Pest e-alerts

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Wheat Disease Update – 09-November-2018

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I have been surprised at the lack of wheat leaf rust during fall 2018 as conditions in Oklahoma (mild temperature and lots of moisture) seemed favorable to me for this foliar disease to occur. A lower number of early planted wheat acres is about the only thing to which I'm able to attribute the lack of fall leaf rust. Yellowing of wheat leaves observed over the last several weeks was attributable to cold, wet soils coupled with nitrogen leaching to lower in the soil. However, over the last two weeks or so, wheat leaf rust has made its appearance in the Southern Great Plains. The first report I received came from Dr. Charlie Rush, a wheat researcher located in the Texas panhandle. Dr. Rush indicated to me, "We are seeing a lot of leaf rust throughout the panhandle, especially in early planted wheat." This was shortly followed by a report (https://webapp.agron.ksu.edu/agr_social/eu_article.throck?article_id=2026) indicating leaf rust is building in central and western Kansas. That caused me to look harder around Stillwater, with the result being the finding of leaf rust pustules on the lower leaves of 'Jagalene' border rows in Dr. Carver's dual purpose observation nursery (Figure 1). The Diagnostic Lab also received a sample this week of wheat with lower yellow leaves with many developed and developing leaf rust pustules, and I also have had reports of leaf rust in western OK (Blaine County). HOWEVER, don't think that every field observed with yellowing is the result of leaf rust as the cold, wet soils and nitrogen leaching have also caused this extensively in Oklahoma this fall.

Figure 1: Wheat foliage ('Jagalene') showing a susceptible reaction to leaf rust. These are older leaves down low in the canopy of early plant wheat

Leaf rust in the fall typically brings up the question of spraying to control this infection. I am not a proponent of spraying in the fall to control leaf rust because leaf rust development slows significantly once we get to winter temperatures in late November-January (basically <60 F) with freezing temperatures at night. Typically over the winter, the lower/older leaves with leaf rust pustules die-out with cold temperature, with the emerging leaves missing infection and are green and healthy. Grazing helps to remove leaf rust infections, is not harmful to cattle, and also "opens" the canopy so there is increased air circulation and drying that are less favorable to development of leaf rust. Given these considerations, spraying to control leaf rust in the fall usually is not recommended. The primary concern with fall leaf rust is that with a mild winter and sufficient moisture, the rust will survive through the winter and inoculum will be present in fields to start the disease early in the spring. Hence, monitoring of fields through the late winter and early next spring is recommended to see if application of a fungicide to control rust is indicated in the early spring.

Disease and Insect Diagnostic Laboratory

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