **Damage:**

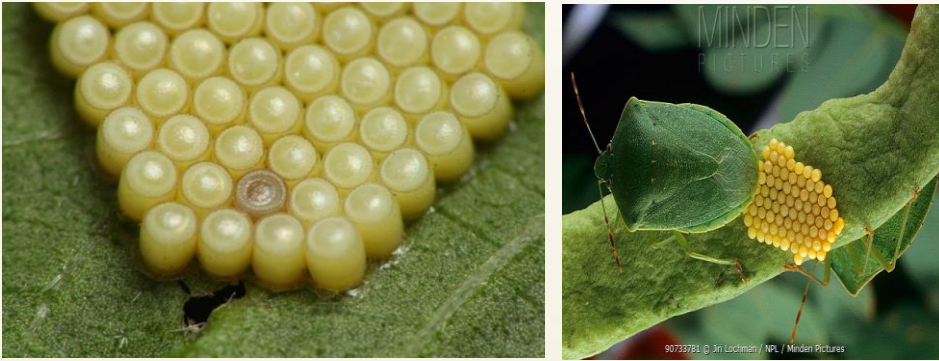
1. Adults and nymphs feed on ripe cotton seeds.
2. The only economic damage is from reduction of seed weight in late bolls, which may be as much as 15%.
3. They may damage cotton seeds often reducing their weight and color.



### 3- Green Vegetable Bug *Nezara viridula* (Linnaeus) (Hemiptera: Pentatomidae)

#### Description:

The **eggs** are yellow-white when laid. In 4 - 5 days the eggs turn pink and become red orange a day later.



Newly emerged **nymphs** are red and stay on the eggs mass for 48 hours or longer. In this time they darken in color to a reddish brown. At each molt the bug increases in size, growing from 0.15 cm newly emerged to 1.25 cm at the fifth and last nymphal instar. All nymphs are about as broad as long, dark in color, with red and white or yellow markings on their bodies.



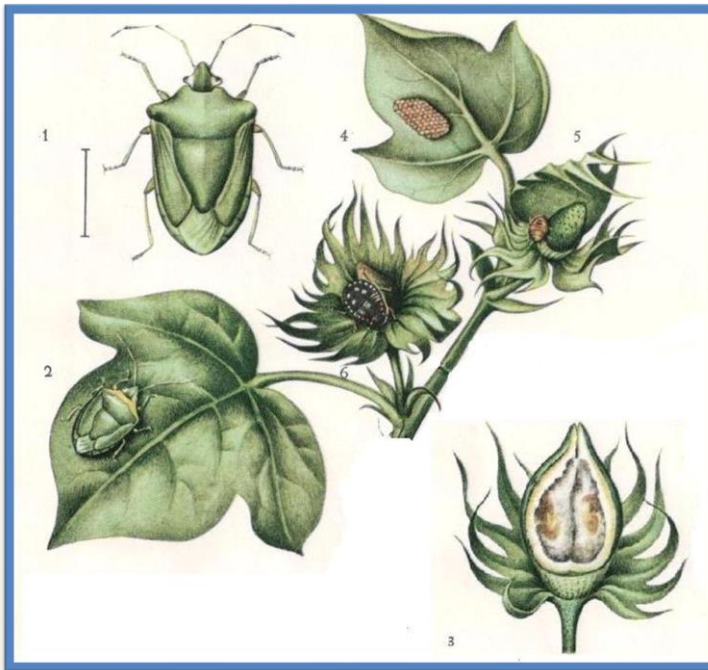
The **Adult** stink bug is shield-shaped. They are usually green color, but may occasionally be a reddish brown.



### **Damage:**

- The bugs feed by piercing plant tissue with needle-like styles. The actual feeding wound is not immediately visible.
- Adults and nearly all nymphal instars feed on a variety of plant tissue.

Juicy parts of the plant and the developing flowers or fruit are preferred.



## 4- Cotton Whitefly

*Bemisia tabaci* (Genn.)

(Homoptera: Aleyrodidae)



### Description:

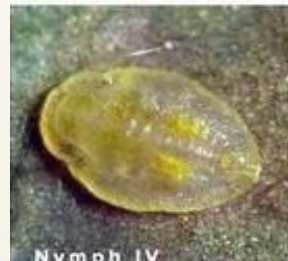
The oblong (oval) **eggs** are smooth and about 0.2 mm long.

There are four **nymphal instars** before the adults emerge: **Crawlers (first instar)**: When the eggs hatch greenish-yellow, flattened, oval first instar nymphs about 0.3 mm long emerge.



**Second and third instar nymphs:** During this immobile stage they look like soft scale insects, oval but slightly sharp towards the tail or end.

**Fourth instar nymphs :** Late in the third instar and through the fourth instar nymphs develop obvious red eyes and referred to as red-eyed nymphs. They are yellow and about 0.6-0.8 mm long.



**Adult whiteflies** are small 0.8 to 1.2 mm long. Adults hold their wings vertically, like a peaked roof. They have white wings and yellow bodies.



### **Damage:**

whitefly infestations result in:-

- 1.Reduced flowering, defoliation or downing, sticky and discolored plant parts as well as plant death under heavy infestation.
- 2.Although whitefly is more common on glasshouse grown ornamental species, it is a pest of many plant species causing both direct and indirect damage.
- 3.The whitefly is also a vector for many plant viruses.

***Bemisia tabaci* damages**

