

PLS 15: Pest Management Lab

Pest Descriptions and Recommended Monitoring Protocol

Crop: Wheat (*Triticum aestivum* (and relatives) [planted 11/16/08]

Main Pest: Bird Cherry-Oat Aphid (*Rhopalosiphum padi*): Bird cherry-oat aphids range in color from orange green to olive green to dark olive green, and sometimes greenish black. They are about 1 to 2 millimeters in length and have long antennae and long tube-shaped cornicles arising from the side of the abdomen near the rear end. Wingless forms frequently have a reddish orange patch around the base of the cornicles. The bird cherry-oat aphid is most easily confused with the corn leaf aphid but the former has a rounded, bulblike body shape while the latter appears almost rectangular. They typically colonize the underside of lower leaves first, then move to upper leaves and stems later in the season.



Figure 1: Bird Cherry-Oat Aphid

Other Pest: Other aphids: Several aphid species may be found on small grain crops in California. Among them are English Grain Aphid, Greenbug, Rose Grass Aphid, Corn Leaf Aphid, and Russian Wheat Aphid. Aphids are small insects that are typically about 1-2 millimeters in length and can range in coloration from light green to purplish. Many have pear-shaped bodies with long legs and antennae. Some species also have a pair of tube-like structures called cornicles that project backward from the rear end of the insect. Adults may be present in both winged and wingless forms. Aphids generally colonize new green growth on the plant first, but will migrate toward older vegetative growth and into grain heads as the season progresses.



Recommended Monitoring Protocol: Once a week, randomly select 7 tillers to inspect for aphid presence. (A tiller is essentially an individual stem that arises from the base of the plant.) Count and record the total number of aphids on each tiller sampled. Be sure look in protected hiding places in the roll of the leaves, etc. Try to distinguish the Bird Cherry-Oat aphids from all other aphids and record their numbers separately. If the number of aphids present is too high to count (over 100 per plant), simply provide an estimate of their population per sample.

PLS 15: Pest Management Lab Natural Enemies Identification

As discussed in lecture, natural enemies are insects that either prey upon or parasitize other insect pests. Though their presence depends on a number of variables (crop, season, pest population, farming practices, location, etc.), some of the most commonly found natural enemies are shown below to help you identify them in the field.

Lady Beetles



Green Lacewings



Tachinid Flies



Syrphid Flies/Hover Flies and larvae



Assassin Bugs



Parasitic Wasps (and parasitized aphids)

