



## Pest Patrol: Grubs

*Melissa Cooper Sargent*

### THE PROBLEM

Do you see any dead patches in your lawn? If so, check for a possible infestation of grubs. Peel back a patch of grass and count the grubs. Five or more grubs in a square foot indicates a problem if you do not water frequently. You may expect up to 20 grubs per square foot in a healthy, well-watered lawn.

In Michigan we most commonly see Japanese beetle grubs, but others, such as the European chafer and the June beetle also occur.

### THE POISON

Whether in our lawn, kitchen, or basement any pest infestation may drive us to reach for the quickest, strongest chemical. But, know your poison! Chemical grub treatments commonly contain Imidacloprid (re: Merit). According to the University of Florida, Imidacloprid is a synaptic nervous system poison belonging to the chloronicotinyl chemical class of insecticides (meaning it is a combination of nicotine and chlorine) and should be avoided.

This class of insecticides is also known as neonicotinoids (neonics). The use of Imidacloprid and two other neonics is suspended in the European Union due to concern that honeybees are being poisoned as they drink or carry the pesticide-laden nectar and pollen of plants growing in treated soil. Neonics remain active in the soil for months or longer and can harm earthworms and other pollinators also.

### THE SOLUTIONS: WHAT TO APPLY

Chemicals are not necessary. Grubs in the lawn may be reduced or eliminated safely through:

- spike aeration of the soil,
- applying a bacterium, *Bacillus popilliae* known as Milky Spore, and/ or
- applying beneficial nematodes (microscopic worms).

Milky Spore (exclusively for treatment of Japanese beetle grubs) occurs naturally in the soil, but usually in too few numbers to affect the grubs. After application the bacterium and the nematodes will continue to live in the soil for years.

### WHEN TO APPLY

Treatments are most effective when the beetles are in the larval (grub) stage and close to the surface (not deeply below ground as in the winter). **May, June, September, and October** are the best months for application. Grub treatments will be less effective when the adults emerge during July and August.

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## HOW TO APPLY

Spike aerating the soil first will kill many grubs. Milky Spore and beneficial nematodes may be used alone or together. Thoroughly water the grass before applying. Nematodes are alive and need to be applied soon after purchase or stored in the refrigerator for up to one month. Milky spore on the other hand may be purchased in 50 pound bags and stored for long periods of time. Water the lawn after application as well. Continue to keep your lawn well-watered. This will keep your lawn happy and encourage root growth while it recovers from the grub damage.

Natural treatments may require more patience for visible results than chemical controls, but your soil and grass—and you—will be healthier in the long run. Chemical grub treatments will kill beneficial microorganisms such as Milky Spore and nematodes—so don't use them in tandem.

## SOURCES

**Healthy Landscapes:** [www.healthylandscapes.com](http://www.healthylandscapes.com)

**University of Florida, School IPM:** <http://schoolipm.ifas.ufl.edu/techp13.htm>

**City of Ottawa:**

[http://ottawa.ca/en/env\\_water/tlg/lawn\\_garden/pests/index.html#P7\\_64](http://ottawa.ca/en/env_water/tlg/lawn_garden/pests/index.html#P7_64)

Photos and more information on grubs in Michigan:

**MSU Extension:** [www.pested.msu.edu/Resources/slides/Turfgrass/ppt/C3A9.PPT](http://www.pested.msu.edu/Resources/slides/Turfgrass/ppt/C3A9.PPT)

## RESOURCES

[www.milkyspore.com](http://www.milkyspore.com)

[www.gardensalive.com](http://www.gardensalive.com)

[www.gardeners.com](http://www.gardeners.com)

[www.groworganic.com](http://www.groworganic.com)

[www.harmonyfarm.com](http://www.harmonyfarm.com)

## HIRE A PROFESSIONAL

Call LocalMotionGreen at Ecology Center for a list of local garden stores and lawn care companies that can tackle grubs naturally.