

Potato Leafhopper Control in Alfalfa

Each summer a small insect, known as potato leafhopper (PLH), infests alfalfa acres in some parts of the Midwest. Sometimes damage is severe and can easily be seen, other times it is minor and hardly noticeable. Injury is often associated with dry weather and strong southern jet streams as the insects typically blow into our region from the south. This small insect causes damage to alfalfa by piercing leaves or plant stems to feed on the sap. Leafhoppers turn alfalfa yellow and stunt growth. They especially hurt new seedlings.

Factors to Consider:

Potato leafhopper identification:

- Nymphs are wingless and yellowish-lime green
- Adults are about 1/8-inch-long with a wedge-shaped appearance and have translucent wings that are also yellowish-lime green
- Both adults and nymphs will move when disturbed



Figure 1: Adult and nymph potato leafhopper

Injury symptoms on alfalfa plants:

- Wedge or "V" shaped yellow area on leaflet tip - known as "hopperburn"
- Overall plant stunting
 - Smaller leaves, shorter internodes
- In severe cases, the majority of the plant is yellowed and stunted
- Decreased yield and lower quality

Timing of infestation:

- Generally, PLH do not infest first cutting alfalfa
- They come to the Midwest from the south and gulf states on prevailing winds
- Most often a problem on the 2nd to 4th cutting
- PLH does not overwinter in the Midwest



Figure 2: Size comparison between penny and PLH

Action Plan:

1. Be aware when PLH migrate into alfalfa fields (generally, late May and on).
2. Scout fields mid to late May for alfalfa weevil and PLH
3. Check fields at least weekly for leafhoppers before symptoms appear
 - Fields should be sampled when dry and in calm conditions
 - Scout alfalfa field using a sweep net
 - Walk a zig zag pattern making ten sweeps per location. Sweep vigorously through foliage, using a 180-degree motion for one sweep. Check 5 locations in each field
 - After the tenth sweep, quickly put the net in and cinch it closed with one hand. Slowly pull the net out and count the leafhoppers caught. Count both adults and nymphs
 - Once all locations have been sampled, calculate the number of leafhoppers per sweep
 - The recommendations vary with plant height in inches:
 - Under 3 inches = 0.2 potato leafhopper/sweep
 - 3 to 8 inches = 0.5 potato leafhopper/sweep
 - 8 to 12 inches = 1 potato leafhopper/sweep
 - 12+ inches = 2 potato leafhopper/sweep
4. Apply insecticide when threshold levels are reached (see above and reference material).
5. Cutting alfalfa causes winged PLH to move out of the field, so cut if mature enough.
6. Planting a PLH resistant variety dramatically reduces or eliminates the need to spray for this insect

Summary:

Severe injury from PLH can reduce yield, not only of the present crop, but it can carry over to the following crop. Time spent scouting and applying appropriate control measures will return increased yields and possibly better forage quality. Improved resistant varieties are available and insecticide treatments are quite effective. The likelihood of PLH developing resistance to an insecticide is very low because any surviving insects from a pesticide application will not survive the winter. The pest has to repopulate from southern geographies each year and are generally not the primary target of insect control in the south.

Resources

[Managing Potato Leafhopper in Alfalfa](#)

[Potato Leafhopper Damage to Alfalfa](#)

[Scouting for Potato Leafhoppers in Alfalfa](#)

Content Author:

John Squire, PhD | Forage Specialist | Legend Seeds