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# Chinch bug management

## Targeted strategies and effective control for turfgrass in Canada

Photo: Jesse Benelli, Envu

# The problem

Chinch bugs are above ground pests that feed on turfgrass throughout the growing season. They can cause severe damage to most cool-season grasses. Chinch bug populations tend to be highest in years with prolonged hot, dry weather. But with proper scouting and effective application timing, you can neutralize this threat and keep your turfgrass healthy.

**Chinch bugs on turf leaf blades.**
Photo: Jesse Benelli, Envu

## Chinch bug life cycle

In the spring, chinch bug adults migrate into lawns and other higher cut turfgrass to begin feeding and mating. Females lay eggs when daytime temperatures exceed 15 °C. For most regions in Canada, eggs will hatch in early-to-mid June. Chinch bugs will complete five nymphal stages before maturing into adults by mid-to-late August. In years with sustained heat, a second generation can begin, but this generation is not able to overwinter and will die.

## Damage from feeding

Nymphs and adults have piercing-sucking mouthparts that injure turf by withdrawing sap from leaf, sheath, crown and stem tissues. During feeding, chinch bugs inject salivary toxins into the plant, which affects the plant's ability to transport water and nutrients.

## Recognizing the symptoms

An initial sign of feeding is reddish-purple discoloration of the leaf blade margin. As damage progresses, thinning is observed and leaves turn yellow. When populations increase and feeding intensifies, plants will turn straw colour and appear drought stressed, but turf will not respond normally to irrigation. If left untreated, large swaths of turf will decline and permanent plant death can occur.

**Turf damage from severe chinch bug feeding.**
Photo: Jesse Benelli, Envu

# Building your strategy

Chinch bugs are most active during the early afternoon when it is sunny and warm. Adults can be seen in the spring on grass blades and nearby structures such as patios, foundation walls and fencing. Nymphs will be present from mid-to-late June through August and will be found near the thatch layer. The use of a modified flush technique and growing degree models are valuable tools to improve scouting and monitoring.

## The modified flush technique

This simple test can help you assess the extent of the problem. Take an empty coffee or soup can and remove both lids to make a cylinder. Lightly pound the cylinder approximately 5 cm into the ground. Fill the cylinder with water and keep refilling it to maintain a stable water level. After about 30 seconds, chinch bug nymphs and adults should begin floating to the surface.

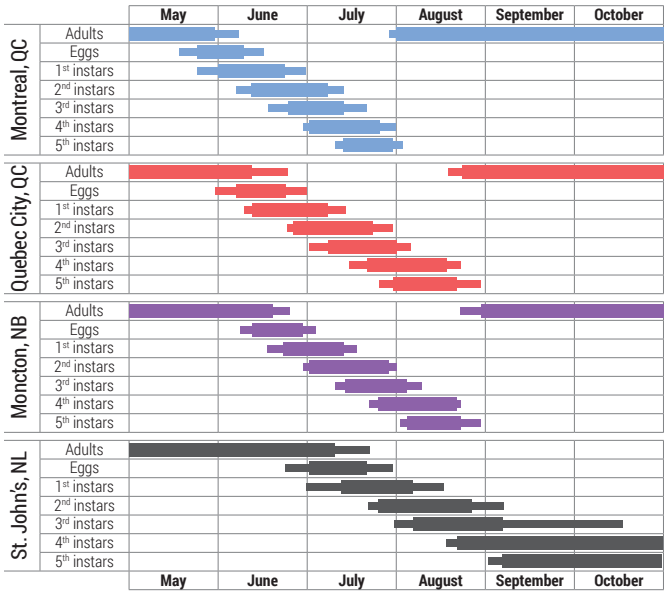
## Growing degree day modelling

Several variations of growing degree day (GDD) models have been developed for Ontario, Quebec and Atlantic Canada. The most common base temperature is 7 °C.

- Peak egg laying occurs at 187–340 GDD
- First instar nymphs observed between 250–500 GDD
- Peak damage by third and fourth instars occurs between 500–1,000 GDD (typically early-to-mid July for most years)

## Typical life stage development of the hairy chinch bug in Quebec and Atlantic Canada

**Bars indicate the time frame when a particular stage has the highest proportion of the chinch bug population**



## Cultural management

**Fertility:** Maintain adequate nitrogen fertility during spring, summer and fall. Turf that is deficient in nitrogen will be unable to recover from chinch bug damage.

**Irrigation:** Properly irrigate lawns to prevent wilt stress during the summer months and prevent further turfgrass decline.

**Overseeding:** Introducing endophyte enhanced grasses will improve the turf's tolerance against chinch bug activity.

**Mowing:** Maintaining a mowing height of 5–8 cm during the summer will help reduce the severity of chinch bug feeding.

## The right chinch bug solutions

No matter what kind of chinch bug problems you're up against, Envu has a full range of solutions to help you take control and maintain it. Always read and follow product labels before use.

**SUSPEND**
PolyZone®

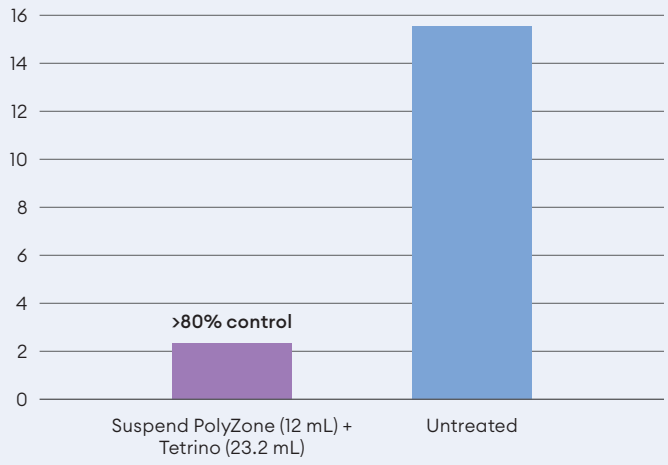
This highly effective, fast-acting contact insecticide can be used at low rates to control chinch bugs, ants, cutworms, webworms and ticks. Suspend PolyZone® contains the active ingredient deltamethrin, which is a third-generation pyrethroid insecticide. It should be applied in enough water volume to achieve deeper coverage into the turfgrass canopy.

**TETRINO®**

This broad-spectrum systemic insecticide uses the active ingredient tetranililprole for rapid plant uptake and translocation with excellent residual efficacy. It provides strong systemic activity for many root- and surface-feeding insects – including chinch bugs. Tetrino® works best when the plant is actively growing. Repeat applications at 28-day intervals may be necessary for large chinch bug populations.

### Curative control of the hairy chinch bug in 2020 (7 days after treatment)

Applications made June 25
Trial conducted in Pennsylvania by Steve McDonald, Turfgrass Disease Solutions



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## Effective application timing

Using properly targeted products is half the battle for achieving effective chinch bug results. Understanding the right timing for application throughout the growing season is also crucial to your success.

### Early season

For chronic chinch bug infestations, consider a spring adulticide application of Suspend PolyZone (12 mL) just prior to egg laying. This application should be made before 200 GDD (base 7 °C) have accumulated. In most years, this application timing occurs in mid-to-late May, depending on the weather. Adding Tetrino (11.6–23.2 mL) in this application will improve control of spring adults and provide protection against younger nymphs after egg hatch.

### Midseason

A sequential application of Suspend PolyZone (12 mL) tank mixed with Tetrino (23.2 mL) should be applied when third instar nymphs reach peak activity. This tends to occur in early-to-mid July, when cumulative GDD are between 500–800 (base 7 °C). Adding Tetrino at this time provides improved chinch bug control and control of white grubs.

### Watering and mowing

Applications for chinch bug control should be applied in a sufficient water volume to ensure the spray solution is driven towards the base of the plant near the thatch layer. This becomes more important when targeting young nymphs (first through third instars). For best results, avoid mowing treated turf for 24 hours after application.

## Maintaining outdoor spaces

What you do makes outdoor spaces beautiful. Envu is always ready to work with turf management professionals like you to achieve that goal together. Thank you for helping us provide science for a better life.

To talk about your specific needs or to learn more about our solutions, please contact an Envu representative.

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