Plant Disease and Insect Advisory

Entomology and Plant Pathology
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Wheat Disease Update

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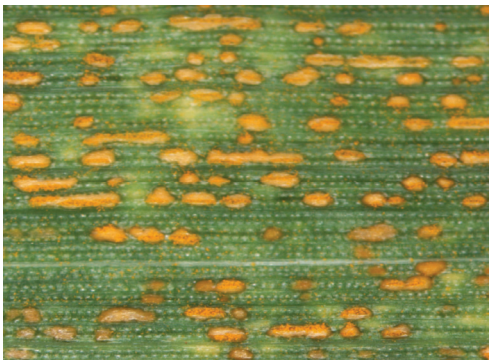
On April 29th I was at field days in northern Oklahoma (Billings and Alva), and on May 1st I was at field days near El Reno and Apache in central Oklahoma. Overall, wheat looked good but the need for moisture was becoming apparent (especially in northern Oklahoma around Cherokee and Alva). Wheat ranged from the "half-berry stage around Apache to just starting to flower in the north.

Diseases were sparse, with barley yellow dwarf virus the most common, although this seemed to vary from field to field depending on planting date. Early planted fields showed the most symptoms. Pustules of leaf rust were found at all locations, but these were relatively sparse (especially in northern OK). Powdery mildew was more commonly observed, and in a few fields (one near Apache and the variety trial near Cherokee), pustules of powdery mildew were in the 25-40% range on the F-1 and F-2 leaves.

During last week, OSU wheat breeder Dr. Brett Carver found two significant "hot spots" of stripe rust. Both of these were in his breeder lines planted on the Lahoma and Stillwater stations. These infections were as bad as anything we saw in 2001, 2003, and 2005, but appeared to be limited to a relatively small area of each of these stations.



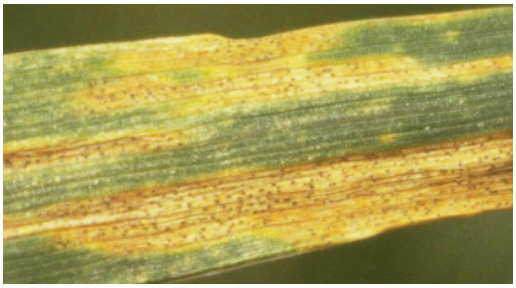
In the Plant Disease and Insect Diagnostic Lab, Jen Dominiak-Olson (Plant Disease Diagnostician) reported a wheat sample from near Alva that tested positive for barley yellow dwarf virus, wheat streak mosaic virus, and Triticum mosaic virus.

I also received this update on April 29th from Rick Kochenower [Area Research & Extension Specialist (Agronomy), Northwest OK]: "Just thought I would let you know that the wheat streak and high plains virus has started showing up in the last couple of days."

Updates from other states:

Arkansas; May 02 **(Dr. Gene Milus, Wheat Pathologist, Univ. of Arkansas, Fayetteville):** I surveyed about 25 commercial fields in the east-central portion of Arkansas and plots at Stuttgart. Most of the wheat was flowering to post-flowering, but a few fields were still in boot stage. Wheat is in very good to excellent condition south of I-40 but begins to go downhill quickly north of I-40. The latest stats are that 970,000 acres were planted and that about 100,000 have been lost to flooding in northeast Arkansas.

Night temperatures in this region have been in the mid 60s, and stripe rust appears to be done for the season here. A few very tiny leaf rust pustules were found, but leaf rust was close to nonexistent. There was not enough stripe or leaf rust for a collection.

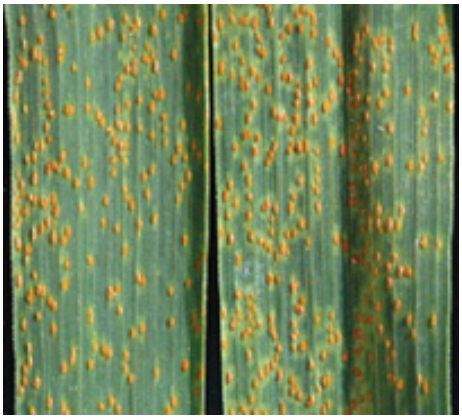


Septoria leaf blotch was the most common disease, and several fields have been sprayed specifically for leaf blotch. BYD was moderate to severe in a few fields. Downy mildew was severe across large portions of several fields that had gone under water earlier. Bacterial streak seems to be making a comeback.

Texas; May 02nd **(Ravindra Devkota, Assistant Research Scientist, Texas A&M, Amarillo, TX):** From April 20-26, we were at Castroville, Texas to take notes on various wheat trials and nurseries planted in 18 acres this year. The Winter Wheat Breeders' field day this year was also held at Castroville on April 22, 2008 and hence, the participants had an opportunity to look closely and take notes on the nurseries and yield trials of their interest. The leaf rust, in general, was heavy and wide spread across the nursery; stripe rust was noticed only in traces. Stem rust was more prevalent this year compared to last year; Yue Jin from Cereal Disease Lab has collected several samples from various susceptible cultivars/experimentals.

I was walking across the wheat nurseries and yield trials at Bushland/Amarillo this morning (May 2, 2008). The wheat has just started heading in dryland blocks and is in boot in irrigated blocks. Wheat rusts have not been noticed yet.

Kansas; May 01st **(Dr. Erick DeWolf, Wheat Extension Specialist, Kansas State University):** Leaf rust was observed in additional counties in South Central and Central Kansas this week. Harvey County (North of Wichita) Wheat in this area ranges from jointing to early head emergence. Joe Martin KSU wheat breeder in Hayes Kansas (North central Kansas) also reported finding leaf rust this week. Jagger and Jagalene appear to have the most rust at this point, but I have found trace levels in Overley also. The incidence is still approximately 20% and severity less than 2% on the F-1 and F-2 leaves on Jaggar and Jagalene. Leaf rust was just at trace levels on Overley. I also found trace levels of leaf rust in Fuller. This wheat cultivar is a relatively recent release from K-State that has previously been resistant to



leaf rust. The pustules on Fuller were reduced in size. This find may indicate a potential deterioration of the resistance genes in Fuller (Lr17, Lr41). This was not completely unexpected because we have been finding small "hot spots" in Fuller for the last two years. We will be watching Fuller closely this year for signs of further disease development.

No reports of leaf rust in Western Kansas
No reports of stripe rust to date in Kansas

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