



Pest e-alerts



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Wheat Disease Update – 21 April 2017

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Wheat around Stillwater varies but appears to be in various stages of grain formation. Based on talking to a number of producers across northern Oklahoma, wheat heads have fully emerged but has not yet flowered or just beginning to flower. Of course, as you go further west into the panhandle the wheat is not as far along. I'm not sure as sure about central and southern/southwestern OK, but I talked to one grower today from southwest OK that indicated his wheat varied from starting to flower to kernels being formed. This same grower indicated **leaf rust** is the most common disease he has seen, and in some fields it is fairly heavy. Across northern OK, producers indicated they are not finding severe levels of foliar disease (primarily rust), but it is there (again, especially leaf rust). Brian Olson (my A&P) spent all of yesterday rating wheat at Lahoma (15 miles west of Enid in northern OK). He indicated there were some hot spots/areas of heavy leaf rust, but that over all, leaf rust was light in the plots he was rating. He also indicated he saw quite a bit of what he assumed to be **physiological leaf spot** (Figure 1), which we tend to see more of in years with cloudy, cool and rainy weather such as this year. Around Stillwater, I observed both **stripe rust and leaf rust**, but more leaf than stripe. In some cases, there was a mixture of both rusts on the same leaf (Figure 2).

Figure 1. Physiological leaf spot observed on wheat in Oklahoma.



Figure 2. Wheat leaf showing co-infection of leaf rust and stripe rust at Stillwater.



Samples testing positive for *Wheat streak mosaic virus* (WSMV) have continued to come into the Diagnostic Lab. To date, about 45 samples have been tested for WSMV, *High plains virus* (HPV), and *Barley yellow dwarf virus* (BYDV). Thirty-two of the 45 were positive for WSMV, 24 were positive for BYDV, and 2 were positive for HPV (co-infection with WSMV). Eleven of the samples were positive for WSMV and BYDV. Most of these samples were received from central and west-central Oklahoma, but it seems the area is expanding. For more information on mite-transmitted wheat viruses such as WSM, please see OSU Fact Sheet EPP-7328 (*Wheat Streak Mosaic, High Plains Disease, and Triticum Mosaic: Three Virus Diseases of Wheat in Oklahoma*) available at <http://pods.dasnr.okstate.edu/docushare/dsweb/HomePage>

Reports/excerpts of reports from other states:

Dr. Stephen Wegulo, Professor/Extension Plant Pathologist, University of Nebraska, April 18, 2017: “Bob Harveson, Extension Plant Pathologist at the University of Nebraska-Lincoln’s Panhandle Research and Extension Center located in Scottsbluff, Nebraska has informed me that he has confirmed **stripe rust** on wheat plant samples brought today to the diagnostic clinic at the center. The samples are from Sheridan County in the northern Panhandle. Due to the location, we think the stripe rust overwintered. We had widespread stripe rust on fall-planted wheat in Nebraska last fall, and it was most severe in the Panhandle. Currently wheat in Nebraska is mostly at the jointing growth stage. Growth stage in fields I surveyed on Thursday April 13 and Friday April 14 in the southern Panhandle and the southwestern and south central parts of the state ranged from Feekes 6 to Feekes 7. Some fields in the southeast are at Feekes 8. Almost all wheat fields I looked at during the survey last week looked very green with little or no disease – very low levels of fungal leaf spots in the lower canopy in some fields. The exception was an area in Garden County in the southern Panhandle with fields that are hard-hit with **wheat streak mosaic**. Gary Hein, Entomologist here at UNL, has told me that this area had pre-harvest hail last year which resulted in volunteer wheat that was not controlled.

Dr. Amir Ibrahim, Professor/Small Grains Breeder & Geneticist, Texas A&M AgriLife Research, April 19, 2017: “I detected wheat **stem rust** at Castroville, TX on April 8, 2017. Samples sent to Dr. Yue Jin and genotyped by Dr. Les Szabo shows this to be conventional stem rust. Presence of rusted tissue across the plant, especially near the base shows a high probability of overwintering foci, which is uncommon in this region, and might have been triggered by the very mild winter. I visited the site again on April 17, 2017 and detected infections in a 40 X 60 foot area with the original overwintering focus in the middle. I have also found stem rust on susceptible ‘Morocco’ wheat in sentinel plots that are far from the aforementioned foci.”

Pustules of wheat stem rust in southern Texas (courtesy of Dr. Ibrahim)



Dr. Erick DeWolf, Extension Plant Pathologist, Kansas State University, April 21, 2017: “This week has brought more reports of **stripe rust** in Kansas. Stripe rust can be found in the lower and middle canopy of many fields in central Kansas, but the severity remains low. Stripe rust is more severe in the southeast region of the state and has moved to the upper leaves in some fields. The weather conditions the past 14 days have not favored the rapid spread of stripe rust. Stripe rust is favored by cool, wet weather and temperatures in recent weeks were too warm for the stripe rust fungus to function efficiently. For example, most areas of the state had more than 30 hours of temperatures above 75 F in the last two weeks. Some areas of southwest and south central Kansas had more than 50 hours of unfavorable temperatures. The threat of stripe rust has not passed, however. We know stripe rust is present at low levels in many fields in the state. The disease could increase rapidly if we get into another period of favorable weather with frequent rainfall and temperatures in the 40-50F range at night. I still think there is a moderate risk of Kansas having a serious problem with stripe rust this season.

Leaf rust was reported previously in south central and southeastern Kansas. This week brought a few new reports of leaf rust and indications that leaf rust has moved to the upper leaves in few areas. This movement of rust to the upper leaves is important because these leaves provide most of the resources the plants will use produce grain. Any damage done to the upper leaves increases the risk of yield loss.

Powdery mildew is becoming severe in fields planted to moderately susceptible and susceptible varieties. 1863, Gallagher, KanMark, LCS Pistol, SY Flint, WB4458, WB-Grainfield, and WB-Redhawk are vulnerable to powdery mildew. In some fields, the powdery mildew has moved to the leaf just below the flag leaf prior to heading. This early establishment of the disease is cause for concern and growers should consider both rust and powdery mildew into their fungicide decisions. Fields with multiple diseases in the middle canopy and those where disease has moved to the upper leaves prior to heading have a more than 80% chance of experiencing a yield loss of >4.0 bu/a.”

Imported Fire Ant Sample Kit

This kit contains:
1 (one) quart bag
1 (one) bait tube with corn chip bait.

Instruction: Remove bait tube and instructions from bag. Open bait tube and place on ground. Wait at least 30 minutes. If ants are present in bait tube, snap lid closed, place in quart bag and freeze to kill ants. Write Date, County, Name, and Address on back of this card and deliver to your county Extension Office.

Find your county extension office at:
<http://countyext2.okstate.edu/>

Contact Kenny Naylor
Kenny.Naylor@ag.ok.gov
www.ag.ok.gov



More information on the Imported Fire Ant:
http://articles.extension.org/fire_ants

Fire Ant Bait Tubes

Jen Olson and Jana Slaughter, Plant Disease and Insect Diagnostic Laboratory

The Oklahoma Department of Agriculture, Food and Forestry (ODAFF) has recently supplied some areas of Oklahoma with **Imported Fire Ant Sample Kits** and/or **Bait Tubes** for sampling fire ants. Additional tubes or kits will be supplied at meetings and conferences this fall.

Oklahoma producers have been advised to deliver the bait tubes to the county extension offices. If you are an educator and receive a bait tube, please follow the instructions on the card (Figure 1). If the producer has not frozen the bait tube as instructed on the card, freeze the tube before submitting the sample. The ants should be sent to the Plant Disease and Insect Diagnostic Laboratory for examination (PDIDL, 127 NRC, ENTO/PLP, OSU, Stillwater, OK 74078) and we will send the results within a few days of receipt

To be included on the mailing list, please email: sharon.hillock@okstate.edu

Plant Disease and Insect Diagnostic Laboratory

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