Turf Tips for the Homeowner - White Grubs
Michigan State University Extension Service
David Smitley, Entomology
Issued October 1994
2 pages

Michigan State University Extension • Bulletin E-2499 • October 1994

Turf Tips
For the Homeowner

White Grubs

David Smitley
Associate Professor, Entomology, Michigan State University

Small patches of discolored and dying grass that grow and coalesce to form larger dead patches may indicate white grubs are feeding on your lawn.

White grub

White grubs are the larvae (immatures) of scarab beetles. In Michigan, white grubs found in lawns and gardens are the larvae of Japanese beetles, European chafers or June beetles.

Japanese beetle

European chafer

Japanese beetle adults are dark metallic green with reddish-brown wing covers, stout-bodied and approximately 1/2 inch long. They emerge in July and feed on a variety of plants before mating and laying eggs. Tiny (1/16 inch) larvae hatch in August and feed on turf roots, reaching a length of 1/2 to 1 inch by fall.

European chafer adults are about 1/2 inch long, uniformly brown and stout-bodied. They emerge in late June and July (about two weeks before Japanese beetles). Their life cycle is similar to that of Japanese beetles except that adult chafers do not feed and the grubs feed later in fall, until November, and resume feeding earlier in the spring (April).

June beetle

Adult June beetles are large brown beetles that are active at night in May and June. They are attracted to light and can often be observed bumping into screens on doors and windows of lighted rooms. Adults lay eggs in the soil. The eggs hatch in a few days and the small grubs begin to feed on grass roots. They move down into the soil to overwinter. The second summer they feed vigorously, moving down in the soil again to overwinter. They complete feeding the third summer, overwinter as adults and emerge the next spring to mate and start the cycle again.

Large number of grubs — 5 to 10 per square foot — can damage or kill nonirrigated turf by destroying the roots. Even irrigated lawns can be damaged when grub numbers exceed 20 per square foot.

Other problems can cause similar symptoms in lawns. Determine whether white grubs are responsible by checking the soil around the grass roots for grubs. Look for plump, white, C-shaped insects with brown heads and three pairs of short legs immediately behind the head. Japanese beetle and European chafer grubs feed in April, May, and August through October; June beetle grubs feed from May through October.

Often the first sign that you have grubs in your lawn is the presence of moles or damage caused by raccoons and skunks, which tear up the turf searching for the grubs. Check for grubs where animal damage has occurred.

If grubs are present in destructive numbers, your lawn is at high risk of dying from drought stress due to root damage. The best way to save an infested lawn is to irrigate daily with 1/10 inch of water per day or 1 inch once a week. This is enough to prevent damage even when grubs exceed 20 per square foot. The risk is the greatest if the turf soil dries out for more than a few days. Therefore, for badly infested lawns, an insecticide treatment and frequent irrigation should be combined.

You can contact your county MSU Extension Office for a list of recommended pesticides for white grub control on turf.

Irrigate immediately after applying a recommended insecticide and continue irrigating every four or five days. This gets the insecticide down into the soil where the grubs are and helps the grass roots recover.

If the weather has been hot and dry, grubs may have gone deeper than usual into the soil. In that case, apply a pretreatment irrigation of 1/2 inch of water 48 hours before you plan to apply the insecticide. This should bring the grubs closer to the surface and increase the chances that your insecticide treatment will succeed in reducing their numbers to tolerable levels.

New-10:94-5M-sdl-FP -Price 25 cents; single copy free to Michigan residents. File 22.4 (Turf and Sod)
Produced by Outreach Communications. Printed on recycled paper with vegetable-based inks.