

Alfalfa Cowpea Aphid

We have received reports of black aphids on alfalfa fields in the Tipton area. After checking with Don Arnold, our insect identification expert at Stillwater, it was identified as the cowpea aphid. This aphid was first found in Oklahoma in 2003 and has been present since.

Cowpea aphid is readily distinguishable from other aphids inhabiting alfalfa because it is the only black aphid found infesting the crop. It is a relatively small aphid and the adult is usually shiny black while the nymph is slate gray. The appendages are usually whitish with blackish tips.

Figure 1 – Cowpea Aphid are shown on alfalfa terminal growth below:





Cowpea aphid was found on alfalfa in Oklahoma in 2003. It has been a resident in Arizona and California for several years prior. Populations are sporadic although they first appear in the spring and can reach levels requiring treatment in the spring, but damage can occur at other times during the growing season.

This aphid has an extensive host range. In addition to alfalfa, it infests many other legumes and cotton, as well as shepherd's-purse, lambsquarters, lettuce, pepperweed, Polygonum sp., and Rumex sp.

DAMAGE

Cowpea aphid injects a powerful toxin into the plant while feeding and, when populations are large they can stunt or kill plants. While feeding, this aphid produces a considerable amount of honeydew upon which sooty mold grows. The black sooty mold reduces photosynthesis and may make leaves unpalatable to livestock. The honeydew also makes the alfalfa sticky, which causes problems with harvest. Aphid infestations in a field are typically patchy, especially an early infestation. Stems on alfalfa plants in infested areas are often completely covered with aphids whereas plants in other areas of the field may appear aphid-free. Because of the spotty distribution of cowpea aphid infestations, spot treatments may be feasible, especially if the infestation is on the field border.

On dormant alfalfa, pay close attention to plants as they begin breaking dormancy. If shoots fail to grow normally and cowpea aphid is present, consider control measures.

MONITOR FIELDS

Start to monitor fields in February for cowpea aphid and continue to monitor this aphid through fall at which time monitoring can be combined with that of blue alfalfa and pea aphid. During summer months, monitoring of cowpea aphid can be combined with that of spotted alfalfa aphids.

For stem/seedling plant sampling, a sample of 30 stems should be collected at random in each 10-20 acre area and aphids shaken into a container for counting. Divide aphid numbers of each species by 30 to calculate the average number/stem. Estimate plant height, and refer to table 2-3 for treatment guidelines.

ECONOMIC THRESHOLD

Dr. Berberet and his staff have provided the following table of economic thresholds for aphids in alfalfa.

Table 1. Economic Thresholds for Aphids on Alfalfa at Varied Growth Stages								
Alfalfa growth stage	Cowpea aphids per		Pea aphid per		Blue aphid per		Spotted aphid per	
	sweep*	stem**	sweep	stem	sweep	stem	sweep	stem
Seedling	--	5	--	5	--	1	--	1
<10" tall	300	40	300	40	100	10	100	10
>10" tall	400	75	400	75	200	30	200	30
*Number of aphids/sweep. **Number of aphids/stem.								

Since the cowpea aphid is new in Oklahoma the standard aphid control products are suggested for their control. Consult with your local County Agricultural Agent for control suggestions and products approved for aphid control on alfalfa.

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