

# Potato Leafhopper Control

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as a sign of damage. The nymph or immature stage is light yellow and walks sideways.

According to a Penn State handout, feeding by the insects causes severe stunting of the plants and yellowing or reddening of the foliage. Leafhopper damage starts in wedge-shaped areas at the tip of the leaf.

The first cutting of alfalfa is not usually affected, but subsequent cuttings can be severely injured.

Typically the adults migrate up from the Gulf Coast on storm fronts, according to Hower. But some can overwinter — possibly even as far north as Maryland.

Hall noted that leafhopper damage can result in losses totalling 500 pounds per acre per cutting, in addition to reduced protein yield.

New biological control methods make use of glandular hairs on the alfalfa which prevent the leafhopper from feeding.

Hower spoke about the mor-

tality and entrapment of potato leafhopper nymphs, comparisons of leafhopper nymphs on resistant and susceptible alfalfa (with trichomes intact or removed), and eggs laid by the leafhopper in resistant and susceptible alfalfa with trichomes intact and removed.

Breeding for these traits is difficult, noted Hall. And producers should remember that even with 70 percent resistance, 30 percent have no resistance trait.

Hower said, "Could we achieve 100 percent resistance? I don't know if we can do that, if

we'll ever see that."

But if the producer doesn't want to spray, having resistant varieties are worth it, said Hower.

John Ayers, Penn State crop pathology specialist, said that conditions could be just right for stalk rot on corn.

Stalk rot, a major stress disease, is caused by early season sunshine and lots of moisture. But a sudden dry spell, a slight moisture deficit, after these conditions can set it off.

The nutrients travel to the kernels and weaken the plant.

Already Ayers has seen anthracnose stalk rot, corn rust, and northern corn leaf blight in fields.

David Wagner, Penn State precision ag specialist, spoke about the importance of learning spray calibration.

Spray drift liability is "becoming a big cost factor in your bottom line," he said.

Wagner said it could be too expensive, as a result of lawsuits and insurance coverage, to not place spray applications properly.

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## How Much is PLH Resistance Worth to You?

(assuming four production years after establishment year)

1. Will you spray for PLH if scouting indicates it is justified or if damage is visible?

- Yes - continue to question #2
- No - PLH resistance is worth additional costs

2. Do you determine when to spray based on scouting or when you see yellowing?

- Yellowing - proceed to question #3
- Scouting - proceed to question #4

3. How often do you see yellowing or does scouting indicate spraying is necessary?

Frequency	Value	(Alfalfa valued @ \$120/ton)
2 per 1 yr -	240	
1 per 1 yr -	120	
1 per 2 yr -	60	
1 per 3 yr -	40	
1 per 4 yr -	30	
1 per 5 yr -	20	
Never -	0	

4. Based on either scouting or yellowing, how often do you spray to control PLH?

Based on Scouting		Based on Yellowing	
Frequency	Value*	Frequency	Value*
2 per 1 yr -	130	2 per 1 yr -	100
1 per 1 yr -	80	1 per 1 yr -	50
1 per 2 yr -	55	1 per 2 yr -	25
1 per 3 yr -	46	1 per 3 yr -	16
1 per 4 yr -	43	1 per 4 yr -	13
1 per 5 yr -	40	1 per 5 yr -	10
Never -	30	Never -	0

\* value based \$5/acre/year scouting charge and \$10/acre for each spraying

5. Determine value of PLH resistance.

Value from question #3 \_\_\_\_\_ (only if you answered yellowing to question #2)

+ Value from question #4 \_\_\_\_\_

Value #5 \_\_\_\_\_

Value #5 / Seeding rate (lb/acre) = Value (\$/lb of seed) of PLH resistance trait on your farm.

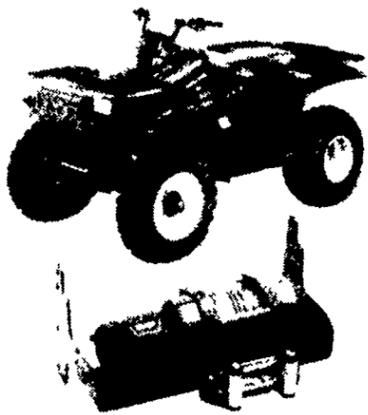


The offspring produced by the female leafhoppers, especially the last two weeks before harvest, are "really going to cause you trouble," noted Art Hower at the field day.

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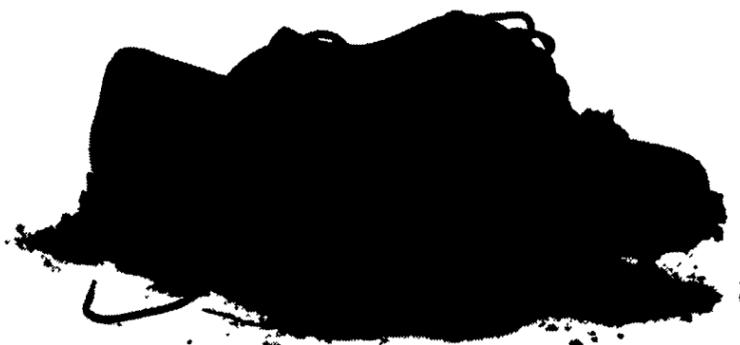
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