



Parks, Forestry & Recreation

Urban Forestry Branch

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Forest Health Care

Honeylocust Plant Bug and Leafhoppers

There are several species of plant bugs and leafhoppers that feed on Honeylocust (*Gleditsia triacanthos*). The honeylocust plant bug (*Diaphnocoris chlorionis*) is one key pest that became a concern in North America during the 1950's and 1960's with the introduction of thornless cultivars. The tree's growing popularity as an urban shade tree in Toronto has brought attention to damage caused by these insects. Feeding damage from honeylocust plant bug and various leafhoppers is very common in Toronto.

Honeylocust plant bug over-winters as an egg that hatches after buds start to open in May. Small green nymphs mature into larger adults in roughly 30 days. Within days adult females lay eggs in clusters under the bark of 2 to 3 year old twigs. By mid July all adults disappear. Population levels are unpredictable as weather conditions greatly affect the bug's survival and activity.

Leafhoppers over-winter as an egg inserted into shoots near a bud or into 1 or 2 year old twigs. Eggs hatch when buds open in the spring and adults are present until July. Both the honeylocust plant bug and leafhoppers have only one generation per year in Toronto.

Hosts and Damage

Honeylocust plant bug feeds specifically on honeylocust trees, with yellow-leaved cultivars (e.g. 'Sunburst') being particularly susceptible. The sap-sucking nymphs and adults feed on foliage which causes severe leaf distortion, dwarfed leaflets, and yellow to brownish spots. Tiny holes can result when dead tissue drops from affected leaves. The most serious damage occurs early when nymphs feed on newly unfolding, highly sensitive leaves. When population levels are high premature leaf drop and defoliation can occur.

Leafhoppers are also sap-suckers and feed on leaflet stalks, petioles and leaf veins. Alone the leafhopper causes little damage to honeylocust but when combined with high populations of plant bug significant damage can occur.

Feeding is finished with the disappearance of adults in July. At this point the tree will flush new leaves; however, the recovery depends on the extent of damage and the condition of the tree. High insect populations and severe damage over consecutive years can result in branch dieback and eventual death of the tree.



Distorted honeylocust leaves



Damage on the honeylocust tree

Specific Management Practices for Control of Honeylocust Plant Bug:

- Insects are often overlooked because the colour of the nymph and adult closely resemble that of the new leaf growth. Identify the presence of plant bug by gently tapping leaves over a white sheet of paper onto which the insects will fall.
- Select a green-leaf cultivar (e.g. 'Skyline') for planting which appears to be more resistant than yellow-leaved cultivars such as 'Sunburst'.
- Wash feeding insects down when their numbers increase using a hard jet of water from a hose. Do this in the morning hours, so the leaves remain dry for the rest of the day.
- Insecticidal soaps or horticultural oils may be used for severe infestations, applied when the insect is most vulnerable as young nymphs 7 to 10 days after bud break in early May. Contact your local Garden Centre for availability.

General Management Practices to Improve Plant Health:

- Water your trees during dry spells. Infrequent, but deep soaking preferably during the early morning hours is recommended. Water absorbing roots are located in the upper 25 cm of the soil and extend outward well beyond the canopy dripline.
- Place organic mulch, (e.g. wood chips), or living mulch, (e.g. ground cover plants) around tree bases to keep the soil moist for longer periods and encourage healthier roots.
- Avoid unnecessary excavating, grade changes, soil compaction, root cutting or hard surfacing around trees. These activities destroy vital roots, which may lead to the decline or death of trees.
- Refrain from using salt or herbicides around trees.

Forest Health Care is a holistic approach to tree care that focuses on improving the health of trees in an urban environment. Our objective is a healthy, sustainable urban forest. Trees in urban forests are often stressed by compacted soil, drought, poor planting and pruning techniques, air pollution, road salt, damage from construction and much more. Trees planted in the right sites and properly maintained are less likely to suffer and are more resistant to pest problems.

Pest problems are managed using a decision making process that considers the following:

- Identification of the host and the pest.
- Monitoring of the host and the pest.
- Selection of the appropriate management strategy.
- Evaluation of the management plan.

Our focus is on pest management programs that are environmentally, socially and economically sound.