Common Pests in Vegetable Crops

Unit B will cover:

- Thrips
- Caterpillar Worms
- Horn Worms
- Melon Worms
- Cucurbit Fruit Fly
THRIPS

Photo 1 and 2: Thrips sucking in cucurbits

Photo 3: Thrips in long bean bud.
# THRIPS

**Description:** Many species of thrips are considered pests. They are very small and always hidden under the leaves of the new growth, flowers and sometimes fruits. Depending on the specie, they are orange, yellow, black, etc. Among vegetables, they have a wide range affecting almost all economically important crops.

**Damage:** Leaves are rasped and sap is sucked. It’s a dangerous pest because can transmit several plant diseases. Symptoms are stunting, mottling developing tiny pale spots. Leaves can fall off when infestation is high.

**Cultural Control:**
- Weed control
- Crop rotation with corn, sorghum or rice
- Crop elimination immediately after harvest
- Live barriers using corn, sorghum or sugar cane all around the plot

**Chemical Control:**

<table>
<thead>
<tr>
<th>Commercial Name</th>
<th>Active Ingredient</th>
<th>Recommendation Dose</th>
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</thead>
<tbody>
<tr>
<td>Actara 25 WG</td>
<td>Thiamethoxam</td>
<td>1 gram per 16 liters of water</td>
</tr>
<tr>
<td>Confidor 200 SC</td>
<td>Imidaclorpid</td>
<td>4 ml per 16 liters of water</td>
</tr>
<tr>
<td>Map Jono 700 WP</td>
<td>Imidaclorpid</td>
<td>2 grams per 16 liters of water</td>
</tr>
<tr>
<td>Map Permethrin 50 EC</td>
<td>Permethrin</td>
<td>8 – 15 ml per 16 liters of water</td>
</tr>
<tr>
<td>Videci 2.5 EC</td>
<td>Deltamethrin</td>
<td>15 ml per 16 liter of water</td>
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CATERPILLAR WORMS

Life Cycle

Adult (Moth) → Eggs Mass → Worms → Pupae or cocoon

Photo 1: Worm affecting corn
Photo 2 and 3: Worm affecting tomato leaves and fruit
**CATERPILLAR WORMS**

**Description:** There are many species of worms that are considered pests. They affect all part of the plant: leaves, stems, flowers, roots and fruits. Depending on the specie, they have a wide range of colors. They have 3 pair of legs in the front and 4 pairs of false legs at the back.

**Damage:** They have chewing mouth parts and eat different parts of the plant reducing plant’s growth in general. Fruits can be affected and are not marketable.

**Biological Control:**
The use of *Bacillus thuringiensis* is a very effective and environmental friendly option to control worms belong to Lepidoptera group. This bacteria has to be ingested by the worms after they eat any part of the plant that has been sprayed.

**Cultural Control:**
- Weed control
- Crop rotation with corn, sorghum or rice
- Crop elimination immediately after harvest

**Chemical Control:**

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HORN WORM

Photo 1: Big larvae of horn worm in egg plant

Photo 2: Eggs oviposit and larvae in egg plant
**HORN WORM**

**Description:** This pest feeds on leaves and can grow up to 13 cm. This colorful worm is often found on the foliage of egg plant. Eggs are laid individually and are easy to see on the surface of leaves. It has a big tail with a form of horn at the back.  

**Damage:** They affect leaves and due to their large size, horn worms can defoliate plants quickly. High populations will cause serious damage reducing foliage area.

**Biological Control:**
The use of *Bacillus thuringiensis* is a very effective and environmental friendly option to control it, more than one application may be needed due to its big size.

**Cultural Control:**
- Weed control
- Hand picking worms
- Crop rotation with corn, sorghum or rice
- Crop elimination immediately after harvest

**Chemical Control:**

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MELON WORM

Photo 1: Melon worm on leaves

Photo 2: Melon worm on bitter gourd

Photo 3: Melon worm on cucumber
**MELON WORM**

**Description:** Has chewing mouth parts and affects plants only belonging to the cucurbit family and feeds on leaves especially located in the area of new growth. When population is high, they can affect fruits too. This specie is characterized by two white stripes along the back of the larvae and can be found in different sizes according to the stage. The smaller they are the easier to control.

**Damage:** They eat foliage area reducing plant’s growth in general making plants stunted if not controlled. Fruits can be affected as well and are not marketable.

**Biological Control:**
The use of *Bacillus thuringiensis* is a very effective and environmental friendly option to control worms belong to Lepidoptera group. This bacteria has to be ingested by the worms after they eat any part of the plant that has been sprayed.

**Cultural Control:**
- Control of weeds that belong to the cucurbit family.
- Crop rotation with any other crop that is not belong to the cucurbit family.
- Crop elimination immediately after harvest.

**Chemical Control:**

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CUCURBIT FRUIT FLY

Photo 1: Fruit fly, adult

Photo 2 and 3: Bitter gourd affected by fruit fly worm

Photo 4 and 5: Pheromone traps

Photo 6: Bitter gourd fruits covered with paper
**CUCURBIT FRUIT FLY**

**Description:** They have chewing mouth parts and affects plants only belonging to the cucurbit family and feeds and reproduce on fruits. The eggs are laid inside the fruits and after hatching, larvae feeds on inside fruits. Larvae is characterized by absence of legs. Chemical control is not recommended because larvae are inside fruits. Adult flies are free living insect that are able to travel long distances.

**Damage:** They eat fruits causing serious and important economic loses. Once fruits are affected by any damage inside, ripening is accelerated and fruits are not marketable.

**Cultural Control:**
- Control of weeds belong to the cucurbit family.
- Early elimination of affected fruits which have to be buried or burned.
- Pheromone Traps are used to attract adults and reduce their reproductive rate. Traps have to be located all around the plot and they will also provide information about where are most of the flies coming from.
- Covering fruits with paper, plastic bags, mesh or cloth. This is a physical barrier that is effective only for small areas because it is labor intensive.
- Crop rotation with any other crop that is not belong to the cucurbit family.
- Crop elimination immediately after harvest.