



CITY OF PORTLAND
Sustainability Office

Organic Grub Treatment

Prevention:

Lawn care best practices are the most effective tools a homeowner has to prevent grubs from damaging grass and turf.

- **Get a soil test** -- Make sure you have healthy soil by applying amendments such as lime and fertilizer as indicated by the results of the soil test to ensure the proper balance of nutrients and ph level. Getting this right makes healthy grass that can better withstand damage from grubs.
- **Keep grass between 3” and 4” in height** --This allows the roots to be well established in the soil. Mow grass regularly during its active growing season so you never remove more than a third of the grass blade.
- **Maintain proper irrigation** -- make sure your lawn gets 1” - 1.5” of water per week from rain and/or irrigation. This will create good conditions for the grass to grow. **Don't overwater**, though, as too much water creates good conditions for grubs to thrive.
- **Aerate** -- Break up compaction and allow the turf to breathe by using a core aerator once per year. You can rent an aerator or use a hand aerator, which can be purchased at most hardware or home improvement stores. After aerating it is a good idea to overseed the lawn with fresh grass seed.

Treating Grubs

Healthy, well maintained lawns can usually resist grub damage but sometimes an infestation gets so large it requires treatment to stop the damage. Property owners have several organic options they can try to reduce the population of grubs harming their lawn. **IMPORTANT: There are several species of grubs common in Maine. Knowing what kind of grub is in your lawn will help you choose the treatment that will be most effective.** The Cooperative Extension or a land care professional can help make this identification.

Organic treatments for grubs do not work as quickly as chemical pesticides and must be applied correctly to increase the chance of success. It is important to follow the instructions printed on the product label and to apply these products as directed. The correct environmental conditions must be present including recommended soil temperatures and moisture levels.

- **Milky Spore**

Milky Spore is a fungus spread by the bacteria *Paenibacillus (Bacillus) popillae* that is harmless to people, pets, or other insects in your lawn. After application, grubs eat the bacteria which generates the fungus that will eventually kill it. The fungus reproduces and enters the soil where it can stay present for up to ten years, limiting grub growth during that time. *Unfortunately, Milky Spore only works for grubs that are Japanese Beetle larvae.* To be effective, application of Milky Spore should occur when the soil temperature is 65 degrees Fahrenheit or warmer. This makes early Fall the best time to apply it in Maine. Milky spore works slowly in northern climates and can take several seasons to begin having an impact.

- **BT (Bacillus Thuringiensis) based products**

Relatively new products such as GrubGone! and GrubHALT! use a bacteria called BT to kill grubs. Property owners apply these products to their lawn in pellet form. The grubs consume the pellets and the BT bacterial causes a fatal muscle paralysis. These products need to be applied when the grubs are actively feeding, so late summer and early Fall applications are most likely to be successful. It works best when the grubs are still small.

- **Nematodes**

Nematodes are microscopic worms that live in the soil. Some varieties enter the bodies of grubs to lay their eggs. They also introduce a bacteria that kills the grub host. Under the right circumstances, introducing these beneficial nematodes can effectively control a grub population. It is best to order nematodes directly from an online supplier and use them right away. They can be stored for a short time in a refrigerator but they should be applied soon after delivery. It's important to apply them correctly so they can enter the soil before dying. Turf must be moist and not in full sun. Rainy days or in the evenings are good times to apply nematodes. Unfortunately, fluctuating soil temperatures and dry conditions will kill the nematode population so they can be challenging to use in Maine.