Leatherjackets (European Crane Fly)

Pest Information Factsheet Series

What Do They Look Like?
- Leatherjackets are the immature stage (larva) of European crane flies.
- They are light gray to brown, worm-like maggots, up to four cm long, with a tough outer skin.
- Adult crane flies resemble giant (but harmless) mosquitoes, up to 2.5 cm long. They have long, fragile legs.

What Does Leatherjack Damage Look Like?
- Leatherjackets live in the top layer of soil, feeding on the roots of grasses.
- Where large numbers of leatherjackets are feeding, they leave thin, browning and bald patches in lawn in the spring.

Leatherjacket Life Cycle
- Adult crane flies lay eggs in the soil from mid-July to late September.
- The larvae hatch and begin feeding on roots in the fall. They over-winter in the soil and resume feeding in the spring. They do the most feeding during April and early May.
- The larvae remain in the soil to change into an immobile stage, called a pupa. Inside the pupa, they transform into adults, which emerge from mid-July onwards.
- The adults of a similar crane fly species emerge from May onward.

When Are Leatherjackets a Problem?
- Leatherjackets rarely damage residential lawns. They can damage closely mowed, highly managed or stressed turf, particularly in cool, wet summers.
- Even where their feeding has caused noticeable thinning, lawns quickly recover as soon as leatherjackets stop feeding in May.
- More damage may be caused by birds and raccoons that dig up the lawn to eat leatherjackets.

How Can I Prevent Damage?
- A healthy, deep rooted lawn quickly fills in and outgrows root-feeding by leatherjackets (see Tips for a Healthy Lawn). To keep the turf dense, sprinkle turfgrass seed over thin areas in February and March.
- Avoid using insecticides on the lawn because they kill ants, ground beetles and other insects that eat the majority of crane fly eggs and leatherjackets.
What Can I Do to Control Leatherjackets?
The most practical approach to address high numbers of leatherjackets is to improve lawn care (see Tips for a Healthy Lawn):

- Allow your lawn to go dormant during the summer. This not only saves water, but also controls leatherjackets because fewer eggs survive in dry soil.
- If your lawn has thin or bald areas in the spring, find out if the damage is due to leatherjackets before taking action. Count the leatherjackets yourself or get help from a lawn care professional. In April, cut a flap of turf and fold it back to expose the roots of the grasses. Pick through the roots, looking for leatherjackets; do this in a couple of places where the lawn is damaged. If there are over 25 larvae per square foot, it is likely they caused the problem (if numbers are low, the damage is probably due to something else).
- Where leatherjacket numbers are unusually high, it might be worth the expense to apply tiny parasitic worms, called nematodes. They are still experimental but are sold for leatherjacket control by some garden centres. Not all nematodes work on leatherjackets and applications must be timed correctly. Check with suppliers and follow package directions carefully.

Tips for a Healthy Lawn

- Mow high by setting mower blades to cut at 6 to 9 cm. Longer grass has deeper roots.
- Leave clippings on the lawn to decompose and fertilize the grass.
- Top dress your lawn twice a year with compost. Enrich the soil by top dressing twice a year with compost or other organic fertilizers.
- Water deeply, but infrequently, to encourage deep rooting. Remember that the Stage One Water Conservation Bylaw is in effect from May 1 - September 30.
- For dormant lawns, one deep watering in each month with no rain is sufficient.

Factsheet Series
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