



Pest e-alerts



*Entomology and Plant Pathology, Oklahoma State University
127 Noble Research Center, Stillwater, OK 74078
405.744.5527*

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Wheat Disease Update

Bob Hunger, Extension Wheat Pathologist



Oklahoma: Stephanie Rogers (OSU PhD student) and I traveled Apr 21st to Canadian County and visited a field of Endurance infected with wheat streak mosaic virus. No rust was found in it or in an adjacent field of Endurance. We did find light powdery mildew on lower leaves where there was a thick canopy. Brad Tipton found a few scattered septoria pustules and some spider mites neither of which was of concern.

In the variety demonstration on Banner Road (also in Canadian County), yellowing of foliage and freeze damage was evident. Foliage tested positive for barley yellow dwarf virus (BYDV) but negative for high plains virus (HPV), wheat streak mosaic virus (WSMV), and Triticum mosaic virus (TrMV).

In the variety trial at Kingfisher, we found no rust or powdery mildew - just a lot of white heads.

Jen Olson and Dr. Rick Grantham (OSU Plant Disease & Insect Diagnostic Lab) have analyzed multiple samples from the OK panhandle during the last 10 days. All these samples showed death and yellowing of foliage. All were tested for BYDV, WSMV, HPV and TrMV. Although a few were negative, the majority tested positive for BYDV and/or HPV (but negative for WSMV and TrMV). Also, a couple of the samples were (or had been) heavily infested with aphids, mostly Russian wheat aphids (see [Vol. 8, No. 6 ... Apr 2, 2009](#)).

Lahoma Experiment Station (north central OK) (Dr. Brett Carver, OSU Wheat Breeder): In his examination of breeding material on April 23rd, Dr. Carver indicated he could find light powdery mildew and leaf rust on lower leaves of susceptible varieties, but upper leaves and flag leaves were clean.

Reports from other parts of Oklahoma are as follows:

Panhandle (Rick Kochenower, Area Res & Extn Agron Spec):

Northwest/northcentral (Roger Gribble, NW Area Extn Agron Spec): Foliar diseases still quite light; powdery mildew on lower leaves is the most common with a scattered leaf rust pustule here and there.

Eastern/northeastern (Dr. George Driever, NE Area Extn Pest Management Spec): I visited some wheat fields at the end of last week and this Tuesday (21-Apr). Here is a summary.

Okmulgee Co (south and east of Morris) – Endurance: low to moderate levels of PM. One field had 8 patches of damage by cutworm. The patches were about 12 sq ft each along west margin of the field. I did not find any worms in the soil around the roots, so I assume they have already pupated. Some freeze damage in the fields, many auricles were white on the flag leaves in one field. Freeze damage did not look severe enough to cause a big drop in yield.

Ottawa Co in the Afton and Miami area: Over all, freeze damage was light, <1%. Many beneficial, very low aphids, occasional stinkbug.

Overley – slight freeze damage, no insects, small lesions and PM in the lower canopy, some K deficiency in leaf tips (not severe).

Santa Fe – Moderate PM, fair amount on F2 and some F1 leaves, slight cutworm damage, many beneficial, trace of aphids.

Unknown variety – slight cutworm damage, no PM.

Bullet – trace of PM and light to moderate lesions in lower canopy that could be tan spot. This was moving into the F2 and F1. Several other fields were very clean, no PM.

Updates from other states:

Texas: Mr. Rex Herrington, Research Associate, Texas A&M (Apr 20). From phone call with Rex Herrington on rusts found in irrigated plots in Castroville, TX on Monday, April 20:

Stem rust was found in winter barley plots. Stem rust on wheat was developing slowly on susceptible cultivars, e.g. McNair 701. The stem rust was found on stems and leaves. Wheat leaf rust was increasing on susceptible lines and cultivars. Oat stem rust was heavy on Harrison and moving into other oat plots. Crown rust was slowly developing.

Texas: Dr. Jeff Stein, Wheat Pathologist, SDSU (Apr 22). [Dr. Stein also was in Castroville, TX]. I can confirm that wheat leaf rust is developing well with susceptible materials having 80S+ ratings and oat crown and stem rust were also well established in susceptible materials.

I found a couple of stripe rust pustules on an experimental SD winter wheat line; these were limited in size and not sporulating much. Art Klatt (OSU) found some also, but I don't know what line they were on.

Besides stem rust on the susceptible wheat checks and barley as noted previously, I also found stem rust on leaves in a few winter wheat lines. I am unsure of the pedigree since they were mostly breeder plots / populations.

Finally I also found leaf and stem rust at low levels on leaves of a winter triticale (Tamcale 5019). The stem rust pustules were an S-type but hard to find.

Kansas: Dr. Erick DeWolf, Extension Wheat Pathologist, KSU (Apr 24). Wheat in south central and central Kansas is now moving through the flag leaf emergence stages of growth and will be heading over the next 2 weeks. In general, foliar diseases remain at low levels, but powdery mildew remains active in some fields. In most cases the powdery mildew is restricted to the lower canopy, but in the most susceptible varieties the mildew has spread to the F-2 leaves. Tan spot and speckled leaf blotch are still at low levels.

Leaf rust was observed in Sumner County (south central Kansas) this week. The disease was present in both research plots and commercial fields near the Oklahoma border. The leaf rust is still at very low levels (less than 1% incidence) with only 1 to 2 pustules per leaf. There is moderate risk that the disease will cause yield losses in susceptible varieties in south central and central Kansas.

No reports of leaf rust in western Kansas. No reports of stripe rust or stem rust in Kansas to date.

Arkansas: Dr. Gene Milus, Wheat Pathologist, UA (Apr 20). Based on field observations in 2009, little leaf rust and no stripe rust or stem rust overwintered in Arkansas this year. This is good news for wheat growers because rust spores will need to blow in from Louisiana or Texas to cause an epidemic in Arkansas. Southern Texas was under drought conditions earlier this spring, so little rust development occurred until lately after rains returned. Stripe rust and leaf rust development was slower than the past several years in Louisiana, but currently there is plenty of stripe rust and leaf rust inoculum to blow north into Arkansas. At this time, the threat of stripe rust appears to be low because we are past the most favorable time for stripe rust development and most of our acreage is planted with varieties that have resistance. There is still time for a leaf rust epidemic, but most of our acreage is planted with varieties that have resistance, and Arkansas wheat has not suffered significant losses from leaf rust for several years.

Louisiana: Dr. Stephen Harrison, Wheat Breeder, LSU (Apr 22). Wheat stem rust was found in plots in Crowley in south central Louisiana on the susceptible variety Panola and other varietal trial entries on April 22. Wheat leaf rust was severe on many susceptible lines and cultivars in the Crowley plots.

Dr. Richard Grantham
Director, Plant Disease and Insect Diagnostic Laboratory

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