

Wheat Disease Update – 23 April 2021
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Just a brief update to relay that stripe rust continues to increase across Oklahoma. Bryan Vincent (Crop Consultant; north-central OK) reported severe stripe rust in “hot spots” on an unknown variety just north of Lamont, OK (Grant County) close to the Kansas border (Figure 1; left photo). In Major County, which is immediately south of Grant County, Josh Coltrain (Winter Wheat Technical Development Lead, Syngenta) reported he had, “found quite high incidence of stripe rust” in Syngenta’s plots near Carrier, OK. Here around Stillwater, I have observed severe stripe rust in spreader strips of the susceptible variety Pete. These infections stood out because of resistant breeder lines planted immediately adjacent to the strips of Pete (Figure 1; center photo and photo to the right).

Figure 1. Severe stripe rust in a susceptible variety (Pete) planted next to resistant breeder lines in a nursery at Stillwater, OK (photo on the left). The photo on the right shows the severity of stripe rust pustules on an individual leaf of Pete.



However, the most striking example I have seen of stripe rust in some time was observed by Jeff Wright (Coordinator of Production Operations; OFSS; Oklahoma State University) in an increase field of the old variety Triumph 64 near Perkins (about 15 miles south of Stillwater). As you can see in Figure 2 (two top photos), much of the entire field (9 acres) appears yellowish. Examination of leaves reveals severe stripe rust infection associated with yellowing of the leaf (middle photo). The bottom photo in Figure 2 is of Jeff’s tractor after applying a fungicide. Although the fungicide should protect the green leaves remaining in the field, much of the leaf tissue will be killed from the stripe rust infection. This is

a good example of the importance of applying a fungicide to a susceptible variety sufficiently early to prevent such widespread infection. What and how such a big and uniform infection occurred is puzzling to me, but I suspect that is related to overwintering of the stripe rust fungus in the field.

Figure 2. Severe leaf rust on Triumph 64 wheat near Perkins, OK (about 20 miles south of Stillwater, OK). Top two photos show the yellowish cast to the foliage. The middle photo shows stripe rust pustules associated with severe chlorosis (yellowing) of the foliage. The bottom photo shows Jeff's tractor after applying a fungicide spray two days ago.



In other wheat around Stillwater, there continues to be a high incidence and severity of powdery mildew. Barley yellow dwarf also is easily found in many trials and varieties. Dr. Tom Royer has sent out an alert about finding English grain aphids around the state. These aphids also were observed by Bryan Vincent in north-central OK and by me here around Stillwater.

Finally, the wheat field days start next week, so observations from those locations will start to appear in subsequent updates. A complete schedule of those field days can be viewed at: <http://wheat.okstate.edu/virtual-plot-tour/2021OSUWheatFieldTours.pdf>

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