

Insect Pests of Desert-Grown Alfalfa: Alfalfa Aphid Complex

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In Arizona alfalfa, pea aphid (*Acyrtosiphon pisum*), blue alfalfa aphid (*Acyrtosiphon kondoi*), spotted alfalfa aphid (*Therioaphis maculata*), and cowpea aphid (*Aphis craccivora*) make up a winter aphid complex. All species cause similar damage, but **spotted alfalfa aphid and blue alfalfa aphids are the most damaging in our system.**

Pea aphids and blue alfalfa aphids are about $\frac{1}{8}$ inch long with greenish bodies. They can be distinguished from one another by their antennae and feeding behavior. Pea aphids have dark narrow bands at the tip of each antennal segment (Fig. A); blue alfalfa aphids have dark brown antennae that gradually darken from the base to the tip (Fig. B). Pea aphids feed on the entire plant while blue alfalfa aphids feed mainly on terminal leaves and young shoots. The spotted alfalfa aphid is $\frac{1}{8}$ inch long and yellowish gray with several rows of tiny black spots on its back (Fig. C). It prefers to feed on the undersides of leaves and lower sections of the plant. The cowpea aphid is the only black aphid found in alfalfa (Fig. D). Adult aphids may be winged or wingless. Immatures are always wingless and are smaller. It is more difficult to distinguish immatures based on the characters above, so look for adults in the colony to identify the species.

Aphids damage crops by siphoning phloem (sap) from plants. Yellowing and leaf curling are the most common damage (Fig. G). Spotted alfalfa aphid and cowpea aphid inject toxins as they feed; this results in stunted plants with short internodes and yellowed, deformed leaves. Heavy aphid infestations can cause plant death in susceptible varieties. Aphids produce sugary honeydew that promotes growth of sooty molds. Sooty molds reduce plant vigor by blocking photosynthesis and decrease palatability to livestock.

Aphids produce live young (not from eggs) and can reproduce sexually or asexually. Asexual reproduction results in all female offspring. Also, aphids have telescoping generations, which means that the young, even when inside the mother, may have young of their own developing within. Because of this, aphid populations can skyrocket over short periods of time, making biweekly sampling important.

Also See:

Ellsworth, P.C. and K. Rice. 2010. *Invertebrates: Insects & Mites Management on Alfalfa*. In: Fournier, A., J. Peterson & J. Reding (Eds.) *Arizona Pest Control Advisor Study Manual*. The Arizona Crop Protection Association.

Integrated Pest Management for Alfalfa Hay. UC Statewide IPM Project. The Regents of the University of California. Publication 4104. 1981. http://www.ipm.ucdavis.edu/IPMPROJECT/ADS/manual_alfalfahay.html



PDF available on-line at:

<http://ag.arizona.edu/crops/cotton/files/AlfalfaAphidDiagnostics.pdf>

