



Pest e-alerts



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Wheat Disease Update

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On Monday & Tuesday of this week, Nathalia Graf Grachet (OSU graduate student) and I worked in plots around Stillwater and toured wheat fields and variety trials/demos located at Banner Road [just west of Oklahoma City (OKC)], Minco (25 miles southwest of OKC), Apache (20 miles north of Lawton), Kingfisher (30 miles northwest of OKC), and Marshall (35 miles west of Stillwater). Wheat along this loop was either approaching or at GS 6 (first node detectable) and ranged from about 6-12 inches in height. We were somewhat surprised at how good much of the wheat looked in this traveled loop, although it was apparent that moisture was needed as the surface was hard, cracking and dry in the top 1-2 inches at most of the stops. Perhaps the moisture forecast over the next 3-4 days will alleviate this.

We found no rust (leaf or stripe) at any stop, and only found lightly scattered pustules of powdery mildew at two locations (Banner Road and Apache). Without a doubt, the disease highlight of the trip was two fields and the variety trial at Apache. Both fields were Duster growing in no-till wheat residue with the straw residue being last year's crop of Duster wheat. The straw was covered with the black "resting bodies" (pseudothecia) of the fungus that contain spores of the fungus that causes tan spot (Fig 1). In late February and March, these resting bodies release spores that infect the lower leaves of wheat plants when there is abundant moisture on the leaf surfaces. This had occurred in both fields and the variety trial that was in one of the fields as the lower leaves of wheat plants were heavily spotted with tan spot lesions (Fig 2). Rainy/wet periods from this point on will promote sporulation in the lesions and spread of tan spot up the canopy. This is an excellent example of where an early application of a fungicide to help stop the spread of tan spot is indicated. Such an early application will not protect from later infection by rusts, but will help to control diseases such as tan spot, septoria, and powdery mildew that survive on wheat residue/straw left on the surface of the soil. In such cases, I strongly recommend considering the application of a fungicide to help control and limit the spread of this early season tan spot to the upper canopy.

This also indicates the importance of selecting appropriate varieties when planting in the fall. If planting into wheat residue (especially if it is residue from a wheat crop that was susceptible to tan spot, septoria, and/or powdery mildew), take some time to consider the variety selected to plant into that residue. Unfortunately, there is no single variety highly resistant to all three of the diseases that survive on wheat residue, but consider which of these diseases you felt were most prevalent in the current crop and then select a variety with at least an intermediate level of resistance to that disease. To help in selecting a variety for planting, refer to the OSU Wheat Variety Comparison Chart (PSS-2142).

We also saw a fair number of aphids in the two fields at Apache - mostly bird cherry-oat aphids, but also some greenbug. Numerous lady beetles were also present in both fields but only a few mummies were observed.



Fig 1. Duster residue covered with pseudothecia (spore-containing resting bodies).



Fig 2. Tan spot lesions on Duster.

Texas: Dr. Amir Ibrahim (Prof, Small Grains Breeding and Genetics, Texas A&M University 08-Mar-2013: I toured our rust evaluation nursery located 12 miles west of San Antonio, TX on March 07, 2013. Leaf rust (Lr) is developing uniformly in the spreaders. Lr (50S) is also developing uniformly in the lower to mid canopy of 'TAM 110'. Consistent with previous years, there is more leaf rust in the observation head-rows as compared to the yield trials. Stripe/yellow rust (Yr) is still developing in the lower to mid canopy of the spreaders, including 'Patton'. Both Lr and Yr (30S) are present on the same leaves of 'TAM 112' (please see attached picture). I found an unknown head-row with 100 S reaction to Yr. No indication of a leaf or yellow rust race change but it is early to tell at this point.



Arkansas: Dr. Gene Milus, (Professor/Small Grains Pathologist, Univ of Arkansas, Fayetteville, AR) 18-Mar-2013: Last week I looked at plots at Rohwer (southeast) and Newport (hour north of Little Rock) and surveyed wheat fields in between. The most common growth stages were Feekes 4-5, but entries in plots ranged from gs 3-8. Stripe rust was widespread in a field of Ricochet wheat surrounding plots at Rohwer. Hot spots had diffuse rather than distinct because spores have been spreading from the initial foci for several months in an open wheat canopy. In plots, stripe rust was most prevalent on Ricochet, Beretta, Progeny 185, and Arcadia and also found on Coker 9553, Harrison, Progeny 308, Terral 8661, and 26R20. Two of 11 fields surveyed had multiple hot spots that have already spread well beyond the initial points of infection. The other fields had no detectable stripe rust. Some Septoria leaf blotch and bacterial streak were found.

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