

Having trouble viewing this email? [Click here](#)



Quick Links

[NYSTA web site](#)
[Calendar of Events](#)
[Join NYSTA](#)
[Contact Us](#)

TURF INSECTS: The Hairy Chinch Bug in New York State

By Daniel C. Peck, Ph.D., Lead Scientist, Grass Systems Entomology, 500 Technology Farm Dr., Geneva, NY 14456 (email: dcpeck@grass-systems-entomology.com)

Synopsis:

Common name - Hairy chinch bug
 Scientific name - *Blissus leucopterus hirtus*
 Classification (Order: Family) - Heteroptera: Lygaeidae
 Life stages - Egg, Nymph (5 instars), Adult
 Feeding style - Extract plant sap with piercing-sucking mouthparts
 Name of damaging life stages - Nymph and Adult
 Habitat of damaging life stages - Thatch layer and soil surface
 Affected habitats - Home lawns
 Affected plant tissues - Crowns and stems
 Geographic origin - Native to the Northeast U.S.

In a Nutshell:

- The HCB is a small, surface-active insect that extracts plant sap, leaving the plant sick from its saliva and stressed from the water loss.
- The drought-like symptoms are disguised under conditions of dormant turf.
- The most affected turf systems are home lawns with full sun exposure, well-drained sandy soils, thatch build-up and higher mowing heights.
- Management is best achieved with endophyte-enhanced grasses and contact insecticides.

Natural History

Life stages - Egg, Nymph, Adult. Immature HCB are nymphs that pass through five developmental stages, or instars, before becoming adults. The overall size of the body and wing pads increase with each successive molt. The orange and red colors on early instars fade to brown and black on later instars. Adults are only about 3/16-inch long. They have flat,

shiny white wings on their back, with the exception of a small proportion that are wingless.

Habits - With piercing-sucking mouth parts, nymphs and adults extract sap from the crowns and stems. Most of the cool season grasses are acceptable hosts. While early instars are relatively sedentary, later instars and adults are active and agile in the thatch and on the soil surface. HCB tends to form aggregations and this leads to patches of localized damage. Dispersal, even in winged adults, is mostly accomplished by walking rather than flying.

Seasonal cycle - HCB overwinters as adults in protected sites with thatch or tall grass, in debris and around structures adjacent to affected turfgrass. When they re-emerge in the spring, egg laying is preceded by a nearly 2-week preoviposition period when feeding and mating occurs. Females may live up to 3 months, and lay as many as 170 eggs in leaf sheaths and on the ground near the base of host plants. Nymphs require 4-6 weeks to develop through five instars. The first generation eggs are laid early May to early June, around the time of early white clover bloom. The nymphs mature by mid to late July, around the time of full sumac bloom. Those matured adults will either initiate another generation or seek out overwintering sites. In Downstate NY, two generations may be most common, with egg laying occurring late April through May, and again in late July through August. One generation a year may be most common in Upstate NY, but in warmer years areas of western and central NY experience a second generation. Nymphs from the second generation mature September to October.

Distribution - HCB occurs throughout the Northeast U.S. and should be considered a pest of concern in all regions of NY. Elsewhere, HCB is distributed west to MN, south to VA and north to ON and QE in southeast Canada. A complex of closely related chinch bug species is problematic in other areas of the country, particularly the southern and southeastern U.S. The common chinch bug, *Blissus leucopterus leucopterus*, also occurs in NY but its impact is largely limited to agricultural settings such as grain crops.

Diagnosis

Species identification - As a true bug, HCB is recognized by its piercing-sucking mouth parts. They have triangular-shaped heads, red eyes and burnt-orange colored legs. While they are small insects, older nymphs and adults are relatively fast-moving when observed in the field, making them easier to notice than their tiny size suggests. Young nymphs have orange-red coloration on their abdomen, which can make them easier to spot than the dull-colored older nymphs. Adults have shiny white wings over their back. Captured by hand, a distinct and pungent fruity smell will exude from odoriferous defensive glands on the abdomen.

Affected habitats - Home lawns are the most susceptible turf habitats. The insect will be generally more prevalent in older turf stands, moderate to high levels of thatch, well-drained sandy soils and full sunlight. Overall, endophytic varieties of perennial ryegrass and tall fescue are the least likely to support damaging populations. Nevertheless, there is a great deal of variation in the susceptibility of grass species and cultivars to HCB. This variation may also change from warm-dry areas to wet-humid areas of the region. In addition, HCB is increasingly recognized as an occasional pest on golf courses where it has traditionally been of little concern to superintendents. High-cut turf associated with bunkers, south-facing slopes and roughs are susceptible to damage.

Injury recognition - HCB feeding causes symptoms that resemble water stress and can be misdiagnosed as such. As it yellows and browns, affected grass may first turn reddish-purplish owing to a toxic response from the plant to enzymes inadvertently introduced by the insect when it feeds on the crowns and stems. These enzymes cause blockages in the vascular tissues, and hence discoloration and wilting. Symptoms may first present along the edges of paved areas or south-facing slopes. When unirrigated turf goes semi-dormant in summer, HCB injury can easily go unrecognized. As damaged patches grow and coalesce, dicot weeds and resistant grasses will remain unaffected, signaling that drought stress may not be the source of the problem. Otherwise, damage will become obvious when the stand fails to green up after favorable moisture conditions return. Irrigation will not recover grass that has been heavily damaged by HCB.

While damage can occur as early as mid June in hot dry years, July and September are the months when the insect is most active and when damage is most likely to be expressed. Stands infested by the first generation early in the season may not show any damage symptoms unless heat- or water- stressed. Stands infested by the second generation in late summer will show substantial damage rapidly especially when they overlap insects still present from the spring generation. In years where warm dry spring weather is followed by low summer rainfall, HCB populations are favored.

Management

Sampling and monitoring - When HCB injury is suspected, scout near the edge of damage patches. The insects can usually be found by parting the grass and carefully scanning the soil and thatch surface for the fast-moving older nymphs and adults. To collect specimens, measure population densities, or otherwise confirm their presence, it is practical to use a flotation technique. Extract soil cores from the margin of an affected area, submerge them completely in a bucket of water, and look for HCB to float to the surface over the course of 10 minutes. Rather than remove a soil sample, an alternative is to turn an open-ended coffee can into a flotation cylinder by pounding it into the surface of the soil and filling it with water; add more water as required if it percolates into the soil. One additional way is to drench an area with a soapy detergent solution, cover with a white cloth, wait ten minutes, then peel back to reveal the insects clinging to the underside.

In areas that have a history of HCB infestations, are highly susceptible to damage, or are otherwise under risk-adverse management constraints, population monitoring should begin in early spring. The adults mobilize once daytime high temperatures are consistently above 45 degrees F. Scouting should then be conducted every 2-3 weeks at high priority sites, and every 4-6 weeks at low priority sites.

Decision-making - Sampling should be done at several points where the habitat may be most favorable or susceptible. The same flotation technique can be used to measure population size, wherein >20 HCB per sample is considered an action threshold for intervention. Alternative threshold measurements are 20-30 insects per square foot based on a detailed visual search, 10 insects in a timed 60-second search of a square foot area, or 15 insects over a general 2-minute search. At sites where injury has already occurred, sampling should be done at the damage margins as the insect may have already dispersed away from the most highly affected areas.

Intervention - As there is considerable variation in tolerance across cool-season grasses, host plant selection is therefore one form of cultural

control for long-term management. Renovating or overseeding heavily or consistently damaged lawns can be done with a more tolerant grass variety such as endophyte-enhanced cultivars of tall fescues and perennial ryegrasses. The endotoxins introduced into the aboveground plant tissue by the endophyte confer resistant or antifeedant properties to the grass against HCB. A turf stand must be at least 35% endophytic to resist HCB outbreaks. The severity of infestations may also be reduced by dethatching. When thatch builds up, the crowns are pushed higher above the soil and might be more exposed to feeding and damage by the insect. Regular watering and light fertilization will help turf recover from the injury of minor infestations.

There are three insecticidal control approaches. One is to target adults that emerge in the spring, especially if the site suffered a late fall outbreak. The presence and timing of HCB can be confirmed through scouting, but the window of time is from late April to early May. A second approach is to apply a preventive insecticide to suppress HCB before they become a problem. The third is to resolve an existing infestation or in response to threshold assessments and the anticipation of damage. The ideal window is in mid-summer after overwintered adults are done egg laying and before the earliest eggs have developed into adults.

For curative control, the range of active ingredients available in NY includes the fast-acting pyrethroids, carbaryl and chlorpyrifos. The optimal timing for such an intervention is mid summer, when third instars are at their peak, or when most eggs have hatched but the earliest have not yet matured into adults. For preventive control, the range of active ingredients available in NY includes chlorantraniliprole and imidacloprid, which offer suppression only. As an alternative to conventional insecticides, there are commercial formulations of *Beauveria bassiana* that could be tried. In the spring, naturally occurring strains of this entomopathogenic fungus help to suppress populations, especially under wetter conditions. Irrigation in spring and early summer helps to promote this pathogen's activity in the natural regulation of HCB.

Regional Considerations

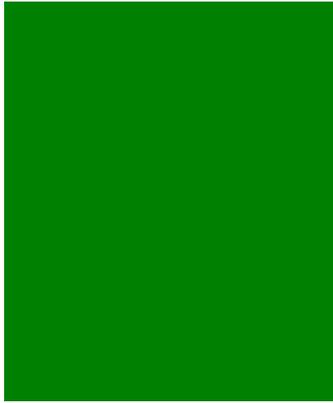
HCB is a concern across all regions of NY. Southern regions of the state are most likely confronted by two generations a year, northern regions by only one. Host plant resistant cultivars are limited to warm season grasses and are therefore not a tool for managing HCB in cool season turf. There are certain control products labeled for HCB control in other states, but not in NY. These include the active ingredients clothianidin, dinotefuran and thiamethoxam. In NY there is only one chinch bug species of concern, while other regions of the country have a species complex.

Links to More Information

www.entomology.unl.edu/turfent/documnts/chinchbg.shtml

www.omafra.gov.on.ca/english/crops/facts/08-019.htm

www.ento.psu.edu/extension/factsheets/chinchBugs.htm



This program is supported
by a grant from the
Turfgrass Environmental
Stewardship Fund.

[Forward this email](#)



This email was sent to info@nysta.org by info@nysta.org |
[Update Profile/Email Address](#) | Rapid removal with [SafeUnsubscribe™](#) | [About our service provider.](#)



NYSTA | PO Box 612, 4 Youngs Place | Phone: 518-783-1229 | Fax: 518-783-1258 | Latham | NY | 12110