PENNSTATE

College of Agricultural Sciences • Cooperative Extension

Entomological Notes

Department of Entomology

CHINCH BUGS IN HOME LAWNS

Blissus leucopterus hirtus Montandon

Hairy chinch bugs can be frequent pests of home lawns in Pennsylvania. They are often associated with open, sunny areas and may be as numerous as 150 to 200 insects per square foot. Chinch bug populations frequently go unnoticed because of their small size and coloration, which blends in with turfgrass and thatch. Chinch bug damage may be masked during periods of drought.

DESCRIPTION

An adult hairy chinch bug is about 1/6 inch long, has a gray-black body with fine hairs, white wings, and reddish legs. The outer margin of each forewing has a small, black, triangular spot. The wings of the adult are folded flat over their backs (Fig. 1). Some populations of chinch bugs have adults with short wings. Young nymphs are about half the size of a pinhead, and start out as being brick-red with a transverse white band across the back. As the young mature, they turn gray and then black with wing pads developing as they mature into adults (Fig. 2).

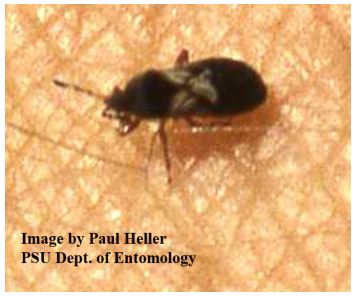

Figure 1. Adult stage of hairy chinch bug.

Figure 2. Nymphal stage of hairy chinch bug with small wing pads.

GENERAL LIFE HISTORY

Adults overwinter in leaf litter and dense thatch areas that are somewhat sheltered. Two generations typically occur each year, and a partial third generation occurs during years with long summers. Adults usually remain in their overwintering sites until spring temperatures reach 50°F. Then adults begin to disperse, mate, and start laying eggs. Egg laying continues throughout their adult life. An adult female may produce an average of 300 eggs over 40 to 50 days. The eggs are deposited in leaf sheaths and in the ground on roots of host plants. The eggs hatch in 1 to 2 weeks, and the nymphs complete a series of five molts before maturing into adults over a period of 4 to 6 weeks. The new adults lay eggs from mid-July through late August. Second-generation nymphs hatch from the eggs and complete development from September through October. When the cool weather arrives, adults seek overwintering sites. Also, minimizing thatch accumulation may discourage initial infestations and may help reduce chinch bug problems in the future.

DAMAGE

Hairy chinch bugs prefer feeding on red fescues, perennial ryegrass, bentgrass, and Kentucky bluegrass. Chinch bug infestations frequently occur in turfgrass with thick thatch that is exposed to full sunlight during periods of hot, dry weather. Chinch bug damage is often less noticeable during the spring and early summer. Damage frequently appears from early July through late August when the insects are actively feeding. Chinch bug nymphs and adults cause significant feeding damage by removing plant fluids and by injecting a toxin that causes the grass to yellow, turn reddish brown, and eventually die. Chinch bug damaged areas often coalesce into large patches of dead, brown grass. The suggested economic threshold for chinch bug is 15 to 20 insects per square foot.

Visual inspection of healthy turfgrass bordering the dead turfgrass is one sampling method for chinch bugs. The fast-moving adults and nymphs can be seen scurrying about at the base of grass stems and aggregating in groups. However, these insects frequently blend in with the thatch and go unnoticed. On a sunny day, you will notice adults crawling across driveways, sidewalks, and/or over foundation block walls. Hairy chinch bugs can be detected by removing both ends of a one-gallon can, driving the can several inches into the soil, and filling it three-quarters full with water. Stir the duff at the bottom of the container to dislodge chinch bugs located in the thatch. The disturbed chinch bugs soon float to the surface. Count the number of adults and nymphs floating to the surface over a 10-minute period, but do not confuse them with the beneficial big-eyed bug (Fig. 3). Refill the can if the water soaks into the ground before the end of the 10-minute sampling interval. Researchers suggest that 20 to 30 chinch bug life stages per square foot may warrant control, especially when chinch bugs are actively feeding during the summer months.

Image courtesy of Ronald Smith,
Auburn University
www.insectimages.org

Figure 3. Big-eyed bug on lower right side of image

CONTROL

Nonchemical - Cultural

A control alternative is using endophyte-enhanced turfgrass seed as part of your management program. (Endophytes are usually beneficial fungi that live between the cell walls of grass plants.) In most instances, fungal endophytes produce alkaloids, which give enhanced resistance to insects and disease. Currently, endophytes occur in tall fescue, fine fescue, and perennial ryegrass seed. Hairy chinch bugs can be repelled by the use of endophyte enhanced-turfgrass cultivars. Follow all label directions regarding where you use endophyte-enhanced seed since you do not want to negatively impact the health of livestock, which is often referred to as endophyte toxicosis. In some instances, fertilization and irrigation can assist in masking chinch bug damage. However, if you are developing a sustainable turfgrass management system, fertilizer may not be favored.

Nonchemical Curative - Biological

The big-eyed bug is the primary predator of hairy chinch bug nymphs and adults. The chinch bug's head is relatively small, triangular and carries two small eyes, whereas the big-eyed bug's are solid gray or brown, more robust, blunt head, and of course, equipped with protruding big eyes (Fig. 3). In some instances, hairy chinch bug nymphs and adults will be covered with white, cottony-like material, which is the entomophagous fungus *Beauveria bassiana* (Blas.). Unfortunately, this fungus rarely attacks sufficient numbers of chinch bugs to suppress populations below their economic threshold.

Chemical - Curative Home Lawn Hairy Chinch Bug Strategy

Conventional insecticides can suppress nymphs and adults throughout the summer when they are actively feeding on turfgrass. You should sample the area to determine chinch bug density prior to applying any control measure. In general, small chinch bugs are easier to control than mature adults. *Follow all specific label directions.*

WARNING

Pesticides are poisonous. Read and follow directions and safety precautions on labels. Handle carefully and store in original labeled containers out of the reach of children, pets, and livestock. Dispose of empty containers right away, in a safe manner and place. Do not contaminate forage, streams, or ponds.

Paul Heller
Professor
Dept. of Entomology
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