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NEW GLANDULAR-HAIRED ALFALFA CULTIVARS SHOW POTENTIAL TO REDUCE POTATO LEAFHOPPER INJURY

Larry W. Bledsoe and John L. Obermeyer
Dept. of Entomology, Purdue University

Potato leafhopper (PLH) is an often neglected insect pest that can stunt alfalfa growth and reduce nutrient quality. The potential damage caused by this small insect is difficult to detect until it is too late to prevent losses. Scouting and pest control options must be started before any obvious damage is apparent. Many forage growers are unaware of how much yield potential is lost to this pest year after year. Until now, proper timing of pest scouting and applications of appropriate insecticides were the only methods of assuring protection for high quality forage. A new method of managing potato leafhopper in alfalfa is now available that merges insect control with the physical characteristics of the plants themselves, greatly reducing, and many times eliminating, the need for chemical protection.

Alfalfa cultivars are now commercially available that have plant hairs with glands that ooze tiny droplets of a sticky material that trap and kill the adult and immature PLH. These tiny droplets may also affect the leafhoppers by reducing their rate of feeding and egg production. These glandular plant hairs do not negatively affect acceptance by livestock.

As with any new technology there are still problems to solve. The current number of cultivars with the PLH resistance is low compared to the number of conventional cultivars. This means that finding a tolerant variety that yields as well as conventional cultivars that are adapted to your growing conditions when PLH is low or absent may be difficult. But, preliminary field testing suggests that in the presence of moderate to high PLH numbers the currently available tolerant cultivars will produce similar or higher yields than conventional cultivars. Regardless of current limitations, this technology represents an exciting new approach to alfalfa pest management.

Scouting for PLH is still necessary. To assess leafhopper populations and the potential for damage, take at least 5 sets of 20 sweeps with a 15" diameter sweep net in representative areas of a field. Carefully examine the contents of the sweep net, count the number of adults and nymphs, and calculate the number of leafhoppers per sweep. Recent research at Iowa State University has shown that treatment thresholds for tolerant cultivars are nearly 10 times the number of PLH to traditional alfalfa, see below.

Management Thresholds for Potato Leafhopper

Average Number of Leafhoppers (Adults/ Nymphs) Per Sweep

<u>Stem Height (inches)</u>	<u>Traditional alfalfa</u>	<u>Tolerant alfalfa</u>
under 3	0.2	2.0
4-6	0.5	5.0
7-12	1.0	8.0
greater than 12	1.5	15.0