

Far West Texas Alfalfa Insects Update

Mark Muegge, PhD, District VI Extension Entomologist,
Texas Cooperative Extension

Pea and Cowpea Aphids on the Increase in Pecos County Alfalfa

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Aphid populations are on the rise in Pecos county alfalfa. Dry, mild weather patterns have likely contributed to the rise in pea and cowpea aphids in alfalfa. Cooler wetter weather is predicted for the next few days which may help keep these aphid pest under control.

Several species of aphids occur in alfalfa that can result in economic loss in alfalfa. The most common of these are the pea, spotted, blue, and more recently cowpea aphids. Knowing what species you have is important because treatment thresholds differ among aphid species.

Alfalfa Aphid Identification

Pea aphids are generally the most common aphids in West Texas alfalfa. Adults can be winged or wingless,



Pea Aphids along an older alfalfa stem

about 1/8 in long, and light green. The Cowpea aphid has only recently be-



Dark bands on antennae of Pea Aphid

come an alfalfa pest in Texas. Cowpea aphids are easily distinguished from other aphid species by the dark blue-black color. The Blue alfalfa aphid is



Cowpea Aphids on terminal of alfalfa stem

Special points of interest:

- Seedling alfalfa is particularly susceptible to aphid infestations.
- Treatment Thresholds differ depending on species present and age of plant.
- Sampling for alfalfa aphids
- Suggested insecticides for alfalfa aphid control
- Consider lady beetle abundance before management decision

Inside this issue:

- Pea and Cowpea aphids on the Rise 1
- Alfalfa aphid identification 1-2
- Alfalfa aphid biology, feeding symptoms. 2-3
- Sampling and Table of Treatment Thresholds 2-3
- Recognizing Beneficial Arthropods 3
- Table of labeled insecticides 4

Alfalfa aphids Cont.

similar in size and color to pea aphid, but can be distinguished by looking at the antennae of the two species. Pea aphids possess light green antennae with a dark band at each segment. The antennae of blue alfalfa aphids are light tan near the head and gradually becoming darker away from the head.

Spotted alfalfa aphids tolerate higher temperatures than the other aphids. Thus, this species generally is a pest in fall and late spring alfalfa. Spotted alfalfa aphids are easily identified by their light tan color and 4-6 rows of dark spots.

Alfalfa Aphid Biology

Pea aphids: In spring and summer all aphids are female, and each gives birth to 50 to 100 young over a 10- to 12-day period. Up to 20 generations may occur per year. When not held in check by weather, predators, parasites or diseases, pea aphid populations can increase dramatically. Pea aphids generally cause the greatest amount of damage in the spring. Pea aphids prefer to congregate in dense colonies along the stems, terminal shoots and leaves. Heavy infestations cause plants to wilt and yellow. Honeydew is usually not abundant on infested plants.

Spotted Alfalfa Aphid: This aphid is usually found on the undersides of the lower leaves. However, as

the population increases, aphids can be found on all parts of the plant. Spotted alfalfa aphids secrete abundant honeydew. As with pea aphids, spotted alfalfa aphids are all female. Each female produces 100 offspring, and up to 20 generations may be produced per year. The spotted alfalfa aphid causes a toxic reaction in plants as it feeds. This reaction results in plant injury and even death of seedling alfalfa. On established stands, growth is severely stunted and yellow or chlorotic areas appear on the leaves. Veins of newly formed leaves often become discolored, a symptom known as “veinbanding.”

Blue Alfalfa Aphid: This aphid generally congregates in clusters on the terminal growth. Blue alfalfa aphid populations tend to build up in the early spring, but decline when temperatures exceed 85 degrees F. Severe stunting of plants and deformation of leaves may result from blue aphid feeding on new alfalfa regrowth less than 6 inches tall and when temperatures are below 75 degrees F. Leaf yellowing occurs as plants die.

Cowpea Aphid: Although commonly found infesting Texas alfalfa, this species generally does not cause economic damage. Under favorable conditions, however, cowpea aphid populations can increase sig-

Table 1. Economic Thresholds for Aphids on Alfalfa at Different Growth Stages

| Alfalfa growth | 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 |

*Average number of aphids/sweep.

**Average number of aphids/stem.

nificantly, resulting in economic loss. This occurs most commonly when alfalfa is dormant. When al-



Cowpea aphids causing deformation of alfalfa terminal. Note abundant honeydew.

alfalfa breaks dormancy, heavily infested plants fail to grow and occasionally will wilt and die. As with spotted alfalfa aphids, this species produces a considerable amount of honeydew, which impairs cutting and baling and reduces hay quality.

Sampling for Alfalfa Aphids

Weekly samples for alfalfa aphids should begin when aphids most likely to be abundant. In West Texas this generally occurs in late winter through spring. Once temperatures are consistently 90 degrees or higher, then aphids seldom cause problems. Once aphids are near damaging levels sampling should be conducted at least twice per week and every two days for seedling alfalfa. Sampling can be conducted by selecting 5-6 locations across the field. At each location collect 6 alfalfa stems, one from each of 6 randomly selected plants. Shake the stems into a pan or shallow bucket then count the number of aphids. Stems should be cut at or near the base of the plant. Most aphids tend to drop from the plant when disturbed so care should be taken when removing stems from the plant.

Alfalfa Aphid Treatment Thresholds

Remember that seedling alfalfa is especially sensitive to aphid pressure, and treatment thresholds can be reached quickly. Thus, seedling alfalfa should be

checked more frequently during peak aphid activity. Pea aphids and cowpea aphid are less damaging to alfalfa than the blue and spotted alfalfa aphids. Refer to Table 1 for Treatment Thresholds

Beneficial Arthropods

Remember not to underestimate the importance of beneficial arthropods for control of alfalfa aphids. A



Lady Beetle Larvae..



Lady Beetle Adult.

number of different natural enemies of alfalfa aphids can be present in alfalfa at any one time. Most, however, are not easily seen. Lady Beetles are generally the most prevalent aphid predators in alfalfa and are easy to see and identify. Thus, when sampling for aphids, sample for lady beetles. Treatment may not be necessary if aphid populations are below treat-

ment thresholds and the ratio of adult lady beetles to aphids is 1 to 5, or a ratio of 3 lady beetle larvae to 40 aphids

Insecticides Labeled for alfalfa Aphid Control

| Insecticides | Insecticide Class | Formulated Amount/Acre | Precaution Status | Harvest /Grazing Interval (Days) | Honey Bee Hazard |
|--------------------------------------------------------------------|----------------------|--------------------------|------------------------|----------------------------------|------------------|
| carbofuran (Furadan 4F) | Organophosphate | 1/2-2 pt | Danger See remarks | 7-28/7-28 | High |
| dimethoate (Dimethoate 4lb) (Dimethoate 2.67lbs) | Organophosphate | 1/2-1 pt 3/4-1 1/2 pt | Danger See remarks | 10/10 | High |
| lambda-cyhalothrin (Warrior) | Synthetic Pyrethroid | 2.56-3.84 oz | Warning | 1/7 | High |
| malathion (Malathion 5EC) (Malathion 8EC) | Carbamate | 1-2 pt 1-2 pt | Warning | 0/0 0/7 | High |
| methomyl (Lannate® SP) (Lannate® LV) | Carbamate | 1/2-1 lb 1 1/2-3 pt | Danger | 0/7 0/7 | High |
| methyl parathion (Methyl parathion 4E) (Declare® 4lb) | Organophosphate | 1/2-1 pt 1/2-1 pt | Danger | 15/15 15/15 | High |
| parathion (Parathion 8EC) | Organophosphate | 1/4-1/2 pt | Danger | 15/15 | High |
| permethrin (Ambush®) (Pounce® 3.2EC) | Synthetic Pyrethroid | 3.2-12.8 oz 2-8 oz | Caution See remarks | 0-14/na | High |

Remarks

carbofuran: Harvest and grazing intervals are rate-dependent. Rates of 1/2, 1 and 2 pints per acre require 7, 14 and 28 day harvest and grazing intervals respectively.

dimethoate: Make only one application per cutting. Do not apply if the crop or weeds in treatment area are in bloom.

permethrin: Do not apply more than 12.8 oz of Ambush or 8 oz of Pounce per acre per cutting. When alfalfa is in bloom, spray Only in early morning or late evening to avoid bee-kill. A 0 day harvest interval exists for Ambush and Pounce when applied at rates up to 6.4 and 4 oz/acre, respectively. Higher rates require a 14 day harvest interval.