



## POTATO LEAFHOPPER ON WOODY ORNAMENTALS

*Empoasca fabae* (Harris)

The potato leafhopper is a member of the insect order Homoptera and family Cicadellidae. This insect has been noted on more than 200 host plants, many of which are ornamental plants. However, this insect is best known as a field crop pest. When populations are numerous, feeding can result in distorted or dwarfed leaves, and can kill small branches and twigs. Since it is a major pest of alfalfa, soybean, and potatoes, woody ornamentals grown near such crops may be more susceptible to injury.

### DESCRIPTION

Adults are bright green, wedge-shaped and approximately 3 mm long (Fig. 1a). When at rest, the wings are held roof-like over the body. A row of six, small, round, white spots can also be seen on their backs, between the wings and head. Nymphs, which are of similar coloration, are wingless and smaller than the adults (Fig. 1b). When disturbed they often run sideways. Both adults and nymphs have piercing-sucking mouthparts. Eggs are approximately 1 mm long. Occasionally, this species is difficult to distinguish from other members in its family. Remember, accurate identification is the first step in providing an effective pest management program.

### LIFE HISTORY

During the summer months this pest inhabits the eastern half of the United States and southern Canada. However, due to their susceptibility to northern winters, adults must migrate annually from their overwintering sites in the Gulf States. Adults usually arrive in Pennsylvania during May and remain throughout the warmer months. After mating, the female deposits 60 to 100 eggs over a 30-day period in veins or leaf stems of host plants. Nymphs hatch 6 to 9 days after oviposition and go through 5 developmental stages (instars) before becoming adults. Development takes approximately 20 days. Depending on temperatures and time of arrival, two or more generations can occur each year in northern states.

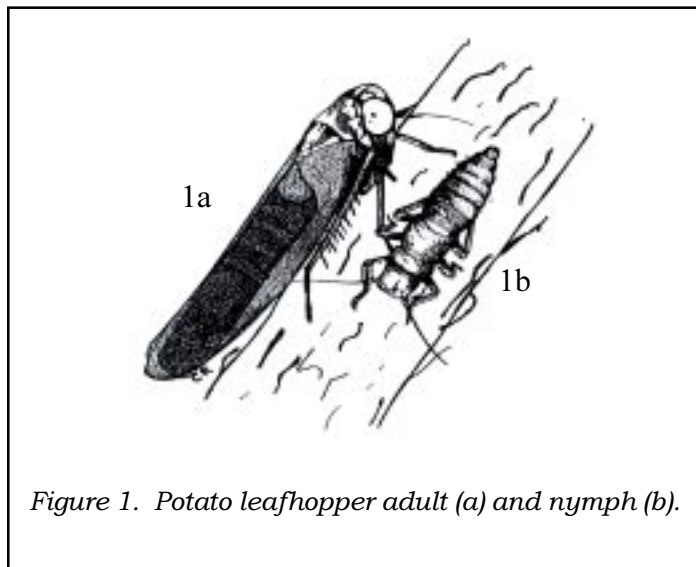


Figure 1. Potato leafhopper adult (a) and nymph (b).

### DAMAGE

Adults and nymphs feed with piercing-sucking mouthparts on sap of the host. This type of feeding results in phloem blockage within the plant and produces yellowing of the leaf. This damage is commonly referred to as “hopperburn”. It may begin as a brown triangular spot on the leaf tip, with more spots arising. In addition, the leaf margin may roll inward and turn brown. If left untreated, only a thin strip of green tissue will remain on the leaf. In Pennsylvania greenhouse-grown roses have shown signs of hopperburn. Twigs and small branches of woody ornamentals are also susceptible. For example, the terminals of birch twigs are fed upon by this pest. A combination of stunting, distortion, and shortened, swollen internodes may result. Tip dieback has even been recorded. Similar damage has been noted on crabapple, hornbeam, Japanese pagodatree, maple, and oak. While the tree’s crown may increase in density, it is unhealthy. This weakening of the tree makes it more susceptible to winter injury.

### MANAGEMENT

Early detection of adults is useful in preventing injury. Rather than waiting for signs of damage, begin inspecting trees for bright green nymphs and adults in early May. Most specimens will be found feeding on the underside of leaves. Cast skins of nymphs may also be

found attached to the lower leaf surface. If this pest is found, registered formulations of contact or systemic insecticides can be applied. However, the mere presence of this pest does not mean an application of insecticide is required. Beneficial insects, such as green lacewings, lady beetles, and parasitic wasps, may be affected by certain insecticides.

## **WARNING**

Pesticides are poisonous. Read and follow directions and safety precautions on labels. Handle carefully and store in original labeled containers out of the reach of children, pets, and livestock. Dispose of empty containers right away, in a safe manner and place. Do not contaminate forage, streams, or ponds.

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April 2002

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TS-36

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Issued in furtherance of Cooperative Extension Works, Acts of Congress May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture and the Pennsylvania Legislature. T.R. Alter, Director of Cooperative Extension, The Pennsylvania State University.

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