Potato Leafhopper Threshold Revised for Alfalfa Host Resistance and Alfalfa-Grass Mixtures

USDA-NIFA Alfalfa and Forage Research Program
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- **Symptoms**
  - **Hopperburn, Stunting**
- **Damage**
  - **Loss of yield, quality**
  - **Carry-over losses**
- **Physiological disruption**
  - **Translocation & Gas exchange**
  - **Root storage**
  - **Nitrogen fixation**

Action Thresholds for Potato Leafhopper:

Alfalfa Tolerance for Stress

Stand Height	Low	Normal	High
Inches	Action Threshold of PLH per 10 Sweeps		
6	3	6	9
8	4	8	12
10	5	10	15
12	6	12	18
14	7	14	21
16	8	16	24
18	9	18	27
20+	10	20	30

Low: Alfalfa under environment stress and very susceptible to PLH injury;

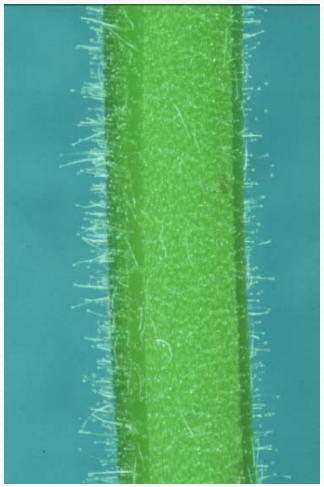
High: Alfalfa exhibiting vigorous growth and capable of tolerating some injury.

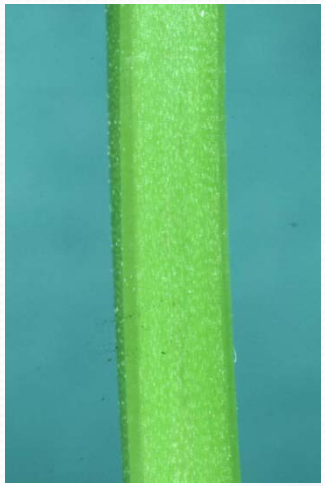
Potato Leafhopper Host Plant Resistance: Glandular-Haired Alfalfa vs Susceptible

Antibiosis

Antixenosis

Tolerance





Objectives

- Quantify economic loss associated with potato leafhopper in a susceptible cultivar, a resistant cultivar, and a grass-alfalfa mixture across three states.
- Examine the potential of potato leafhopper to impact nitrogen fixation of alfalfa under greenhouse and field conditions
- Develop economic threshold guidelines on potato leafhopper management and disseminate through extension outlets.