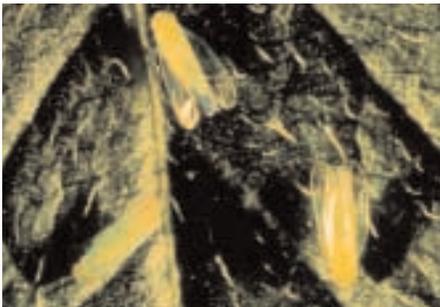




# Potato Leafhopper

K.A. Delahaut



Potato leafhopper adults



Potato leafhopper nymph

In Wisconsin, the potato leafhopper (*Empoasca fabae*) is a serious annual pest of snap beans and potatoes. Damage caused by leafhoppers includes stunted plants, brown leaves and reduced plant vigor.

A wide range of plants serve as hosts for the potato leafhopper. These include alfalfa, apples, all types of beans, clover, dahlia, eggplant, potatoes, rhubarb, soybeans, strawberries and other bedding plants.

## Appearance

The potato leafhopper is a small ( $\frac{1}{8}$ -inch), bright green, wedge-shaped insect with whitish spots on its head and thorax (upper body). Leafhoppers have piercing-sucking mouth parts and jump, fly or crawl when disturbed. Nymphs appear similar to adults but lack fully developed wings.

## Symptoms and effects

Both adults and nymphs feed by inserting their mouth parts into the plant's vascular tissue and extracting sap. Damage results when vascular tissue is blocked, permanently reducing the plant's photosynthetic efficiency.

The first symptom of injury is a brown, triangular lesion on the tip of the leaflet. As symptoms develop, lesions spread backward and inward from the margin, eventually destroying the entire leaf. The burned appearance of the foliage is the source of the term "hopperburn." Plants become stunted and yellow and leaves curl upward. Premature death of the plant may occur in severe infestations.

Injury develops most rapidly during hot, dry weather.

Unfortunately, yield loss often occurs even before the development of obvious symptoms. Though plants may show little evidence of hopperburn, yield losses can be substantial.

## Life cycle

Potato leafhoppers blow into Wisconsin each spring on southerly winds; they do not overwinter in the state. Large leafhopper populations migrate from alfalfa fields in June and early July causing their numbers to seemingly "explode" overnight. Adult females insert their white eggs into the stems or large leaf veins of susceptible crops. Each

female lays approximately 3 eggs each day for about a month. Nymphs hatch 7–10 days later and molt 5 times over a period of 12–15 days before turning into adults. There are typically 2 generations per year in Wisconsin, and populations decline significantly in August.

### Scouting suggestions

Snap beans and potatoes should be scouted regularly for leafhopper activity. Leafhoppers tend to migrate into other crops in early summer after alfalfa is cut. This is the key time to watch for early migrants in vegetable plantings.

Commercial vegetable growers should use a sweepnet to monitor their fields. Take 25 sweeps with an insect sweepnet per sample site. Use at least 5 sample sites per 30 acres. To monitor small gardens or farms, carefully turn over 25 leaves and count the nymphs and adults on the leaves. Select leaves from the middle portion of the plant.

### Control

Healthy plants withstand damage more effectively than stressed plants. Irrigation and cultural practices that favor the crop are recommended. Leafhopper infes-

tations are more likely to occur in crops planted adjacent to alfalfa fields. If leafhopper populations exceed the accepted action thresholds, insecticides provide the only effective means of controlling them. Many foliar insecticides used for other pests provide excellent control for potato leafhoppers. Refer to the University of Wisconsin-Extension publication *Commercial Vegetable Production in Wisconsin (A3422)* for recommended insecticides or contact your local county Extension agent.

Action threshold levels for vegetables			
Life stage	Seedling snap beans	Larger snap beans	Potatoes
Nymphs	1 every 10 leaves	1 every 10 leaves	2½ every 25 leaves
Adults	½ adult per sweep	1 adult per sweep	½-1 adult per sweep

When to scout for potato leafhopper						
	April			May		
	early	mid	late	early	mid	late
<b>Potatoes</b>						
<b>Beans</b>						

**Author:** K.A. Delahaut is an outreach specialist with the Integrated Pest Management Program at the University of Wisconsin-Madison and the University of Wisconsin-Extension, Cooperative Extension.

Thanks to Jeff Wyman and Phil Pellitteri for reviewing this information.

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