



Pest e-alerts



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Wheat Disease Update

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This past week in addition to being around Stillwater, I attended field days in Canadian County (just west of Oklahoma City), Kay County (north of Ponca City), Kingfisher County (northwest of Oklahoma City) and Major County (west of Enid). Wheat I examined ranged from milk to medium dough. Some active stripe rust (producing spores) was still present in Major County, but only at low levels. Leaf rust is prevalent around Stillwater, with low levels of leaf rust found in Kay and Major Counties.

Symptoms of barley yellow dwarf (BYD) also were observed at all locations. As previously indicated, I observed only discolored (yellow to reddish-purple) flag leaves and no stunting indicating infection of BYDV by aphids occurred in the spring. One observation of note is that often with BYD the flag leaf will be discolored but leaves below the flag remain green as in the photo at right. This is indeed BYD.

The Diagnostic lab also has continued to receive samples testing positive for Wheat streak mosaic virus and/or High plains virus. These samples have been from northern, northwestern and the panhandle regions of Oklahoma. For more information, see Fact Sheet EPP-7328 *Wheat Streak Mosaic, High Plains Disease, and Triticum Mosaic: Three Virus Diseases of Wheat in Oklahoma* at



<http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-8987/EPP-7328.pdf>.

Finally, another disease that is making an appearance in Oklahoma this year is take-all. I have not observed take-all in Oklahoma now for many years; in fact, the last time we received a number of samples of take-all was back in the early 2000s. Take-all is favored by moist conditions and the droughts of 2013 and 2014 would have not favored this disease. Abundant moisture starting a year ago and in areas of Oklahoma this year again have likely provided conditions favorable for this disease. Take-all also is favored by neutral to alkaline soil pH and will first show as white plants in low-lying, wet areas after a period of hot and dry days. I don't think this will be a significant disease in Oklahoma this year, but wanted to bring it to your attention.



White heads indicating take-all and discolored roots and lower stems indicative of take-all.



Darkened crown and roots due to take-all.



Colorado: Dr. Kirk Broders (Plant Pathologist; Colorado State University; Fort Collins, CO); May 11, 2016: “There has been good precipitation around the state this spring which has led to a good wheat crop, but also provides the potential for more foliar diseases than we usually see. Most of the wheat in the southeast has already headed out and there are low levels of stripe rust present, but likely

will not impact yield especially where the wheat is further along. Wheat in the rest of the state ranges from booting to heading (Feekes 10 – 10.1). It is at this point that the flag leaf will also become fully emerged, and it will be important to ensure the flag leaf is protected in order to protect yield. I have received reports of stripe rust from multiple locations in eastern Colorado from Prowers County in the southeast and further north in Cheyenne, Kit Carson, Yuma, Washington and Arapahoe counties. Scott Haley mentioned he saw bacterial streak in the northeast part of Colorado and I have also received a couple reports and confirmed one report of *Stagonospora* blotch on wheat in Washington County. Both reports were from wheat planted after a previous wheat crop. There were several reports of *Stagonospora* blotch in the state last year likely due to the significant amount of precipitation. This fungus is capable of surviving on wheat stubble and then infecting the successive crop given ample rainfall. Both *Stagonospora* blotch and stripe rust remain sporadically distributed and at low levels in most regions in the state, but with more predicted rain in the forecast growers may want to consider applying a fungicide once the flag leaf is fully emerged in order to ensure it is protected and the head is able to yield to potential. Certainly, they should take into consideration whether there is any foliar disease currently in the field or in their region, the potential yield of the crop and the cost of the fungicide to be applied, as well as the probability of cool, rainy weather in the forecast.”

Wisconsin: Dr. Damon Smith (Asst Prof – Field Crops Pathology; University of Wisconsin-Madison); May 11, 2016: “It was only a matter of time.... Today we confirmed the first observations of stripe rust in Wisconsin for 2016. Brian Mueller, Graduate Research Assistant in the Field Crops Pathology Lab at the University of Wisconsin-Madison found active stripe rust pustules in winter wheat in both southern and south central Wisconsin. In southern Wisconsin



stripe rust was found in the Wisconsin Winter Wheat variety trial located in Sharon, Wisconsin. Stripe rust was at low incidence and severity on emerging flag leaves with some lesions manifesting as chlorotic flecks and not yet active. We speculate that the epidemic initiated recently. With the humid and rainy weather over the past several days, conditions have been ripe for symptom development. The second stripe rust confirmation was at the Arlington Agricultural Research Station in an integrated management trial for stripe rust. Again, incidence and severity were low on emerging leaves, therefore, we speculate that the epidemic has recently initiated. We have been actively looking for stripe rust as there have been numerous reports of epidemics in winter wheat in states to our south and west. Given the recent weather patterns we will likely see more stripe rust show up in the state. I suspect we will start to see fungicide sprayers active in wheat fields in the state given the fact that the epidemic onset is

coinciding with the emergence of flag leaves. We will continue to monitor the situation carefully.”

Farewell....
Richard Grantham, Director, PDIDL

With my rapidly approaching retirement, all requests for insect and/or plant disease diagnoses using digital images should be sent to sickplants@okstate.edu from this point forward. It has been a pleasure to serve as the insect diagnostician and PDIDL Director for almost 2 decades and I will truly miss working with you and the clientele you serve. I can only hope you continue to receive the professional service you have come to expect from the lab.



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

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