



**CANOLA  
CANADA**  
CANOLA COUNCIL  
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# Canola Scouting and Sweep Net Insect Identification Card



Millimetres 0 10 20 30 40 50 60 70 80



Inches 0 1/2 1 2 3 4

## How to use a sweep net

- Use a standard 38 cm diameter net. Sample when the foliage is dry. If the foliage is wet small insects may stick to the inside of the sweep net bag making it difficult to identify them and giving you an inaccurate count.
- Hold the net with the hoop end nearest to the ground in front of you. The plane of the hoop should be perpendicular to you.
- Swing the net from side to side in a full 180-degree arc. Sweep one stroke per step as you casually walk through the field or down the row.
- Tilt the net opening so the lower edge of the rim is slightly ahead of the upper rim.
- In short vegetation, swing the net as deeply as possible.

In taller vegetation, sweep only deeply enough to keep the upper edge of the sweep net opening even with the top of the plants. In general, don't let the net go more than 25 cm below the top of the plants.

- Each passage of the net is considered one sweep. Check with your Canola Council agronomist, provincial agricultural representative or guides to crop protection for economic thresholds and control recommendations.



The Right Way



The Wrong Way

### WHEN

Scout fields weekly to check canola for the kind and number of insects present and any damage. When pests approach economic threshold levels, sample daily.

### WHERE

In fields of less than 100 acres, check a minimum of five locations. In fields greater than 100 acres, check a minimum of 10 locations. There are several scouting patterns used when checking fields based on pest distribution and field configuration.

**Pattern 1:** Use when pests are uniformly distributed throughout the field. This pattern looks like an X, Z or W, excluding field edges. Pests that fit this pattern include bertha armyworm, diamondback moth, aphids, and lygus bugs.

**Pattern 2:** Use when pests are at field edges. Scout by walking along field edges, fencelines or ditches. Examples include flea beetles and grasshoppers.

## Pests of Seedlings



### Cutworms

- Red-backed cutworms or pale western cutworms are 30 - 35mm long.
- Damage - larvae feed on stems at or under soil level causing plants to die.
- Scout in seedling to rosette stages. Check top 5 cm of soil around cut-off plants.
- Economic threshold - three to four cutworms per m<sup>2</sup> (in the soil).



### Flea Beetles

- 2 to 3 mm long, black/bluish sheen, or black with two yellow stripes.
- Damage - shot-holes in cotyledons and first leaves.
- Scout May through June when crop is in seedling stage.
- Consider foliar insecticide application when damage to leaves reaches 25% defoliation, if flea beetles are still present.



### Red Turnip Beetle

- 7 mm long, red and black patches on the head and 3 black stripes running down the back.
- Damage - feeds on leaves; can consume entire plants; and moves in from field edges.
- Scout field edges in early June.
- No economic threshold available - spraying of field margins is often effective.

Support for this project provided by: B.C. Grain Producers Association, Alberta Canola Producers Commission, Saskatchewan Canola Development Commission, Saskatchewan Canola Growers Association, Manitoba Canola Growers Association, Pest Management Regulatory Agency - Health Canada, Canadian Adaptation and Rural Development Program through Manitoba Rural Adaptation Council Inc., Saskatchewan Council for Community Development - CARDS Secretariat, Agriculture & Food Council (Alberta), British Columbia Investment Agriculture Foundation. These organizations do not assume any legal liability or responsibility for accuracy, completeness or usefulness of information contained in this publication.

Photo credits: Agriculture & Agri-Food Canada Winnipeg Research Centre; Dr. Roy Ellis, Prairie Pest Management; Dr. Lloyd Dosdall, Alberta Agriculture Food & Rural Development; and M. Herbut, Alberta Research Institute.

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## Beneficial Insects

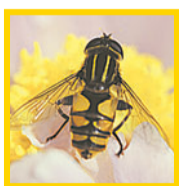
These insects serve a positive role in the production of canola. A healthy population of these insects is good for canola health or yield. The positive role each serves is listed beside the insect.



### Honey Bee

- Clear winged, black/yellow body. Beneficial pollinator.

15 mm



### Hover Fly

- Small brightly coloured flies that resemble bees. Beneficial pollinator and larvae are predators.

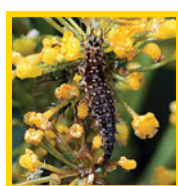
10 mm



### Lacewing Adult

- Pale green with slender body and delicate, long, green wings. Beneficial predator.

20 mm



### Lacewing Larva

- Larva have spindle-shaped bodies with prominent pincher-like mouthparts, resembling tiny alligators. Beneficial predator.

20 mm



### Lady Beetle Adults, Pupa & Larva

- Larvae look like alligators, with orange and black patches on the back. Adults are orange with black spots. Beneficial predator.

7 mm



### Parasitic Wasp Adult

- Small slender wasp with long antennae. Beneficial parasite.

10 mm





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25 mm

## Alfalfa Looper

- 25 mm long, light green/olive, with a paler head, a light stripe down each side, and two light stripes along the back. Mature larvae have a swollen abdomen.
- Damage - leaf feeding, flower and pod clipping.
- No economic threshold available. Delaying insecticide application as long as possible may allow viral diseases to reduce populations.



H 2 mm

## Aphids

- Aphids frequently cover the entire top 5-8 cm of plants; green or black and winged or wingless.
- Do not usually cause economic losses.



25 mm

## Beet Webworm

- Larvae are dark green in the early stages (25 mm), becoming black as they mature; two white stripes on either side of the centre line of the back and two rows of paired circular figures down either side of the back.
- Damage - leaf, stem and pod feeding. The larvae spin silk "webs" at the top of plants.
- No established economic threshold. May be similar to bertha armyworm.



40 mm

## Bertha Armyworm

- Mature larvae pale brown to velvety black/brown, 25 to 40 mm long, light brown head, and orange stripe along each side.
- Damage - leaf, stem and pod feeding.
- Scout late July through early August.
- Economic threshold for foliar insecticides ranges from 11 to 34 larvae per m<sup>2</sup>, depending on cost of spraying and price of canola.\*



25 mm

## Blister Beetles

- Large, narrow, often iridescent beetles (25 mm); occasionally occur in canola.
- Damage - leaf feeding. Do not cause economic losses.



5 mm

## Cabbage Root Maggot Adult

- Adults resemble house flies but are smaller (5 mm), dark grey in colour with a dark stripe along the back of the abdomen, and are covered with many black bristles.
- Damage - adults do not cause damage; check roots for larvae.
- Check for maggots on the roots of canola.



10 mm

## Cabbage Root Maggot Larva

- Small (6-10 mm), white, legless larvae (maggots) hatch in three to five days.
- Damage - eat their way through canola roots, creating feeding tunnels.



4 mm

## Cabbage Seedpod Weevil Adult

- Adult is grey, 3 to 4 mm long with a prominent curved snout.
- Damage - feeding on flower buds causes bud-blasting. See maggot information.
- Scout using sweep net sampling, from bud stage through flowering.
- Economic threshold for foliar insecticide at 10% to 20% bloom is an average of at least three to four weevils collected per sweep.



2 mm

## Cabbage Seedpod Weevil Maggot

- Larvae are white and grub-like and feed on seeds in developing pods.
- Damage - larvae eat developing seeds, causing yield loss. Pods are susceptible to shattering and disease.



30 mm

## Clover Cutworm

- When disturbed will curl up. Dark grey to green with yellowish pink stripes along the back, and are 30 mm long.
- Damage - leaf feeding.
- Scout late May through mid-July.



12 mm

## Diamondback Moth Adult

- Small narrow moths with diamond pattern on wings at rest.
- Adults do not cause damage. See larva information.



7.5 mm

## Diamondback Moth Larva

- 7.5 mm long, smooth, pale yellowish green larvae and wriggle vigorously from silken threads hung from leaves.
- Damage - mature larvae cause leaf, stem and pod stripping.
- Scout July through early August.
- Economic threshold is 20 to 30 larvae/0.1m<sup>2</sup> at the pod stage. The threshold may be slightly lower at early flowering (10 to 15 larvae/0.1m<sup>2</sup>).



38 mm

## Grasshopper

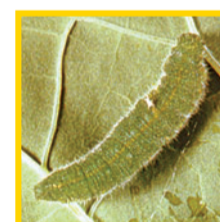
- Adults are large with large legs and wings.
- Damage - nymphs and adults feed on leaves, stems and pods.
- Scout May through July, especially along edges of the field.
- No firm economic threshold is established but it is thought to be about 15 grasshoppers per m<sup>2</sup> (slightly higher than for cereals).



30 mm

## Imported Cabbageworm Adult

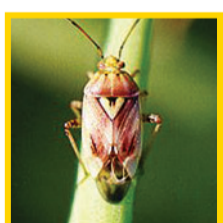
- White butterfly (45 to 65 mm wing span) with one to four black spots on the wings and very active during the day.
- Adults do not cause damage.



25 mm

## Imported Cabbageworm Larva

- Larvae are green with a velvety texture, faint yellow stripe down the back; mature larvae are 25 mm long.
- Feed on leaves, but do not cause economic losses.



5 mm

## Lygus Bug

- Pale green to reddish brown/to black, with a "V" mark one-third of the way down the back. Young nymphs are pale green in colour and resemble aphids.
- Damage - feed on leaves, stems, flowers and pods. Cause flower blasting and shrivelled seeds.
- Scout from pre-bud until seeds within pod become firm.
- Economic thresholds - about 15 lygus per 10 sweeps at the end of flowering, increasing to 20 per 10 sweeps as the crop approaches pod ripening.\*\*

5 mm



H 1 mm to 5 mm



40 mm

## Painted Lady Larva

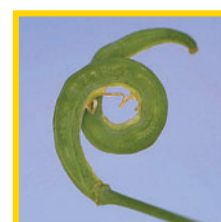
- Mature larvae are black (40 mm long) with spikes along the back and yellow stripes along the side.
- Damage - feed on leaves. Do not cause economic losses.



H 1 mm

## Thrips

- Tiny black specks in a sweep net. Under magnification have brown/black, linear-shaped body.
- Damage - feeding causes twisted pods.
- Do not usually cause economic loss.



## Pod Damage

\* Check the 2002 edition of the Canola Growers Manual (P1011b) for more details.

\*\* Check the 2002 edition of the Canola Growers Manual (P1024b) for more details.