



# Pest e-alerts



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## Wheat Disease Update

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This past week I and Dr. Jeff Edwards (OSU Small Grains Extension Agronomist) were at several field days and visited numerous fields across central Oklahoma ranging from Stillwater to Marshall (30 miles west of Stillwater) to south of El Reno (15 miles west of Oklahoma City) to Kingfisher (20 miles north of El Reno) to Homestead (about 90 miles west of Stillwater). Foliage was gone on nearly all of the wheat we saw (also true for southern, southwestern and western OK) but stems were still green to varying degrees. Kernels were mostly at soft to medium dough. Perhaps the most prominent feature was heads turning white or reddish tan (depending on variety). This early senescence/maturity was often spread over entire fields (Fig 1). The cause for this often could be attributed to the high number of tillers produced over the mild winter and then the plants simply ran out of moisture during the hot (often 90s °F and low 100s °F) and windy periods we had in April. Moisture is good now in many of these fields, but the damage has been done. No or only little evidence of root rots and take all could be found in most of these fields. In some fields, we did find evidence of take all and dryland root rot (Fig 2), and possibly some strawbreaker/eyespot, but in most fields the base of culms and roots were cream colored and relatively healthy. Occurrence of this premature whitening is widespread and the start of it was observed the previous week in southern and southwestern OK. However, in most of those fields and the ones we visited this past week there still was a grain crop to be harvested, just not as great as it appeared 3-4 weeks ago. These fields often are mixed in with fields or areas that had sufficient moisture to sustain the high tiller count. Some of the better fields observed were planted later or at a much lower seeding rate (45 lb/acre) that resulted in a thinner stand that handled the periods of drought and heat much better than the really thick fields.

Other than this, the Plant Disease & Insect Diagnostic Lab (PDIDL) has continued to receive samples (at least 10 or 12) that have tested positive for wheat streak mosaic virus, High plains virus and/or barley yellow dwarf virus. These samples have come primarily from northwestern and western Oklahoma. However, I'm not sure of the extent and severity of these viruses in northwestern OK, but will probably hear and see more over the next couple of weeks.



**Fig 1.** Whiteheads with green wheat at a wet spot.



**Fig 2.** Dryland root rot (left), note healthy, cream-colored stem base in center. Take-all root rot (right), note black scapping on thumbnail. All photos courtesy Dr. Jeff Edwards, OSU Small Grains Extension Agronomist.

**Arkansas:** Dr. Gene Milus (Small grains pathologist, University of Arkansas, Fayetteville), 3-May: "I went to plots at Stuttgart and Marianna in eastern Arkansas earlier this week. Most of eastern Arkansas is unusually dry for this time of year. Nearly all wheat plots and commercial fields have lost most or all of their leaves. In many cases, the stems are dry as well. Drought stress and/or freeze damage likely accelerated maturity in many fields. Harvest likely will be underway next week in southern Arkansas. Esten Mason, the U of A wheat breeder, reported stem rust in one of his breeding lines at Marianna.



I went to Kibler near Fort Smith yesterday. Although Kibler got about an inch of rain on Monday, leaves in most plots were dried up. Leaves of plants in irrigated plots at Fayetteville are still green if not killed by disease. Temperatures across Arkansas are expected to be near record highs through Sunday."



**Kansas:** Dr. Erick De Wolf (Wheat Extension Pathologist, Kansas State University), 4-May: "Wheat in central Kansas is generally past flowering and into the grain filling stages of development. Some wheat in Northwest KS is likely flowering this week. Stripe rust has slowed this past week due to high temperatures in south central and central KS. Still some activity in North central and Northwestern KS where it remained cooler early in the week, but that may come too as higher temps (90+°F highs, lows in mid-60's or near 70°F) are forecast for the weekend. Cooler temperatures are forecast again for next week which may allow the stripe rust one last chance to attack wheat in northern KS.

The severity of leaf rust has increased noticeably in the past two weeks. Leaf rust was at near 100% incidence and 10-15% severity on the flag leaves in research plots near Hutchinson, KS (South central, KS). The wheat in these plots was at the watery ripe stages of kernel development. Varieties affected by leaf rust include Overley, Jagalene, Fuller, PostRock, T158 and CJ - all previously known to be susceptible to leaf rust. Other similar increases in leaf rust where noted at other locations in central KS and Northeast KS."

**Nebraska:** Dr. Stephen Wegulo (Extension Plant Pathologist, Univ of Nebraska) 4-May: "On May 3, 2012, Emmanuel Byamukama and I surveyed wheat fields in south central and southwest Nebraska. We confirmed stripe rust in the following counties: Kearney, Phelps, Furnas, Red Willow, Hitchcock, Chase, Perkins, and Keith. Most fields looked healthy and were at the full heading or flowering growth stage, with a few fields still in the boot stage. Incidence and severity of stripe rust were generally low with several hot spots within a field showing high severity. Fields farther west had mostly trace amounts of stripe rust just starting to develop."



**Dr. Richard Grantham**  
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