

Keeping the Chinch Bug Under Control



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With their piercing, sucking mouthparts, chinch bugs can do a lot of damage as they feed on the sap of a plant. Turfgrass is the most commonly damaged, with St. Augustinegrass in the southern states being the hardest hit. In northern states, fine fescues and Kentucky bluegrass are favorite targets, but they can also be a pest in species such as buffalograss.

Chinch bugs (genus *Blissus*) are hemipterans in the family Blissidae. There are at least four species—the common, the southern, the hairy and the western chinch bug—that basically cover the entire United States, and they all can be damaging to warm and cool-season turfgrasses. The biology of this insect can vary, but in general they live and overwinter in the thatch. Nymph stages, as well as adults, can be damaging as they emerge in the spring to feed. Yellow or brown patches in grass in late summer are an indicator of chinch bug damage, the pests expanding outward as grass dies and becoming more of a problem as temperatures rise.

Adult chinch bugs are black with whitish wings, and early instar nymphs may have a reddish coloration. Adults are about 1/8 inch in length, longer in the South, and are most easily found by looking in thatch and under leaves at the border between healthy and damaged grass. Look first in sunny areas or in grass next to sources of radiant heat, such as a driveway. A common way to check for pest populations is the flotation method. A 6-inch-diameter coffee can with both ends removed is driven partway into the ground, and the exposed end filled with water. As insects living in the thatch and grass float to the surface, they can be identified and counted. The drench method is also effective, consisting of drenching an area of turfgrass with a diluted solution of dish soap and counting the insects that emerge.

Photo by J.A. Kalisch, Department of Entomology, University of Nebraska.



Southern chinch bugs are one of four species that cause trouble for turfgrass across the country.

The University of California Davis recommends treatment when three chinch bug adults or nymphs are found floating in the can's water, while the University of Maryland identifies the threshold at 15 to 20 chinch bugs per square foot. Several generations may emerge and, according to the University of Maine's Web site, two generations are common even in the far North.

Fortunately, there are several chemical controls for chinch bugs, according to Dave Shetlar, professor of urban landscape entomology at Ohio State University and "the Bug Doc." He has researched controls on the hairy chinch bug, a pest in Kentucky bluegrass, perennial ryegrass and tall fescue across the Midwest, where its damage is often misidentified as a fungal disease.

The simplest control, Shetlar says, comes from the pyrethroids. Bifenthrin (Talstar, Menace) is the old standby, with lambda-cyhalothrin (Scimitar), deltamethrin (DeltaGard) and beta-cyfluthrin (Tempo Ultra) all being effective. These have a quick knockdown of 90 percent or more of the population within two to five days, and may be more effective in liquid rather than granular formulations. One treatment at labeled rates is usually all that is needed in late June or early July, though if the grass is lush and well-irrigated, a second application may be needed to curb a later, and potentially larger, population.

Shetlar says that in his tests the neonicotinoid insecticides are also effective. He has found success with imidacloprid (Merit, Mallet and other generics), clothianidin (Arena) and thiamethoxam (Meridian). "You have to be patient," he says, because these are slower to take effect than the pyrethroids. The bugs lose interest in feeding and gradually die off. Neonicotinoids can be efficacious for 100 days or longer.

*Photo Courtesy of Jim Philippis,
University of Florida.*



The adult chinch bug is a pest from North to South and East to West in many species of turfgrass.

He recommends treatment with neonicotinoids in one application before an infestation becomes overwhelming, which means scouting the turfgrass in late spring, with treatment usually coming at the end of May or early June. They are effective in liquid or granular form, and will kill white grubs at the same time. Shetlar has found Arena to be the fastest acting of the group.

Shetlar has also found spinosyn (Conserve), which is a variety of microbe extracts, to be effective in two applications, 14 days apart, once the chinch bugs show themselves. For true organic control, azadirachtin (Neem-Away) and its nonorganic form, azatrol, are effective, and will require two applications, 14 days apart.

Label recommendations should be followed for all insecticides, and those may change from state to state and from one turfgrass species to another. Shetlar says that treatment for the common chinch bug in the southern Midwest would be the same as for the hairy chinch bug in Ohio. However, the southern chinch bug in St. Augustinegrass in the South may occur in up to seven generations in thick mats of grass, and more applications of chemicals may be required. If so, he recommends rotating classes of chemicals to avoid resistance.

One of the most important predators of the pest is the big-eyed bug, which looks similar. This and other beneficial insects are also killed during chemical controls, so use only the necessary and recommended amounts of insecticides.

Cultural controls are important in the management of chinch bug populations and the avoidance of infestations. One of the most effective is reduction of thatch levels, which not only reduces habitat, but also makes insecticide applications more efficacious. Information from Texas A&M University indicates that the use of mulching mowers does a good job of shredding grass leaves to reduce thatch, and vertical mowing and aeration help, as can topdressing. Keeping fertilizer applications to a minimum during the summer is also recommended, as is proper irrigation.

Shetlar says that endophytes—symbiotic fungi—in perennial ryegrass and tall fescue produce a toxin that kills chinch bugs, so turf managers should consider overseeding with these species if they have chinch bug infestations. Some types of St. Augustinegrass are considered resistant to chinch bug damage. In the South, the Floratam, Florilawn and Floratine varieties are considered resistant, though the chinch bug is becoming more tolerant.

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