



PLANT DISEASE AND INSECT ADVISORY

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Wheat Disease Update

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Dr. Jeff Edwards (OSU Extension Wheat Agronomist) and Roger Gribble (OSU Area Extension Agronomist) visited a field in north-central OK that was infected with *Fusarium* head blight (FHB). This was a field of wheat planted into corn residue, with *Fusarium* infection present in the heads and on the corn residue in the field (Figs 1A, 1B). FHB or head scab is a major disease of wheat and barley in states north of Oklahoma, but only rarely has been reported in central and western OK. We do not believe that FHB is widespread in Oklahoma as this is the only field in which it has been found so far in 2008.



Fig 1A. (L) Wheat field infected with *Fusarium* (*Fusarium* head blight) showing corn residue on the soil surface. (R) Wheat heads infected with *Fusarium* along with healthy (green) heads.



Fig 1B. (L) A close-up of wheat heads infected with *Fusarium* along with healthy (green) heads. (R) Wheat grains from healthy heads (top and bottom) and from heads infected with *Fusarium* (center three).

We plan to provide additional information regarding FHB over the summer, but listed below are some links that provide FHB information:

- <http://www.oznet.ksu.edu/path-ext/factSheets/Wheat/Wheat%20Scab.asp>
- <http://www.wheatcab.psu.edu/>
- <http://ohioline.osu.edu/ac-fact/0004.html>

Additionally, a few samples have come to the lab from which *Fusarium* was isolated from the roots. These wheat plants showed symptoms of *Fusarium* root rot (dryland root rot). Reports have indicated that there are scattered whiteheads in the field rather than entire fields affected by this root rot



Over the last couple of weeks, samples also have come in for diagnosis that had discolored (brownish/tannish) heads. Often the discolored spikelets were sterile or had very small and shriveled seed. Such samples have come in from northern and northeastern OK. These symptoms were not consistent with any disease I know of, and no pathogen was isolated. In

these cases, both fields had been hit by hail, which seems to be the most likely cause. Roger Gribble (Area Extension Agronomist) examined one of these fields and felt like hail was the cause.



Brownish/tannish discolored wheat heads from which *Fusarium* was not isolated.

During this past week, OSU wheat breeder Dr. Brett Carver reported seeing severe infestations of barley yellow dwarf virus in his breeder trials located near Goodwell, OK in the panhandle. This is consistent with what Jen Olson, PDIDL diagnostician, has seen over the last couple weeks with samples from the panhandle that she has tested recently. Many of these samples were positive for wheat streak mosaic virus and/or BYDV either alone or in combination.

Updates from other states:

Arkansas; (Dr. Gene Milus, Wheat Pathologist, Univ. of Arkansas, Fayetteville):

May 28th: Extension personnel found stem rust at Keiser (northeast) and Mariana (east central) on the cultivar Sabbe that is a bit later in maturity than most other cultivars. The disease appears to have developed too late to cause much damage, but this is the first report of stem rust in Arkansas for at least the past 10 years.

May 29th: Extension personnel keep finding more stem rust in east central Arkansas, including one impressive hot spot in Agripro Beretta that was about 6 feet in diameter. Stem rust arrived too late to do much damage here, but areas to the north should be on the lookout for stem rust.

Kansas; May 28th (Dr. Erick DeWolf, Wheat Extension Specialist, Kansas State University): In recent weeks the development of leaf rust has slowed dramatically in parts of south central and central Kansas. This slow down occurred during a period of dry and warm weather. However, leaf rust could be commonly found on the flag leaves of susceptible varieties such as Jagger and Jagalene. While the incidence of disease was high in these varieties (>80%), the severity of the infection was less than 2% on most leaves. Wheat in this area was not yet watery ripe yet. The severity was greater in Wheat variety demo plots in Barber county (south central) and Rice

county (central Kansas). In these areas the severity was Leaf rust appears to be a low levels in north central counties. Only trace levels of leaf rust have been reported in western Kansas.

The resistant varieties Fuller and PostRock appear to be stable at most locations, but I continue to pickup low levels of leaf rust at most locations. I have found a few hot spots that suggest that the races that can overcome the Lr39 resistance may be beginning to increase.

Recent rains will likely bring a fresh round of infections in areas with active leaf rust. Fields of susceptible wheat with leaf rust already present on the flag leaves may still be subject to moderate yield losses.

Stripe rust can be found at low to moderate levels at nearly all of the variety demo plots I have attended in south central and central Kansas. The disease is limited to susceptible varieties such as 2137, 2174, and Above. I do not anticipate major problems with stripe rust this year because these varieties are not out on large acreage in the Kansas.

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