



Sustainable Maintenance Tips White Grub and European Crane Fly

Lawns and gardens are teeming with life. Thousands of different insect species live within and upon our lawns, but only a fraction of these actually cause damage. Harsh chemical pesticides can kill various kinds of insects, both beneficial and harmful. The following discusses two common lawn pests in Atlantic Canada and a number of sustainable solutions.

White Grub

The white grub is the larval stage of one of Nova Scotia's most recognizable summer insects, the June Beetle. White grubs are approximately ½ -1 inch (1 - 2 cm) long (depending on age), plump, off white in colour, and are usually found curled up near the soil surface. They have three pairs of legs located near a light brown pointed head.

June beetles have a three-year life cycle that includes both grub and adult stages. Their second year is when the grub is biggest and when the most damage occurs. Adults overwinter in soil and emerge to lay eggs in late May to early June. Within a few weeks, the white grubs are present and begin feeding on grass roots. They retreat into the soil for their first winter and move close to the surface again early the next summer to begin feeding.

Damage:

The second year of the three-year life cycle is the most damaging due to the grubs' size and appetite. Turf damaged by white grubs is uniformly dry and thick, and in extreme cases can be easily lifted from the soil in sod-like patches. White grub infestations can also be indicated by claw damage from predators such as skunks, raccoons, and other foraging animals. To check for white grubs, cut a three sided piece of sod 12 x 12 x 12 inches (30 x 30 x 30 cm) and 4 inches (10 cm) deep. Fold back, scrape off the soil, and count the grubs. As few as 6 - 8 can cause damage.

Sustainable Maintenance Tips:

- Have a lawn that is aerated, top-dressed with fine compost, and watered well. As seen with most insects, a healthy and robust lawn has a much higher tolerance level for pests.
- Parasitic nematodes can effectively combat an infestation of white grubs. When mixed with water and sprayed on the lawn, these non-segmented microscopic worms seek out and enter the white grubs. The larvae are killed by endotoxins released from the nematode which then reproduces within the host larvae. The grub then provides food for the offspring which, upon maturation, leave to seek out new hosts. Because nematodes travel through water within the soil, it is important to keep the lawn well irrigated. If the thatch is more than ½ inch (1 cm) thick, de-thatch before applying nematodes so they can easily reach the soil.

European Marsh Crane Fly

The larvae of the crane fly (commonly called "leatherjackets") are grey to light brown in colour and have irregular black spots on the sides. Crane fly eggs are laid within soil in late August or early September after the adult crane fly emerges. The adult dies soon after laying approximately 200-500 eggs. The eggs hatch in approximately two weeks and the larvae live in the soil throughout the winter. Feeding begins early in the spring, with visible damage occurring in April and May. By June, the fully-grown larvae enter a non-feeding stage and form pupae within the soil. Near the end of the summer and into early fall, the pupae come to the soil surface and the adults emerge from their casings. These short-lived adults (which look like large mosquitos with dangling legs) mate and lay their eggs and the life cycle is complete.

Damage:

In high numbers, leatherjackets can kill patches of grass by feeding on roots and crowns during the day and emerging at night to feed on grass leaves. To check for leatherjackets, cut three sides of a piece of turf measuring 12 x 12 x 12 inches (30 x 30 x 30 cm) and fold back the piece of sod. Examine the sod and attached soil and count the leatherjackets found. Numbers above 20 - 25 per square foot indicate a population that could cause damage and control measures may need to be taken.

Sustainable Maintenance Tips:

- As with most turf pests, the best offense is a good defense. Having a well maintained, healthy lawn will help resist leatherjackets. These pests thrive in wet conditions, so improving the drainage of soggy turfed areas may be in order. Having the lawn aerated, well fertilized with a pH of approximately 6.5, top dressed with organic compost, and mown at the proper height are all important.
- Parasitic nematodes can control leatherjackets. These microscopic and naturally occurring soil organisms are available at lawn and garden centres or through mail order. These tiny flatworms (millions to a vial) are mixed with water and sprayed on the lawn, eventually hunting down and killing the worm-like larvae of the crane fly. They are temperature sensitive and do not overwinter in Nova Scotia because of the cold. Due to their sensitivity they should not be applied until early to mid summer to prevent die-off.

With a bit of planning and proper lawn management, the need for chemical pesticides can be greatly reduced, if not eliminated. Easing our dependency on chemical lawn additives is better for both human and environmental health and is a necessary step towards the attainable goal of sustainable gardening and landscape maintenance.

For more information...

On the Pesticide ByLaw (P-800) including signage requirements, which products can still be used, alternatives to pesticides, sustainable maintenance practices, or to access details on our public awareness sessions, visit one of the HRM Customer Service Centres or log on to our website at www.halifax.ca. You can also call our representatives at 490-4000 or email us at Pestbylaw@halifax.ca

