Insect Pests of Canola

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WATERVILLE, WA
What We Want!
Insect Pests of Canola

Cabbage Seedpod Weevil

Lygus Bugs

Aphids

Several Others...

Flea Beetle
How do you know when to treat the field?

Calendar Approach
IPM 101 - Decision Management Process

above EIL, benefit > cost

below EIL, cost > benefit

control

AD time
IPM 101 - Decision Management Process

above EIL, benefit > cost

below EIL, cost > benefit

pest population without control

control

AD time

number of pests

EIL

ET
How do you know when to treat the field?
Field Samples

Types:
- Sweep Net
- Beat Sheet
- Stem Sampling
- Sticky Traps
Where to Take Samples?

Canola Field
Where to Take Samples?

Canola Field
Figure 1. Suggested sampling plan for obtaining representative estimating insect populations. A "W" shaped patterns may also be used.
Cabbage Seed Pod Weevil

1) Pest Description:

- Adult weevils are ash-grey and approximately 3 to 4 mm long. They have a prominent curved snout that is typical of most weevils.
Cabbage Seed Pod Weevil

2) Lifecycle:

- **Winter**: Adults overwinter.
- **Spring**: Flight at 12°C, adults emerge in August, adults emerge in August, feed, and overwinter in leaf litter.
- **Summer**: Larval development in seedpods, pupation in the soil.
- **Fall**: Feeding on floral buds, seeds and young seedpods; egg-laying in young pods.
3) **Damage/Symptoms:**

- Canola pods harboring cabbage seedpod weevil larvae often appear distorted.
Cabbage Seed Pod Weevil

Monitoring:

<table>
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<th>WINTER</th>
<th>SUMMER</th>
<th>FALL</th>
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**Spring**
- Flight at 12°C
- Adults overwinter
- Feeding on floral buds, seeds and young seedpods. Egg-laying in young pods.

**Summer**
- Larval development in seedpods.
- Pupation in the soil.

**Fall**
- Adults emerge in August, feed, and overwinter in leaf litter.
Cabbage Seed Pod Weevil

4) Monitoring:
5) **Thresholds/Management:**

- Insecticide application is warranted when an average of 30 to 40 adult weevils are collected per (10) sweeps.
Cabbage Seed Pod Weevil

5) Management Options:

Cultural control:

- Trap Crops

  - Trap border/strip of early flowering Canola variety.

  - Trap border/strip same field variety planted 7 to 10 days early.
Cabbage Seed Pod Weevil

5) **Management Options:**

**Chemical:**

- Seed treatments / Foliar sprays

- Spray when the insects are active

- * Minimize non-target effects
1) **Pest Description:**

- Aphids are small pear-shaped insects that will have *cornicles* (a pair of tube-like structures attached to the abdomen).
Cabbage Aphid

2) **Damage/Symptoms:**

![Image of cabbage plants with aphid damage highlighted]
2) **Damage/Symptoms:**

- As the heads emerge and bloom begins, aphids will concentrate on the heads.
Cabbage Aphid

3) Monitoring/Thresholds:

- Canola should be scouted bi-weekly for aphids.

- Treat for aphids when populations exceed:
  - 2 per plant in the seedling stage.
  - 5 per leaf in the rosette stage.
  - or when 20% of the heads are infested during bloom.
Management Options:

Biological Control:

- Several natural enemies help to regulate aphid populations.

Chemical control:

- Do not treat late-blooming canola for aphids because populations usually decline after bloom.
1) **Pest Description:**

- Adults are approximately 3 mm wide and 6 mm long, oval, colored pale green to reddish brown or black.

- They have a distinctive triangle or V-shape on their backs.
Lygus bug (Tarnished Plant Bug)

2) **Damage/Symptoms:**

- Adult feeding on developing bud
- Puncture Points from Lygus Bug Feeding on Canola Stem
3) **Monitoring:**

- Start scouting fields at the bud stage.

- Sample (sweep net) when the temperature is above 20°C and the crop canopy is **dry**.

- Take 10, (side to side) sweeps through the bud area.
Lygus bug (Tarnished Plant Bug)

4) Thresholds/Management:

Treat if:

- 15 Lygus bugs (bud stage - petal drop) (10 sweeps)
- 20 Lygus bugs after petal drop (10 sweeps)
5) Management Options:

Biological:
Lygus bugs have several natural control agents.

Chemical:
There are several registered Insecticides like (Imidacloprid or Bifenthrin) that can be used once populations have reached economic threshold levels.
Flea Beetle/Striped Flea Beetle

1) Pest Description:
- Shiny, 2 – 3 mm and have enlarged hind legs.

Flea Beetles - *Phyllotreta Cruciferae* (Goeze)

Striped Flea Beetle - *Phyllotreta Striolata* (F.)
2) Lifecycle:

- **Fall**: Summer generation of adults July - Oct.
- **Winter**: Overwintering adults emerge.
- **Spring**: May - June
- **Summer**: July - August
- **Larva**: June - July
- **Pupa**: July - August

**Graphical Representation**

- Overwintering adults emerge and feed on seedlings.
- Pupation. Larvae. Adults emerge.
- Adults feed and go to overwintering sites.

**Timing**

- April
- May
- June
- July
- August
- September
- October

**Greatest damage** in June and July.
Flea Beetle/Striped Flea Beetle

3) **Damage/Symptoms:**
- Moderate to severe leaf feeding
Flea Beetle/Striped Flea Beetle

4) Monitoring:

- Continue scouting for 2 weeks, especially on sunny, calm days.
Flea Beetle/Striped Flea Beetle

5) Thresholds/Management:

- The economic threshold for flea beetle feeding on canola is when there is 25% defoliation and flea beetles are present.
- Canola seedlings can withstand 50% leaf loss.
Flea Beetle/Striped Flea Beetle

5) Management Options:

Cultural control:

- Seedling Vigor, the larger the seedling, the more it can withstand injury from flea beetle feeding.

- Crop rotation?

Crop rotation is not an effective means of controlling flea beetles. Adults overwinter inside and outside of the cropped areas and are capable of long-range migration.

Biological Control:

- NO, flea beetles emerge in large numbers during a relatively short period of time and tend to overwhelm the parasites and predators.
Flea Beetle/Striped Flea Beetle

5) **Management Options:**

**Chemical:**

- Seed treatments or post-emergent foliar sprays
Additional Canola Insect Pests

- Alfalfa looper
- Bertha Armyworm
- Beet webworm
- Cabbageworms
- Clover Cutworm
- Diamondback moth
- Grasshopper*
- Painted Lady, Thistle Butterfly
- Red Turnip Beetle
- Root Maggots
Thank You

Helping You Put Knowledge to Work