

CANOLA INSECT SCOUTING GUIDE



Millimeters 0 10 20 30 40 50 60 70 80





Inches 0 1/2 1 2 3 4

SCOUTING SCHEDULE BY PLANT GROWTH STAGE

Pre-seed/Seedling	Seedling	Rosette	Budding	Flowering	Ripening
				Bertha armyworm m^2	
	Cabbage root maggot 🐛				
		Cabbage seedpod weevil 🐛			
Cutworms 🐛					
	Diamondback moth 🐛				
Flea beetles 🐛					Flea beetles
		Grasshopper m^2			
			Lygus bug 🐛		

SCOUTING METHODS

Scout fields weekly, checking both high and low in the canopy and inspecting all plant parts, including roots. When insect pest numbers approach action threshold levels, sample more frequently. Occasional insect pests may be present in crops but are typically found in low quantities with less frequency (seldom requiring control measures). Common insect pests are encountered more frequently, can be in high quantities and may require control measures. The recommended method for each of the common canola insect pests is shown in the chart on the left.

-  **Plant counts** – The number of insects per canola plant
- m^2 **Area insect count** – The number of insects/metre²
-  **Sweep net count** – Using a 38 cm diameter net, sweep a full 180° arc 10 times/100 acres
-  **Root zone inspection** – Look for insects near roots or on plants
-  **Percentage defoliation** – Percentage of area eaten away

COMMON INSECT PESTS



40mm

BERTHA ARMYWORM (LARVA)

- Pale brown to velvety black (colour variations are common) with yellow/orange stripe along each side
- Move to pods as leaves are consumed and larvae grow
- Action threshold is 6-34/ m^2 , depending on seed and spray costs (control typically required around 20/ m^2)



3mm (Larva and Adult)

CABBAGE SEEDPOD WEEVIL (LARVA AND ADULT)

- White, grub-like larvae with brown heads feed in pods on 5-6 developing seeds; exit holes in <25% pods (when leaving to pupate) indicate populations below damaging levels
- Adults have a grey body with prominent, curved snout and feed on buds causing bud-blasting and lay eggs on developing pods



8mm (Larva)

DIAMONDBACK MOTH (LARVA AND ADULT)

- Larvae are smooth, pale, yellowish-green worms that are narrow at both ends and fatter in the middle and wriggle violently on a silk thread or drop off when disturbed
- Tunnel into leaves and feed on leaf surface, leaving only veins or "window panes"; feed on pod and stem, causing striping
- Action threshold is 100-150 larvae/ m^2 in immature to flowering plants or 200-300 in flowering/podding plants (in dense stands)
- Adults are small, thin moths that feed on nectar



38mm

GRASSHOPPER (ADULT)

- Some nymphs are pale green, while others have variable markings. Adults have darker/more distinct colouration but both feed on leaves, stems and pods
- Most significant damage is done when feeding on pods
- Action threshold is likely >12 grasshoppers/ m^2 ; better to control younger instars



8mm (Larva)

CABBAGE ROOT MAGGOT (LARVA AND ADULT)

- Long, whitish larvae feed on root and create tunnels into roots which can lead to disease-causing infection
- Adults resemble house flies but smaller and covered in black bristles; don't cause damage



30mm

CUTWORMS (LARVA)

- Redbacked (pictured), pale western, darksided and dingy cutworms all cause damage; feed on cotyledons, leaves or stems at or under soil surfaces, or may climb plants (vary by species)
- Scout top 5 cm of soil around cut-off plants/margins of damaged area (at seedling to rosette stage)
- Action threshold is ~25-30% stand reduction, but damage may be patchy



3mm

FLEA BEETLES (ADULTS)

- Oval bluish black bodies (crucifer flea beetle) or black with two yellow stripes (striped flea beetle)
- Feeding causes shot-hole appearance on cotyledons and leaves
- Action threshold is >25% cotyledon defoliation if still feeding on newly developing plants. Canola can recover from 50% loss of cotyledon with no yield loss



6mm (Adult)

LYGUS BUG (NYMPH AND ADULT)

- Nymphs are pale green, often with black dots. Adults are green to reddish brown/black, with a "V" in the upper center of their backs
- Suck sap from buds, flowers and pods, causing flower blasting and shriveled seeds. Heavy feeding, with sap covered plants should be monitored closely
- Only count older nymphs with black spots or developing wing "shoulder" pads (not younger nymphs without spots)

OCCASIONAL INSECT PESTS



ALFALFA LOOPER (LARVA)

- Light green/olive worm with a paler head and light stripes down each side and two along the back
- Feeds on leaf margins and clips flowers and pods in patchy infestations
- Generally don't cause economic damage but heavy defoliation could warrant control



APHID (NYMPH* AND ADULT)

- Small, often green, soft-bodied, pear-shaped winged or wingless insects
- Often seen in a dense layer at tips of canola; feeding may lead to compressed growth



BEET WEBWORM (LARVA)

- Change from dark green to black as they mature; have two white stripes along the center of the back with two rows of paired circular figures outside of the stripes
- Feed on leaves, then stems and pods causing early desiccation; spin silk "webs" at plant tops
- Action thresholds may be similar to bertha armyworm



BLISTER BEETLE (ADULT)

- Large, narrow, often shiny beetles
- Feeds on leaves and flowers – generally in clusters/patches in a field
- They may move to canola when nearby alfalfa is cut



CLOVER CUTWORM (LARVA)

- Dark grey or green body with yellowish pink stripes and light brown head; curls up when disturbed
- Progresses from feeding on leaf undersides to all parts as they mature
- Similar in appearance to bertha armyworm but appear earlier in the season and damage tends to be in patches



IMPORTED CABBAGEWORM (LARVA AND ADULT)

- Larvae are green worms with a velvety texture and faint yellow stripe down the back; feed on leaves
- Adult feeds on nectar and doesn't damage canola (the adult stage is not a pest)



PAINTED LADY (LARVA)

- Black worms with spikes along the back and yellow stripes along the side
- Feed on leaves



RED TURNIP BEETLE (ADULT* AND NYMPH)

- Beetle with red and black patches on the head and three black stripes down the back
- Larvae are black and 10-12 mm long
- Primarily feeds on leaves but can consume entire young plants
- Often found just inside of field edges



SWEDE MIDGE (LARVA AND ADULT)

- Larvae are pale, semi-transparent worms when younger and turn yellow as they mature. Older larvae can flip or fling themselves when disturbed
- Larvae attack growing points, causing flowers to remain unopened, undeveloped or to turn brown and dry up. Brown, corky scarring visible under magnification
- Control options are very difficult to time because of multiple, overlapping generations
- Adults are tiny, delicate-looking flies with long legs (don't damage canola, except for egg deposition)



THRIPS (ADULT* AND NYMPH)

- Appear as black specks in a sweep net (very tiny). Up close, have a narrow, brown/black body and can be winged (and fringed with fine hairs) or wingless
- Best identified by the twisted pods resulting from feeding (see damage, also pictured)

*Pictured

BENEFICIAL INSECTS



PARASITIC WASP (ADULT)

- Numerous species of Braconid and Ichneumonid wasps, with slender waists and long antennae
- Parasitize plant bugs, bertha armyworm, diamondback moth and other caterpillars



CARABID BEETLES (ADULTS)

- Large, somewhat flattened beetles (often black or brown) that have better survival in minimum tillage fields
- General predators of cutworms, diamondback moth, bertha armyworm larvae, lygus nymphs and many other insects



HONEY BEE (ADULT)

- Clear-winged adults have a black and yellow body and pollinate canola



GREEN LACEWING (LARVA AND ADULT)

- Larvae have tiny alligator-shaped, yellowish to mottled grey bodies with red, brown or black markings and short bristle clumps. They mainly feed on soft-bodied insects like aphids, thrips, lygus nymphs and small caterpillars as well as insect eggs
- Adults are pale green with a slender, delicate body and clear wings. They feed on nectar of flowering plants



HOVER FLY (ADULT, PICTURED, AND LARVA)

- Larvae are flattened yellowish maggots with pale stripes and eat aphids
- Adults are small brightly coloured hairless flies that resemble bees and pollinate canola



LADY BEETLE (LARVA AND ADULT)

- Larva looks like a tiny alligator, with orange and black patches on the back and three sets of legs
- Mainly feed on soft-bodied insects, including aphids and lygus nymphs, and insect eggs



ROVE BEETLE (ADULT)

- Usually slender, elongated, cylindrical flattened bodies with several abdominal segments visible from above due to shortened wing covers (elytra)
- Adults and larvae prey on cabbage root maggot eggs and larvae, aphids, mites and other insects

For more information on appropriate thresholds and managing canola insects, contact your local Canola Council of Canada agronomy specialist, sign up for our Canola Watch e-newsletter at canolacouncil.org, or call toll-free at (866) 834-4378.



400-167 Lombard Avenue, Winnipeg, Manitoba R3B 0T6
Phone: 204-982-2100 Toll-Free: (866) 834-4378