Pest e-alerts

Entomology and Plant Pathology, Oklahoma State University
127 Noble Research Center, Stillwater, OK74078
405.744.5527

Vol. 10, No. 2 http://entoplp.okstate.edu/Pddl/ **Mar 1, 2011**

Cowpea Aphids and Alfalfa Weevil Damage in Oklahoma Alfalfa

Phil Mulder, Extension Entomologist and Department Head
Kelly Seuhs, Extension Associate

Reports of cowpea aphids in alfalfa stands have been reported widespread across the state lately. In a year like 2011, monitoring for this pest may be important in seedling and established stands. Cowpea aphid populations as low as 1-2 per plant under these drought conditions can quickly thin a good stand. This tiny insect is relatively easy to scout for in alfalfa, since its appearance is quite unique. Of the four primary aphids occurring in Oklahoma alfalfa, this species is the only aphid that is smoky-gray (nymphs) to black (adults) in color. Pea aphids and blue alfalfa aphids are mostly green in color and spotted aphids are yellow with obvious dark spots. Generally, most cowpea aphids are wingless forms that are always female and reproduce asexually, giving birth to live young. Winged forms do exist but are produced under stressful conditions or when food is in short supply.

Mild, dry conditions typically favor problems with spotted alfalfa and cowpea aphid build-up. Cold weather does not necessarily deter populations of either species; therefore, these insects can remain significant pests throughout the winter months, but cowpea aphids typically come on strong when conditions begin to warm up slightly in the late winter or early spring. The effect of feeding by this insect can be detrimental to seedling and established stands. Individual plants which may already be stunted from lack of moisture and poor growing conditions can quickly take on a bushy appearance, begin to turn somewhat bluer in coloration, and succumb to the large numbers of cowpea aphids feeding on

the plants. They tend to feed in clusters on newly emerging leaves, blooms, and stems. They can also vector several important virus diseases, including alfalfa mosaic virus. They secrete large quantities of honeydew, which can result in the formation of sooty mold on the plant, further disrupting photosynthesis. While thresholds are similar to those used for pea aphid infestations, because heavy cowpea aphid populations generally occur when alfalfa is exposed to poor growing conditions, if these conditions persist, plants will take a longer time to rebound from the high aphid numbers.

Treatment considerations should be based on the number of aphids per stem. Most fall-planted alfalfa may be able to tolerate up to five aphids per stem; however, if plants are heavily stressed from lack of moisture and poor root establishment, treatment may be required immediately. On established alfalfa, that has 10 inches of growth, up to 50 aphids per stem can be sustained before treatment is needed. For taller alfalfa (> 19" in height) these infestation levels can be doubled before treatment is necessary. Unfortunately, the compounding factor this year, in addition to the aphid numbers, is the alfalfa growth and moisture situation. Much of our alfalfa across the state is 1-3inches in height and moisture has been rather limited. The only consolation has been relatively good parasitoid populations attacking the aphids. It remains a question of whether these parasitoid populations are adequate to keep such a heavy aphid population in check, particularly in light of the ensuing alfalfa weevil larval population that is increasing rapidly. If insecticide use becomes necessary, particularly in a dry year, then adequate coverage is a crucial issue. In these conditions, we recommend 3-5 gallons/acre by air or 15-20 gallons/acre by ground application methods. Cutting back on liquid when conditions are dry and winds are even moderate can result in poor control. We have seen this repeatedly in previous years when conditions were similar. In relation to chemical choices, Lorsban® continues to be the preferred choice for aphid control in alfalfa. Some of the newer pyrethroids (Proaxis®, Warrior®, Silencer®) will also do an effective job; however, certain chemicals within this group will not perform well on aphids. Although it may be slightly more expensive to use Lorsban, lower rates (1 pint/A) have shown excellent activity against this pest and these rates should be quite competitive with lower rates of any of the pyrethroids. If making applications by ground, remember to slow down to be certain that the liquid is reaching the plant surface. When dry conditions persist for a long period of time, as they have this past winter, soil particles in the air can create problems with atmospheric tie- up of chemicals. Driving ground equipment quickly over dry, dusty fields can further compound this problem. This makes coverage with adequate liquids an even bigger issue for controlling pest problems. Bottom line, slow down the first time and increase the gallonage applied per acre and maybe there will not have to be a second time.

Based on scouting reports from southwest and south central Oklahoma it appears that weevil populations are still low 12-15 per 30 stems; however, cowpea aphid numbers have been recovered at more than 150 aphids per stem. Even with 10% parasitism, these

populations are too extreme and control should be strongly considered. Small plants (1 ½ inches in height), inadequate moisture, and high numbers of aphids have already created signs of stunting, shriveling and curling of leaf terminals. In addition, weevil numbers of this magnitude, while appearing to be relatively light, constitute a significant threat to very short alfalfa growth. Growers attempting to make one application for weevils and aphids might consider a tank mix of Warrior or Silencer in combination with Lorsban. Because alfalfa weevil larvae are still small and protected within plant terminals, a second application may be required before first harvest. Please note that I said "maybe". If weevil populations resemble those of last year, when numbers were relatively light, a second application may not be needed for weevils. Thorough scouting on each field will be the best means of determining the status of pests and the decisions to be made.

Dr. Richard Grantham
Director, Plant Disease and Insect Diagnostic Laboratory

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Robert E. Whitson, Director of Oklahoma Cooperative Extension Service, Oklahoma State University, Stillwater, Oklahoma. This publication is printed and issued by Oklahoma State University as authorized by the Vice President, Dean, and Director of the Division of Agricultural Sciences and Natural.