



Rockin E Gardening Handouts

Tips and Suggestions for 'Year-Round' Gardening

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Chinch Bugs

Is your lawn turning yellow and brown lately? You might check your lawn for chinch bugs. Chinch Bugs (pronounced either 'sinch' or 'chinch') are small insects, which live in and feed on lawn grasses. Expanding, irregular patches of dead or stunted grass, surrounded by a halo of yellowing, dying grass, often provides the first clues of the presence of chinch bugs.

Chinch bug damage is often mistaken for drought stress, or a lawn disease. Irregular patches of turf begin to turn yellow then straw colored. The straw colored areas continue to become larger in spite of watering, and do not recover when additional water is applied. Don't assume the brown patches of grass in the summer are just from heat, dryness, or a lawn disease: you may actually be seeing the results of chinch bug damage.



Photo Credit <http://bygl.osu.edu/>

Chinch Bugs can destroy your lawn with little or no warning. Chinch bugs cause damage to lawns because of the way they feed. They live above the soil and feed on living grass plants by means of a piercing mouth-part called a stylet (similar to a mosquito). The insect inserts its stylet into the leaves, stems or crowns and sucks the juices out of the plant. The insect leaves behind its saliva, which poisons the grass. Apparently, feeding by chinch bugs blocks the water and food conducting vessels of grass stems. By blocking the water, the leaves wither as in drought conditions. The manufactured food from the leaf doesn't get to the roots, so the root dies as well.

The damage looks quite similar to drought symptoms and many homeowners mistakenly assume that their lawn only needs more water to restore its lush green appearance. However, they become very disappointed when their lawn continues to worsen even when additional water is provided.

As the grass dies, the chinch bugs move to the periphery of the dead spots to feed, causing the dead areas to gradually enlarge. Chinch bug damage is usually at its worst during hot, dry times of the year. They feed in sunny areas rather than in shady areas. Chinch bug damage is rarely found in shaded areas.

Adult chinch bugs are small, slender insects measuring 1/6 to 1/5 of an inch long. They have black bodies with white wings, each of which bears a distinctive triangular black mark.



Photo Credit: utahpests-usu.edu/html/utah-pests-news-up-fall-2012-newsletter-chinch-bug-invasion.jpg

They undergo five stages of growth (instars). During the first two instars, they have red and black markings. The second two instars are orange and black, while the adults are black and white. Recently hatched nymphs are wingless, yellow or pinkish-red with a light-colored band across their backs (abdomen).

Life Cycle

To control an insect population you must understand its habits and its life cycle. Chinch bugs survive the winter as adults seeking shelter from



Photo Credit <http://www.omafr.gov.on.ca/>

the cold and snow under shrubs, hedges and leaf litter. In the latter part of the spring (about the time the forsythia blooms begin to fade) they come out of hiding and venture into the lawn. Here they will mate, and the females will seek a hot dry location in which to lay their eggs (usually a south-facing, sloping hillside). Chinch bugs like the hot, dry locations best.

Adult chinch bugs are inactive during winter months. They are most active in the spring and summer. The adult female will lay approximately 250 eggs in the lawn. In about 3 weeks time the eggs begin to hatch and the young chinch bugs (nymphs) begin feeding. The entire life cycle of a chinch bug lasts 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.

Eggs are laid very close together. When the eggs hatch and the young begin feeding, patches of small bladed grass begin to appear. The small bladed grasses will eventually die. If a homeowner ignores the problem, or is unaware of it, the patches get bigger as the insect matures and seeks food further away. Chinch bugs can totally ruin a lawn in 3 to 4 weeks if no control methods are taken.

Basic control methods can be cultural, including eliminating thatch in grass where the bugs like to reproduce, or they can be chemical, which means using an insecticide that will rid the lawn of chinch bugs at all stages.

Detection

Damage normally appears when there are approximately 20 to 25 chinch bugs per square foot. Homeowners can perform a test to determine chinch bug presence in the lawn.



Photo credit <http://www.omafr.gov.on.ca/>

One recommendation is to take a coffee can and remove the bottom and top lids - be careful of any sharp edges. Push the can into the soil in the area you suspect chinch bug damage. Tip: chinch bugs will be in the perimeter of the damaged area, not in the center (dead area). Fill the can with water for about 10 minutes and check for chinch bugs that will float to the surface, if present. Stir the thatch at the bottom of the can to dislodge any that may be

For a 6-inch diameter can, an average of four to five

chinch bugs per sample indicate damaging numbers. Several samples from different locations should be taken in the damaged grass.

A second method is to remove an actual plug from a suspected area. Place the sample in a bucket of water. Gently agitate the sample, and watch for any chinchbugs to float to the surface.



Photo Credit <http://www.omafra.gov.on.ca/>

Another way to detect chinch bugs is to use the Plastic Bag Method. Place a large, moist square of turf in a clear zip top bag (you need not dig very deep as chinch bugs are found in the thatch layer or just below the surface of the soil).



Photo Credit <http://entomology.unl.edu/>

Seal the bag and place it in the sun. After several minutes the bag will heat up and insects will leave the turf sample and collect on the inside of the bag. Count the number of chinch bugs. Sample several areas (damaged, not dead areas) around the affected region.

You can also lay a black garbage bag, or a tarp on top of the affected area for an hour or two. The chinch bugs will migrate to the warm material. They can be easily seen crawling around. Do not leave the garbage bag or tarp on the lawn too long, especially during a hot sunny day, or you may do more damage to the lawn than the chinch bugs.

Control

Insecticides labeled for chinch bug contain active ingredients such as carbaryl, bifenthrin, cyfluthrin, lambda-cyhalothrin and permethrin. Be sure to read and follow all label recommendations when applying insecticides. Good cultural practices, including water, fertility management and thatch control can dramatically reduce the need for insecticides to control chinch bugs.



Most insecticides, when applied in liquid form, should not be watered in for chinch bug control. This is because chinch bugs are surface and thatch residents. Watering in will wash the insecticide into the soil and avoid working on these surface insects. Granular-type insecticides require irrigation to activate.



If you have had a particularly bad infestation the previous year, you may need to use an insecticide to control the population of adults early in the spring, before any damage occurs.

Chinch bugs are relatively easy to control if they are detected early. There are no preventative pesticide controls.

Mistaken Diagnosis

Chinch bug damage can sometimes be confused with certain lawn diseases or other physiological disorders. For example, brown patch is a common disease in lawns. Brown patch symptoms usually occur in a circular or semi-circular pattern as op-



posed to the irregular shaped areas of chinch bug damage. Chinch bug damage can also resemble drought stress.

Detecting the actual insect is the best proof of chinch bug damage. In some instances, chinch bugs and lawn diseases can be present at the same time.

The way to distinguish between damage from chinch bugs and brown patch, or other fungal diseases, is that damage from the insects is irregular, while damage from fungal diseases is usually regular-circular or ring-shaped.

Search for the bugs themselves along the edges of the damaged areas. Because they feed on live grass plants, they will not be found in the center of the damaged area. Once you've properly identified the insect problem, you need to address it to bring your lawn back to health!



Management

Managing this pest begins with proper lawn care. Keep the thatch layer to a minimum. Thatch is the layer of dead plant material found between the green tops of the grass and the soil below. Thatch can provide a protective home for the chinch bugs, and makes chemical controls less effective.



Chinch bugs cause more damage in hot, dry environments. Too little, or too much water, on the lawn can lead to chinch bug problems. Frequent watering promotes shallow root systems in lawns, making it more susceptible to injury by chinch bugs. A lawn with a deeper root system can recover quicker than one with a shallow, less vigorous root system.

Plant resistance has also been reported for a number of turfgrass species, such as perennial ryegrass. Research has demonstrated strong resistance of *endophyte-enhanced turfgrasses* to the chinch bug. Over seeding the affected areas with perennial ryegrass may help to control the chinch bug problem without having to use as many insecticides.

Perennial ryegrass is a very good, competitive grass. It prefers full sun but will tolerate partial shade. Perennial ryegrass has the highest wear-tolerance of any cool-season grass and can tolerate high traffic. It is often used around schools and parks. It germinates quickly and it is used for over-seeding. It is often mixed with Kentucky bluegrass for a more traffic and disease-resistant turf. It also needs less water than the traditional Kentucky Bluegrass lawns.



Photo Credit <http://utahpests.usu.edu/>



Photo Credit <http://agrilife.org>

Other Resources

- <https://ohioline.osu.edu/factsheet/HYG-2503-11>
- <http://www.american-lawns.com/insects/chinchbugs.html>
- https://utahpests.usu.edu/upddl/files-ou/factsheet/chinch_bugs2013PR.pdf
- <http://ento.psu.edu/extension/factsheets/chinch-bugs-in-home-lawns>
- https://utahpests.usu.edu/ipm/ou-files/pdfs/common_turfgrass_pests_of_utah.pdf