

Potato Leafhopper

Empoasca fabae

Description

Potato leafhoppers can be visually identified by their wedge shape and pale green color. Adult leafhoppers are about 1/8" long and hold their wings "roof-like" over the abdomen. Leafhopper nymphs look like miniature adults but with wing "buds" instead of fully developed wings.



HOST PLANTS

Red maples are the most affected ornamental plant in Tennessee and Kentucky.

Other host plants include:

- Apple (*Malus*)
- Ash (*Fraxinus*)
- Birch (*Betula*)
- Elm (*Ulmus*)
- Hickory (*Carya*)
- Maple (*Acer*)
- Oak (*Quercus*)
- Redbud (*Cercis*)

Life Cycle

An adult female leafhopper mates and deposits 60 to 100 eggs in the veins and leaf stems of host plants. Nymphs hatch in six to nine days. Development from egg to adult takes between 20 and 30 days, depending on temperature. Adults typically survive about 30 days. Several overlapping generations may occur during a typical growing season. The potato leafhopper cannot overwinter this far North because of sensitivity of the eggs to the cold. They overwinter in the Gulf of Mexico and are blown north by prevailing winds, typically arriving between April and early June. In Tennessee and Kentucky they have been known to arrive as early as April.

Monitoring

Leafhoppers can be hard to spot on plants, however, when disturbed, adults will either jump or make short-distance flights away from hosts. Both adults and nymphs will crab-walk sideways and hide on the opposite side of leaves when disturbed. Look for leafhoppers feeding on the underside of leaves and look for stippling of leaves and curled or stunted shoot tips. Another good diagnostic cue is the cast skins of nymphs that have molted. Cast skins are often attached to lower leaf surfaces.

Populations often decline in mid-July. Activity can be monitored by using yellow sticky traps to observe the first appearance of migratory adults.

Damage Symptoms



Potato leafhoppers have piercing-sucking mouthparts that feed on the vascular tissues of plants. Feeding creates small white or yellow spots on leaves, resulting in a stippled appearance because potato leafhoppers remove the chlorophyll from leaves.

When vascular tissue is damaged in shoots, the tree shoots become stunted and leaves curl downward, with brown edges. This damage is typically referred to as 'hopperburn'.

PLANT MORTALITY

Hopper burn caused by leafhoppers is primarily aesthetic and seldom results in the tree death, although, the damage can reduce plant cold hardiness. Mature landscape plantings typically tolerate feeding injury. However, injury requires extra pruning labor to eliminate multiple terminal leaders. Even after these steps are taken, poor aesthetic appearance of damaged trees may diminish their market value.

Integrated Pest Management

BIOLOGICAL CONTROL

Lady beetles, green lacewings, parasitic wasps, damsel bugs, bigeyed bugs, assassin bugs.

CULTURAL CONTROL

Hand pruning damaged leaves.

Use resistant cultivars such as *Acer rubrum* 'Brandywine'

CHEMICAL CONTROL

Pesticides applied to control leafhoppers may trigger outbreaks of other pests. This is particularly true when broad-spectrum insecticides kill beneficial insects.

Soil drenches or foliar spray applications are common control options.

Please refer to http://eppserver.ag.utk.edu/redbook/sections/trees_flowers.htm for the most up to date recommendations.

Resources

Cloyd, Raymond. "Home, Yard & Garden Newsletter at the University of Illinois." *Home, Yard & Garden Newsletter at the University of Illinois*. University of Illinois Extension, 16 May 2001. Web. 6 May 2011. <<http://hyg.ipm.illinois.edu/search.php>>.

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Potter, Daniel, and Patricia Spicer. "JEH." *Horticultural Research*. University of Kentucky Department of Entomology, n.d. Web. 6 May 2011. <<http://www.hriresearch.org/index.cfm?page=Content&categoryID=174>>.

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