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Turfgrass disorder: Chinch bug

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Chinch bug (*Blissus leucopterus*) is an important insect pest of turfgrass in Wisconsin. Fescues and bentgrasses are most commonly damaged, with certain cultivars more susceptible than others. The chinch bug is also a pest on corn, wheat and other grass crops and feeds on many wild grasses. Every year chinch bugs cause serious injury to some Wisconsin lawns.

Symptoms

Feeding damage first appears as yellow or reddish patches in hot sunny parts of the lawn. With heavy infestations, the entire lawn can take on a brown and droughty appearance and may have a slightly pink cast. Although damage is most apparent in late summer and early fall, it can appear anytime from late June until the first frost.

Chinch bugs feed by inserting their beak-like mouthparts into the plant and sucking out the juices. During feeding, the bug injects a toxic saliva into the plant. The toxin causes plants to continue to wilt and yellow even after the chinch bugs have been controlled.

Chinch bugs prefer hot dry areas, consequently damage may be noticed first on slopes and in open sunny areas, such as along sidewalks and driveways. With heavy infestations, chinch bugs sometimes can be seen on the sides of buildings and on sidewalks.

Life cycle

The adult chinch bug is $\frac{1}{8}$ -inch long and black with reddish legs. Its wings cross over its back forming a white triangle. An immature chinch bug (called a nymph) is smaller than the adult and wingless.

Adult chinch bugs emerge and mate when the air temperature reaches 70°F. Females lay up to 400 eggs within 3–4 weeks. The newly hatched nymph is bright red with a white band across its back. As it matures, it changes color from red to brown to black. Nymphs require 4–7 weeks to develop into adults, depending upon temperature.

In Wisconsin, the insect can go through its life cycle twice each year. However, in the coolest parts of the state there may be only a single generation.

Adults hibernate over winter in plant debris and around the foundations of homes. Nymphs may also attempt to hibernate, but unless they mature into adults before cold weather sets in, they do not survive.



Chinch bug adult (left) and nymph with developing wings.

Jim Kalisch, University of Nebraska



Jim Kalisch, University of Nebraska

Chinch bug damage to turfgrass. Lawns appear to be drought-stressed, even when there is sufficient soil moisture.

Diagnosis

Chinch bugs hide in the thatch, making them difficult to spot. A reliable method for determining their presence is the flotation test. Conduct the test on the edges of dead or dying areas and throughout several sections of the lawn. You'll need a coffee can or similar container with both ends removed. Twist the can through the turf and thatch into the upper soil layer. Fill the can with water and agitate the grass with your hand. If water recedes, add more. Any chinch bugs present will float to the surface. Treatment may be necessary if you find an average of two to three chinch bugs per test area.

You may find harmless and beneficial predator insects as well as chinch bugs when using the flotation test, so it's important to distinguish between them. The big-eyed bug, a predator of chinch bug, is commonly confused with chinch bug.

Control

Lawns can tolerate a low population of chinch bugs depending on the turf condition, the abundance of natural enemies, and weather conditions. However, chinch bugs reproduce rapidly, so even small populations should be monitored regularly so that damage prevention measures can be applied if necessary.

Natural

Temperature and rainfall greatly influence the degree of chinch bug infestation. Warm dry weather early in the season followed by minimal rainfall provides favorable conditions for chinch bugs. Wet weather slows population buildup and favors growth of a naturally occurring fungus disease of chinch bug.

When in large enough numbers, big-eyed bugs, spiders, and other predators play an important role in regulating chinch bug populations.

Cultural

A healthy lawn will better tolerate a small infestation of chinch bugs. The following general lawn management practices will help:

- Use proper mowing height (2½–3½ inches)
- Control weeds and diseases so turfgrass plants will be healthy and competitive.
- Fertilize properly, but do not over-fertilize.
- Provide frequent irrigation during hot dry periods.

Chemical

When chinch bugs are causing damage, you can control them with an insecticide application. Bifenthrin, carbaryl, and cyfluthrin are recommended for home use. Insecticidal

soaps are registered for chinch bug control but their efficacy is largely untested. The following products are registered for use by commercial applicators: bifenthrin, carbaryl, cyfluthrin, deltamethrin, lambda-cyhalothrin, and imidacloprid. Most of these products are available as granular and sprayable formulations. Always carefully read the insecticide label for correct rates and other application information, as well as safety precautions. Directions for application will vary depending on product and formulation.

Only apply chinch bug insecticides when necessary; do not apply them on a routine preventive basis. In some locations chinch bugs may be a persistent pest for several consecutive years. In such situations, a single early May insecticide application may provide season-long control.

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.



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