FIELD OF FACTS

Scout Fields for Aphids/Disease

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While early indications of aphid pressure in area wheat, triticale, and now oats were encouraging due to low or non-existent numbers, it appears that certain aphid species are now being spotted in our small grain fields. One such aphid is the Bird Cherry-Oat Aphid (Fig. 1). This species may not be as familiar to producers as the other aphid pests such as the greenbug or Russian wheat aphid. In our area, the bird cherry-oat aphid causes little economic damage from direct feeding on the small grains; however, the aphid is one of the best vectors of Barley Yellow Dwarf Virus (BYDV), a potentially harmful disease. Bird cherry-oat aphid is somewhat pear-shaped and varies in color and ranges from olive green to almost black. In some cases, orange or red coloration can be found around the cornicles on the hind end of the aphid. Heavy infestations can cause plants to become sticky with a liquid waste known as honeydew. Greenbugs can also vector the BYDV disease. Barley yellow dwarf is always present to some degree, but was extensive in the region in 2010. Severity of the disease is contingent upon when the plants are infected. Earlier, fall infections are much more detrimental than those occurring in spring. Inspection of fields this year has indicated that infection may already be present (symptoms appearing on small wheat/triticale; Fig. 2), implying infection this past fall or winter. Plants can be infected within a matter of hours of feeding by aphids. Disease symptoms appear as yellowing and purpling of leaf tips primarily (Fig. 3 & 4), and plants in general will be stunted in growth. Forage yields and quality of severely damaged plants can be affected due to desiccation and death of leaves. Little information is available on the impact to grain production of small grains infected with BYDV in the region.

While there are several insecticides labeled for aphids, once they have infected plants, there is no remedy for the disease. So it is imperative to scout fields frequently in order to stay ahead of aphid population increases and spread throughout the field. Foliar treatments may not be necessary if high numbers of beneficial insects are present, such as lady beetles and parasitic wasps. Aphid populations can develop faster than beneficiais, especially in cooler weather. Unfortunately, disease can be widespread even if economic thresholds of aphids are not met. Proper irrigation and fertilizer management is critical and maintaining plants in as healthy a state as possible will go a long way toward minimizing the effects of the disease.

Things to consider for next year:

Prevention is the best control method for these aphids. Early infestations can be reduced by delaying planting until later in the fall. Incidence and severity of disease is greater with earlier plantings. Also, destruction of volunteer wheat and weeds (e.g., grasses) near fields to be planted with small grains will help reduce potential bridging from one wheat crop to the next.
Some seed treatments (e.g., imidacloprid) can be effective against aphids early in the growing season; however, effectiveness is greatly reduced in the spring.

Figure 1. Bird cherry-oat aphid. Source: UC IPM

Figure 2. Early symptoms of BYDV purpling of leaf tips in triticale at NMSU Agric. Sci. Center at Clovis.

Figure 3. Barley yellow dwarf virus in oats near Clovis, NM.

Figure 4. Barley yellow dwarf virus characteristic symptoms of yellowing and purpling of leaf tips.

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