Insect Pests of Canola

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What We Want!
(2) Groups of Canola Pests

1) Insects Pests:
   - Cabbage Seedpod Weevil
   - Flea Beetle
   - Aphids
     - Cabbage Aphid
     - Turnip Aphid
   - Lygus Bug
   - Several others…
1) **Pest Description:**

- Flea beetles belong to the Family: Chrysomelidae and jump like “fleas” when disturbed hence the name. They are bluish-black, 2 – 3 mm and have enlarged hind legs.
2) Lifecycle:

- **Fall**: Summer generation of adults July - Oct.
- **Winter**: Adult emergence
- **Spring**: Overwintering adults emerge
- **Summer**: EGG May - June, LARVA June - July, PUPA July - August

**Overwintering adults**
- Adults emerge and feed on seedlings
- Larvae
- Egg laying
- (larvae)
- Overwintering adults die off

**Pupation**
- Adults emerge

**Adults**
- Adults feed and go to overwintering sites

**Greatest damage**
- April, May, June, July, August, September, October
Flea Beetle/Striped Flea Beetle

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

4) **Monitoring:**

- Note flea beetle densities in the fall. This will be the first signal of potential problems next spring. If flea beetles are abundant, one may consider using insecticides (*seed treatment*) at planting.
- Scout fields in the spring, and assess damage to cotyledons and the first true leaves of seedlings daily.
- Continue scouting for the first 14 days after emergence, especially on sunny, calm days when temperatures exceed 14°C.
- When scouting fields for flea beetle damage, it is important to understand that flea beetles generally invade canola fields from the field edges.
5) **Thresholds/Management:**

- Canola seedlings can withstand 50% leaf loss. Flea beetles can damage plants very quickly, however, so the economic threshold for flea beetle feeding on canola is when there is 25% defoliation and flea beetles are present.

Applying controls at 25% defoliation will reduce the risk of flea beetles reaching a level where yield loss and plant development are substantially reduced.
Management Options:

Cultural control:
- The larger the seedling, the more it can withstand injury from flea beetle feeding. Seedlings of vigorously growing varieties are able to tolerate flea beetle feeding more than seedlings of less vigorous varieties.
- 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: Flea beetles emerge in large numbers during a relatively short period of time and tend to overwhelm the parasites and predators.
Management Options:

Chemical:

- Canola, mustard and rapeseed crops can be protected from flea beetle attack through insecticide application as a seed treatment, granules applied with the seed or post-emergence foliar sprays.

- If using a foliar application; Apply sprays when it is sunny and warm, and the beetles are active and exposed on plants and soil.
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.
2) Lifecycle:

- **Winter**: Adults overwinter.
- **Spring**: Feeding on floral buds, seeds, and young seed pods. Egg-laying in young pods.
- **Summer**: Larval development in seed pods. Pupation in the soil.
- **Fall**: Adults emerge in August, feed, and overwinter in leaf litter.
3) **Damage/Symptoms:**

- Canola pods harboring cabbage seedpod weevil larvae often appear distorted. When larvae consume some seeds within pods, the undamaged seeds enlarge and mature, often leaving misshapen pods.
4) **Monitoring:**

- Cabbage seedpod weevil adult abundance can be monitored by taking sweep net samples. Sampling should begin when the crop first enters the bud stage and continue through the flowering period.

- Select 10 locations within each field, and at each location count the number of weevils from (10) 180 degree sweeps.

- Sampling locations should include both the perimeter and interior of the field, to obtain an accurate estimate of weevil numbers throughout the field.
5) **Thresholds/Management:**

- Insecticide application is warranted when an average of 3 to 4 adult weevils are collected per sweep.
5) **Management Options:**

**Cultural control:**

- At present, trap cropping is the most promising cultural strategy for controlling the cabbage seedpod weevil.

- By planting a trap border of early flowering Canola, Cabbage seedpod weevils may be controlled with an insecticide applied to the perimeter before they spread throughout the field.

- Alternatively, a strip of the same variety planted seven to 10 days before the rest of the field, can serve as a trap for adult weevils.
Management Options:

Chemical:

- Canola, mustard and rapeseed crops can be protected from flea beetle attack through insecticide application as a seed treatment, granules applied with the seed or post-emergence foliar sprays.

- If using a foliar application; Apply sprays when it is sunny and warm, and the beetles are active and exposed on plants and soil.

- *Spray late in the day to minimize harmful effects to beneficial insects in the crop, especially bees.
1) Pest Description:

- Aphids are small pear-shaped insects that may be green, yellow, brown, red, or black depending on the species and the plants they feed on. The presence of cornicles (a pair of tube-like structures attached to the abdomen) distinguishes aphids from all other insects.
Cabbage Aphid

2) **Damage/Symptoms:**

- Canola damaged in the seedling stage appears stunted and is more susceptible to winterkill.
- Damaged seedlings will have curled leaves with shortened nodes. The canola may exhibit a purplish tint associated with plant stress.
As the heads emerge and bloom begins, aphids will concentrate on the heads. Aphid populations that develop during early bloom and pod-fill can cause deformed, stunted or completely sterile pods. Black sooty mold is also associated with aphis colonies. Aphids have also been reported to transmit several viruses to canola.
3) **Monitoring/Thresholds:**
- Canola should be scouted biweekly 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 percent of the heads are infested during bloom.
4) **Management Options:**

**Biological Control:**
- Several natural enemies help to regulate aphid populations. The most important are a parasitic wasp and predatory ladybird beetle larvae and adults.

**Chemical control:**
- A number of insecticides are available for control of aphids
- Do not treat late-blooming canola for aphids because populations usually decline after bloom.
1) **Pest Description:**

- Adult are approximately 3 mm wide and 6 mm long, oval, colored pale green to reddish brown or black. They can be solid shaded or mottled, and have a distinctive triangle or V-shape on their backs.
- Larger nymphs have black dots on thorax and back abdomen.
2) **Damage/Symptoms:**

- Adult bugs feed on developing buds, flowers, and seedpods resulting in distortion and abortion of seed pods (blasting). Yield losses of up to 20% have been observed.
- Greatest damage occurs between June and August.
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, 180 degree sweeps through the bud area.
- Count adult lygus numbers per 10 sweeps.
Thresholds/Management:

- Treat for lygus bugs if counts are 15 Lygus bugs per 10 sweeps from bud stage through petal drop, and 20 lygus bugs per 10 sweeps after petal drop.

- Once the seeds have ripened to yellow or brown, the cost of controlling lygus bugs may exceed the damage they will cause prior to harvest, so insecticide application is not warranted.
5) **Management Options:**

**Biological:**
Lygus bugs have several natural control agents. A tiny fairy wasp, in the family Mymaridae, parasitizes the eggs of the lygus bug. In western Canada, a parasitic wasp, *Peristenus pallipes*, attacks lygus nymphs in alfalfa but is less effective in canola. Nabid plant bugs, bigeyed bugs and spiders occasionally prey on young lygus bug nymphs.

**Chemical:**
There are several registered Insecticides like (Imidacloprid or Bifenthrin) that can be used once populations have reached economic threshold levels.
Additional Canola Insect Pests

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

Helping You Put Knowledge to Work

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