

# SCOUTING FOR BENEFICIALS IN CEREALS

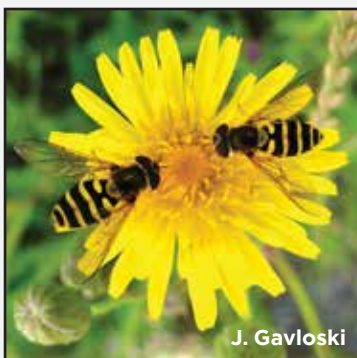


Scouting your cereals? Look for these beneficial insects. They can help with control of yield-robbing insect pests and are an important part of integrated pest management.



## GREEN LACEWINGS

- Adults are green, with wing veins that look like netting. Some species have gold eyes.
- Larvae are alligator-like in general shape, cream coloured with brown markings and sickle-shaped mandibles, and long bristles coming out from the sides.
- Eat aphids, thrips, mites, leafhopper eggs, Colorado potato beetle eggs and larvae, and diamondback moth eggs, larvae and cocoons.



## HOVER FLIES

- Adults often hover over flowers. Some species resemble bees and wasps. Abdomen usually has black and yellow stripes.
- Larvae are legless and 'slug-like,' often green or brown and tapered towards the head. They eat aphids and small caterpillars.



## LADY BEETLES

- Adult lady beetles (commonly called 'ladybugs') are well recognized. Larvae are alligator-like in general shape and black with white, yellow, red or orange markings.
- Feed on aphids, thrips, mites and other small insects; may also feed on the eggs of moths and beetles.

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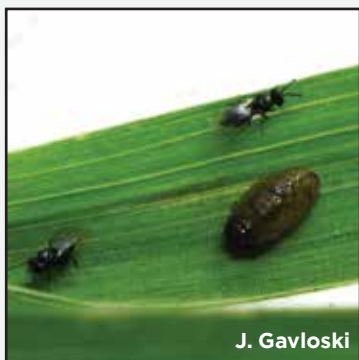
## ROVE BEETLES

- Adults are slender with short wings; 3-6 segments of the abdomen may not be covered by the wings. They often run fast, sometimes with the tip of their abdomen bent upward.
- Most adults and larvae are predaceous on insects, and a few are parasitic. Some species eat root maggot eggs and larvae.



## GROUND BEETLES

- Head at eyes narrower than section behind head. Elytra (front wings) may have striations or pits. Run rapidly when disturbed.
- Eat cutworm and diamondback moth larvae; Colorado potato beetle and root maggot eggs, larvae, and pupae; and aphids. Some species feed on larvae of sunflower beetles and wheat midge. Some species of ground beetles will also feed on weed seeds.



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## PARASITIC WASPS

Several species of parasitic wasps are important in managing insect pests in cereals, including:

**MACROGLENES PENETRANS** – parasitizes wheat midge

**TETRASTICHUS JULIS** – parasitizes cereal leaf beetles

**BRACON CEPHI** – parasitizes wheat stem sawfly

**COTESIA SP.** – cutworms and armyworms

**APHIDIUS SP.** – aphids

*Tetrastichus julis*



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