

Potato Leafhopper

Empoasca fabae

Description

Potato leafhoppers can be identified visually by their wedge shape and pale green color. Adult potato leafhoppers are about 1/8 inch long and hold their wings “roof-like” over the abdomen. Potato leafhopper nymphs look like miniature adults and have visible wing “buds” instead of fully developed wings.

Life Cycle

An adult female potato leafhopper mates and deposits 60 to 100 eggs into leaf veins and leaf petioles of host plants. Nymphs hatch in six to nine days. Development from egg to adult takes between 20 and 30 days, with the duration increasing as temperatures decrease. Adults typically survive about 30 days. Several overlapping generations may occur during a typical growing season. In Tennessee, potato leafhopper cannot overwinter due to the cold winter temperatures. They overwinter south of Tennessee and are blown north by prevailing winds, typically arriving in the state between April and early May.

Monitoring

Potato leafhoppers can be hard to spot on plants; however, when disturbed, adults will either jump or make short-distance flights. Adults and nymphs will crab-walk sideways and hide on the opposite side of leaves when disturbed. Look for potato leafhoppers feeding on the underside of leaves and look for stippling on leaf surfaces and curled or stunted shoot tips. Another good diagnostic cue may be the cast skins left by nymphs that have molted and may be attached to lower leaf surfaces. Potato leafhopper is often found on alfalfa until it is cut and then migrates to ornamentals. Activity can be monitored by using yellow sticky traps. Populations often decline by mid-July.

Host Plants

Red maples are the most frequently affected ornamental plant in nurseries.

Hosts for other leafhopper species include the following:

- Apple
- Ash
- Birch
- Crabapple
- Dogwood
- Elm
- Hickory
- Oak
- Redbud

Damage Symptoms



Potato leafhoppers use their piercing-sucking mouthparts to feed on plant vascular tissues. Feeding removes the chlorophyll, creating small, light, angular stippled spots on leaves. During feeding, potato leafhoppers inject a salivary toxin that disrupts sap flow and causes leaf tips and edges to turn brown, curl and die. This characteristic symptom is known as “hopperburn.” When the vascular tissue of shoots is damaged, the internode length of the new growth is greatly reduced.

Hopperburn is primarily aesthetic and seldom results in tree death, although the damage can reduce plant cold hardiness. Mature landscape trees typically experience little potato leafhopper damage and can generally tolerate feeding injury. In production, extra labor will be needed to prune out multiple terminal leaders. Poor aesthetic appearance of damaged trees may also reduce the market value of affected trees.

Integrated Pest Management

BIOLOGICAL CONTROL

Ladybird beetles, green lacewings, parasitic wasps, damsel bugs, bigeyed bugs and assassin bugs are all effective predators of potato leafhopper adults and nymphs.

CULTURAL CONTROL

Resistant cultivars include *Acer rubrum* ‘Brandywine’, *Acer rubrum* ‘Somerset’ and *Acer rubrum* ‘Sun Valley’.

CHEMICAL CONTROL

Soil drenches or foliar spray applications are common control options. However, pesticides applied to control leafhoppers may trigger outbreaks of maple spider mite (see Frank and Sadof below).

Please refer to http://eppserver.ag.utk.edu/redbook/sections/trees_flowers.htm for current recommendations.

Resources

Photo credits: Amy Fulcher, University of Tennessee; Ric Bessin, University of Kentucky; Steve L. Brown, University of Georgia; Bugwood.org
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