

# Honeylocust disorder: Plant bugs and leafhoppers

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In the 1970s, when Dutch elm disease was ravaging Wisconsin elms, many people considered the honeylocust a perfect landscape tree. Its open canopy allowed grass to grow underneath, and its small leaflets reduced the amount of fall litter—plus, the honeylocust wasn't suffering an epidemic. When thornless varieties became available, the planting of honeylocusts accelerated. However, several pest problems associated with this tree have arisen that may discourage widespread use now. At least seven species of plant bugs and an equal number of leafhoppers are identified as pests of the honeylocust.

## Symptoms and effects

Two of these insect pests are common in Wisconsin. The honeylocust plant bug, *Diaphnocoris chlorionis*, is responsible for much of the leaf distortion noted on honeylocust trees. Both adult and immature plant bugs use their needle-like mouthparts to pierce into plant tissue and feed on the contents of plant cells. Feeding on the leaflets leads to distortion and chlorosis. Light feeding causes a yellow stippling of the leaves; heavy feeding will kill plant cells. Trees that have been seriously affected will often produce new leaves by midsummer. However, partially defoliated trees may maintain a tattered appearance all summer. If plant bug populations are high, defoliation may occur.

The other significant pests of honeylocust are leafhoppers. Many species of leafhoppers migrate into Wisconsin each spring from the Gulf states and feed on a variety of plants. Only one leafhopper is a year-round resident of the state—*Macropsis fumipennis*. Like plant bugs, leafhoppers have sucking mouthparts and feed on plant sap. Feeding can damage leaflet stalks and petioles in ways similar to the damage caused by plant bugs.

Repeated, severe damage of a honeylocust by either the plant bug or the leafhopper may result in an overall gnarled appearance from the repeated dieback and regrowth of young shoots.



**Plant bug and leafhopper damage appears as distortion and chlorosis (yellowing) of the terminal leaflets. Both insects cause such injuries by injecting a salivary toxin into the plant during feeding.**



## Life cycle

Honeylocust plant bugs belong to an insect group called the true bugs. They overwinter as eggs laid in slits, made by the adults, in 2- and 3-year-old twigs. The eggs hatch in the spring as the buds are beginning to swell. Immatures (nymphs) crawl to the expanding foliage and begin to feed. Most of the feeding damage caused by plant bugs occurs before the leaves have fully developed. After about 30 days, nymphs mature into tiny, green adults, which continue to feed through the remainder of the season. They grow to between 2 and 10 mm long. Plant bugs produce one generation per year.

The leafhopper *Macropsis fumipennis* overwinters as eggs inserted into shoots near the next year's buds. The eggs hatch at bud break in spring, and nymphs begin to feed. Like the plant bug, leafhopper nymphs resemble their adult counterparts but lack fully developed wings. The green color of leafhoppers provides an effective camouflage while they feed on foliage. Leafhoppers are slightly larger than plant bugs and reach about 4.5 mm in length when fully grown.

## Control

In most cases, neither the plant bug nor the leafhopper causes serious damage to the honeylocust, but damage does reduce the attractiveness of the tree. In addition, plant vigor and growth may be compromised by the reduction in the amount of leaf surface available for photosynthesis. To prevent further stress on affected trees, provide them with adequate fertilizer and moisture.

In severe cases, both plant bugs and leafhoppers may be controlled with insecticides. Restrict the timing of pesticide applications to early spring. The first application should be made just as the leaves are unfurling or when damage first appears. By late June, the damage will already have occurred and treatment will be ineffective. Several insecticides are effective in controlling both plant bugs and leafhoppers. Refer to Extension publication *Woody Ornamentals Pest Management in Wisconsin* (A3597) for specific pesticide recommendations.

Be aware that because leafhoppers migrate over large distances on wind currents, control is often difficult. Trees in nurseries may require multiple pesticide applications, and large trees are difficult to treat. If you need to treat a large honeylocust, consult a professional arborist for assistance.

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