European Chafer Beetle

The European chafer beetle, Rhizotrogus majalis, is an introduced insect that has become a serious pest of turf in many areas of the Lower Mainland of British Columbia. This handy guide will help you understand this pest better so you can minimize damage to your garden.

DESCRIPTION

Adult European chafer beetles are tawny-brown coloured and relatively small, measuring only 1.5cm (0.6”) in length. The adults are only seen swarming in the month of June, but this is not when the Chafer beetle does its damage. The larval stage (or grubs), which measure between 2 to 2.5cm (0.8” to 1”), are ferocious eaters and the cause of dead patches and spongy soil conditions in lawns. The grubs are soft, white and C-shaped with tan-coloured heads and six prominent legs.

BIOLOGY - LIFE CYCLE

Chafers complete their life cycle in one year which can lead to rapid population increases. In B.C., the adult beetles emerge from the soil in early to late June, then mate in swarms at dusk. In late June and early July, the females can lay up to 300 eggs in the soil. In about two weeks the eggs hatch and the small grubs begin to feed on the roots of turf grass. Heavy infestations may lead to the turf feeling “spongy” due to the grubs tunnelling just under the surface. Infested turf will commonly be wilted or dead and easily pulled back, revealing the feeding larvae. The most damage is seen in the fall and early spring when the grubs are full-grown. They feed right up until they pupate in May. At this time, they burrow down into the soil out of reach of their predators and complete their metamorphosis into beetles.

CROWS, RACCOONS AND SKUNKS

Do not panic if you see crows, raccoons and skunks digging up the lawn. These critters are actually doing a very good job of pest control. They are eating the grubs that are eating your lawn root, and breaking the lifecycle. Less grubs means less adults to swarm in June and lay eggs, and then ultimately less lawn problems for you.

CULTURAL CONTROL, MAINTAINING A HEALTHY LAWN

Growing a healthy lawn is not a tough job, it just takes a little bit of time and attention. Generally, well-maintained lawns, ones that are routinely aerated, fertilized, dethatched and watered, are less vulnerable to chafer infestations than neglected lawns.

Take these simple steps and set your lawn up for success.

LIMING LAWNS:

In our region, the soil is more acidic than grass prefers. So to fix this we can spread dolomite, granular, or prilled lime (Dolopril) on the lawn. Lime is alkaline, so over the next 3 to 6 months (after application) it will work to neutralize excess acidity. This is sometimes called “sweetening the soil.” Never fertilize and lime your lawn at the same time, it is best to leave 10 days between each application.

AERATING:

Healthy, vigorous growth happens when air is able to penetrate into the root zone. If you didn’t aerate in spring and your lawn needs it, you can aerate in the autumn. To help your lawn thrive, add some coarse washed sand into the holes to preserve these new air channels.

GARDENWORKS

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FERTILIZING AND FEEDING:
Maintain a proper fertilizing and watering routine is key to a healthy lawn. For the first feeding in spring a well-balanced lawn food, such as GARDENWORKS 14-4-8, is best applied when the grass wakes up, usually in late March or early April (depending on weather conditions). Later in the summer a higher-nitrogen fertilizer, such as GARDENWORKS 23-3-23, can be applied to stimulate green growth. Keep in mind that while fertilizing is important, you should never over fertilize. This can cause damage to your lawn and excess fertilizer can run off. During dry periods less frequent but longer periods of watering will produce deeper, healthier roots.

MOWING:
For a healthy lawn, keep the grass long (approximately 7.5cm or 3") rather than clipping it short. Good green growth provides food to the roots and this helps the grass thrive. Plus, adult females seem to prefer laying their eggs in short grass, so if you leave it long, she will hopefully give your lawn a pass.

OVER-SEED YOUR LAWN:
Most lawns in the Pacific Northwest are a mix of cool-season grasses. In most cases use a "Shady Lawn Blend" to minimize any patchy colour effects. This versatile blend is the best for sun-shade, wet-dry and hot-cold areas. Also, something to consider are the blends that include more resistant grass species and even micro-clover. Micro-clover is a grass alternative, a tiny-leafed delicate clover that does not produce a thatch so will not attract European chafer beetles.

Another option is to replace infested lawns with low-maintenance ground-cover plants such as salal, thyme, heathers, ornamental grasses, sedum, and Dutch white clover. Please speak to one of our experts about suitable alternatives to a lawn.

BIOLOGICAL CONTROL:
Nematodes, Heterorhabditis bacteriophora, are microscopic worms that swim through the soil and attack the grubs. These biological predators are specific to the chafer so will not harm plants, people or pets. They are completely safe to use.
One package has enough nematodes to cover 750 square feet and as long as you apply it properly the grubs are killed within two to three weeks.

- One application will provide control for chafer grubs already present in the soil
- Use from mid-July to early August when the young grubs are in the soil
- The ground must be moist before application and for at least two weeks after application, the nematodes wake up and move with water, so it is vital for them to be effective
- Avoid applications in bright sunlight, early evenings/mornings or dull conditions are best
- Use the entire packet at one time and use immediately once mixed with water.

Another biological control available is a bacterium called Bacillus thuringiensis, called BT for short and under the trade name Grub-B-Gone. Just like the nematodes these are living organisms that are quite specific to the grubs. The application method and timing of BT is more flexible than nematodes but still important for them to be effective. Come in and talk to one of our experts to learn more.

Chafer Beetle Images Courtesy of David Cappaert Michigan State University

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