

Wheat Disease Update – 24 May 2019
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This past week across Oklahoma was dominated by rain and flooding, which has hindered the maturation of the wheat crop and continued to promote wheat diseases. Gary Strickland (Extn Educator; Jackson Cnty) indicated to me at mid-week that wheat in SW OK is mostly in the soft to medium dough range. He is still seeing foliar diseases including the rusts (primarily leaf rust) and Septoria/Stagonospora leaf spots, but green leaf tissue to support these diseases is quickly disappearing. An additional disease he has noticed is *Fusarium* (dryland) root rot, which is indicated by white heads in the field (Figure 1). Upon examining the base of tillers of plants with white heads, darkened stem bases are observed that typically have a pinkish colored fungal growth indicative of the fungus *Fusarium* (Figure 2).

Figure 1. *Fusarium* (dryland) root rot. Upper photo shows white heads associated with root rots, including *Fusarium* (dryland root rot).



Figure 2. Tillers from plants affected by *Fusarium* (dryland) root rot. Photo to the left shows the base of a healthy tiller (top tiller), and two tillers (middle and bottom tillers) infected with *Fusarium*. The middle and bottom tillers had white heads. Note the pinkish discoloration on the sheaths of the tiller in the middle while the bottom tiller with the sheaths removed shows a darkened stem. The photo on the

right (photo credit: Dr. Bob Bowden; USDA-ARS, Manhattan, KS) is of a Fusarium-infected tiller that has been split to reveal the inside of the stem. Note the pinkish fungal growth throughout the hollow center of the stem (called the stem lumen).



Moving north and west across Oklahoma, Josh Bushong (NW OK Area Extn Agronomy Spclt) indicated that most of the wheat he has seen is approaching or in the dough stage (except for the panhandle). Over the last week, he has observed a big increase in the incidence and severity of rust, especially leaf rust. In particular, wheat around the Greenfield area (just south of Watonga in Blaine County) had severe leaf rust. Josh also has observed stripe rust, leaf spotting diseases and powdery mildew, but leaf rust is the most prevalent. These observations were confirmed by Dr. Brett Carver (OSU Professor/Wheat Breeder), who has indicated leaf rust was the primary foliar disease he found at nurseries in Lahoma.

To summarize, virus diseases including the mite-transmitted virus diseases (for example, wheat streak mosaic) and barley yellow dwarf are quite sparse this year. Foliar diseases continue to be present in wheat across Oklahoma, but the opportunity to spray to help manage foliar disease likely has passed except perhaps in the OK panhandle. Finally, Fusarium (dryland) root rot has appeared across southwestern OK, and likely will appear across central and northern OK as the season progresses. However, the primary need right now is for warmer and dry weather to allow the 2019 crop to finish off and be harvested.

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