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Turfgrass disorder: Greenbug

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Areas of discolored turf, ranging from pale green to yellow to burnt orange, often occur under shade trees and may be caused by greenbug feeding. A small sucking insect, greenbug (*Schizaphis graminum*) is a type of aphid. Since the 1880s it has been recognized as a pest of various grassy plants and has injured grain crops such as wheat, oats, and barley.



A cluster of greenbugs on a blade of grass.

Significant turf damage by greenbug was first detected in Wisconsin in the late 1970s and has occurred every year since. Most of the damage has been confined to the southern half of the state.

Symptoms and effects

Greenbugs feed by inserting their stylet-like mouthparts into grass blades and sucking out the plant juices. While feeding, the aphid injects salivary juices into the plant tissue, killing that part of the grass blade.

When greenbug populations are small, symptoms consist of a barely detectable yellowing of the turf. With larger populations, the yellowing becomes much more noticeable over time and the turf may even look orangish. In cases of extensive damage, 30 or more aphids will be found on each blade of grass and there will be several thousand per square foot of turf.

In southern states, continuous feeding kills the grass in infested areas, and reseeding or resodding is necessary. This extent of damage is uncommon in Wisconsin, possibly because our shorter, cooler summers do not allow populations to build to such high numbers.

Diagnosis

Greenbug damage is often noted first as round patches around the trunks of shade trees. The reason for this is not clear. Other shaded areas are not equally infested, and

populations frequently even develop in exposed sunny locations.

To determine if turf has a greenbug problem, examine any turf areas of pale coloration for this insect. Check grass blades using a 10x hand lens, or run an insect sweep net briskly through the suspect area. In heavily damaged locations where turf is dead or dying, greenbug numbers will have diminished because the grass is no longer a favorable food source. In such cases, examine the healthier edge of the damaged area for these insect pests.

If you find patches of greenbugs in early summer, sample the entire lawn to determine if the population is localized or spread throughout the lawn.

Description and life cycle

The greenbug has the typical aphid appearance but is smaller than many other aphid species. Its body is soft, somewhat pear shaped and narrowed toward the front. Full-grown size is about $\frac{1}{16}$ inch. Color varies from pale yellow to pale green, with dark eyes. The antennae are long, darker than the body, and usually held over the back of the body. The cornicles are a pair of short, tube-like structures sticking out from the hind part of the back; they usually have dark tips.

Because of the seriousness of greenbug as a pest of grains, its life cycle on those crops has been well studied. However, its life cycle on turf grass is not well known.



Serious greenbug damage to a home lawn under a shade tree.

Greenbugs overwinter in the egg stage in the South. As populations start to build in early spring, greenbugs are carried north into Wisconsin by winds. While some greenbugs may overwinter in Wisconsin, the majority of the population migrates into the state each summer.

During spring and summer, greenbug females can produce offspring without mating. Unlike those females that lay overwintering eggs in the fall, the spring and summer females give birth to living young, almost all of which are females. Under optimum growing conditions of about 75°F, newborn greenbugs can be fully mature and produce their own offspring in 7–10 days. There are several generations each year, and populations can build up quite rapidly.

Control

Natural

Ladybird beetles and lacewings are specialized predators of aphids and are frequently seen on lawns infested with greenbugs. Other common turf insect predators—such as bigeyed bugs, ground beetles, and spiders—also prey on greenbugs. If a large number of natural predators are present, they frequently can suppress a greenbug outbreak. In other cases, they may be completely ineffective.

Sound pest management for turf insects includes an evaluation of the activities of natural predators.

Chemical

Chemical control is warranted where greenbug populations result in noticeable damage by mid-summer. If large populations are not detected until late summer or early fall, an insecticide application will still kill potential egg-laying females, reducing the chance for population carry-over to the following season.

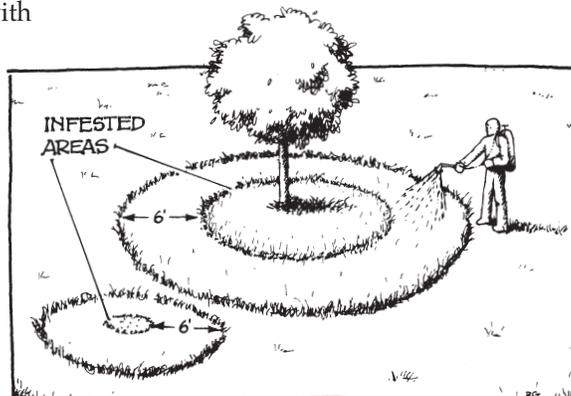
Registered materials for greenbug control include acephate (Orthene), chlorpyrifos (Dursban), and insecticidal soap. In some states, greenbugs have become resistant to certain broad-spectrum organophosphate insecticides. Although resistance has not been noted in Wisconsin, it could also occur here. Thus, read current insecticide labels or check with your county Extension office to determine up-to-date recommendations.

Liquid sprays including emulsifiable concentrates, wettable powders or soluble powders are all effective. Granular insecticides do not give good control of greenbug. Sprays should thoroughly cover the

grass blades. Do not mow or irrigate for 24–48 hours after application.

Greenbug infestations are often spotty. In such cases, treat only the infested areas rather than the entire lawn. This reduces the amount of insecticide used and will help preserve the natural predators in the rest of the lawn. Spot treatments should cover the entire infested area as well as a peripheral 6-foot band surrounding the infestation (see illustration).

References to products in this publication are for your convenience and are not an endorsement or criticism of one product over other similar products. You are responsible for using chemicals according to the manufacturer's current label directions. Follow directions exactly to protect the environment and people from chemical exposure.



Treatments should cover the entire infested area, as well as a peripheral 6-foot band around the infestation.

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