Pest e-alerts

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Cowpea Aphid and Alfalfa Weevil Update in Oklahoma Alfalfa

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While scouting alfalfa fields in the Southern part of the state, I have observed various levels of cowpea aphid occurrence. Though not wide spread in most fields as of yet, some plants are showing signs of increased pressure with more than 100/stem. As temperatures continue to climb in the coming days conditions for a sustained increase in population may develop.

Cowpea aphid populations as low as 1-2 per plant on fall seeded stands, under drought stress 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 Aphid and blue alfalfa aphid 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 supply is shortened.

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 throughout 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 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 color, 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 longer to rebound from the high 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. Unfortunately, the compounding factor this year, in addition to aphid numbers, may be the alfalfa growth and moisture situation. Similar to the conditions we saw last season at this time, most of the alfalfa around the state is 1-4 inches in height and moisture has been limited. Recent rains may initiate the growing process and help in some areas, while continued drought continues in others. In past years, the only consolation has been relatively high parasitoid populations attacking aphids. It remains a question this year whether these parasitoid numbers will be adequate to keep this year's population in check, particularly in light of the ensuing alfalfa weevil larval population that will normally be on the rise soon. If insecticide use becomes necessary, especially in a dry year, then adequate coverage is crucial. In these conditions, we recommend 3-5 gal/acre by air or 15-20 gal/acre by ground application methods. Cutting back on liquid when conditions are dry and/or windy 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 pyrethroids (Proaxis, Warrior, Silencer, Baythroid) will do an effective job; however, certain chemicals within this group will not perform as well on aphids. Although it may be slightly more expensive to use Lorsban, lower rates (1 pint/A) have shown to have excellent activity against this pest and these rates should be competitive with labeled rates of many 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, heavy field dust can create problems with atmospheric tie-up of chemicals. By slowing down and increasing gallonage applied per acre during the initial application, hopefully the need for a second application can be reduced.

Alfalfa Weevil:

Degree day numbers are approaching 400 in the Southern part of the state. However, based on scouting from the Garvin and Grady county areas, it appears that weevil populations are relatively low so far (3-5/30 stems) with all being first instar. These lower larval numbers coincide with the low egg counts we observed earlier in the season; however, as stated above, cowpea aphid numbers have been observed at higher levels in some areas. Small plants, less than 3 inches tall may already be showing signs of stunting, shriveling, and curling of leaf terminals. Even with 10% parasitism, if populations are too high control measures should be considered. In addition, weevil numbers, even if appearing low, can create a significant threat to short alfalfa growth. Growers attempting to make management decisions based on weevil and aphid populations might consider a tank mix of some type of pyrethroid in combination with Lorsban. If alfalfa weevil larvae are small and protected within plant terminals, a second application may be required before harvest. If weevil numbers remain relatively light, a second application may NOT be needed for weevil. Thorough scouting on each field will be the best means of determining the status and the decisions to be made.

One quick note: While scouting for weevil and aphids we are also looking for army cutworm activity which can be seen this time of year. So far, no activity has been observed or reported.