



Pest e-alerts



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Wheat Disease Update

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Over the last week I, Nathalia Grachet (OSU graduate student), and Brian Olson (OSU A&P) extensively looked at wheat around Stillwater, and in central (Minco, Apache), southwestern (Granite), and north central (Lahoma) Oklahoma. Additionally, OSU Wheat Breeder Brett Carver examined his plots at numerous locations in central, southwestern OK as well as at Stillwater, and Dr. Art Klatt (OSU Wheat Geneticist) examined trials around Stillwater and Perkins. Wheat in southwestern Oklahoma was damaged from drought and freeze, and little disease was discernible. Wheat in southwestern Oklahoma (where it was possible) appeared to be at various states of head emergence, and in a few cases was just starting to flower. In central OK, wheat was in various stages of heading. Around Stillwater, wheat was just starting head emergence, while at Lahoma wheat was mostly just approaching GS 10 (boot stage). However, there seems to be quite a bit of variability regarding stage of maturity depending on variety and planting date.

No leaf rust was observed at any location. The “hot spot” of stripe rust we found at Minco is still active, but my previous update incorrectly identified ‘Duster’ as the variety with the most severe stripe rust. Actually that was ‘Garrison’. Stripe rust also was on Duster but not to the same severity nor was significant stripe rust on the flag leaves of Duster. This is the only location where we observed significant stripe rust. We also observed powdery mildew and leaf spotting on lower to mid leaves at many locations. Primarily the leaf spotting appeared to be septoria/stagonospora with some tan spot mixed in, and as expected is usually somewhat more severe in no- or low-till fields.

Barley yellow dwarf was commonly observed at many locations with variable severity, but it was often difficult to differentiate damage between BYD, freeze, and drought. Wheat streak mosaic also was observed across the areas examined. An increasing number of samples from



around western OK have kept Jen Olson (Plant Disease Diagnostician) busy. Most of these samples have tested positive for BYDV, WSMV, or both, but no high plains virus or Triticum mosaic virus has been detected. This includes the Stillwater area where I have never before (since 1982) observed WSM. Another interesting find here at Stillwater included occurrence of Russian Wheat Aphid, which was confirmed by Dr. Rick Grantham (Director of the Plant Disease and Insect Diagnostic Lab.



Arkansas: Dr. Gene Milus, (Professor/Small Grains Pathologist, Univ of Arkansas, Fayetteville, AR) 03-May-2013: Stripe rust is still increasing on susceptible varieties at locations where it blew in during the spring. The most susceptible varieties are Arcadia, Progeny 117, Progeny 185, and USG 3993. Except for a few fields, stripe rust does not appear to be having a significant impact on yield because of adult-plant resistance and one or two fungicide applications. Septoria leaf blotch had been confined to lower leaves but is now moving higher up the plant and can still do a lot of damage between now and harvest. It is important to protect the flag and flag-1 leaves from infection for as long as possible during grain fill. Fusarium head blight (scab) does not appear to be a threat because of low temperatures. A fungicide application specifically for head blight is not recommended at this time. Barley yellow dwarf is widespread and severe in some fields. Nothing can be done to prevent losses from BYD at this time. Downy mildew has become more evident in portions of fields that were flooded earlier. The only control is to prevent the flooding. Leaf rust has been rumored to be present at low levels in south Arkansas, but I have not seen any or talked to anyone who has seen any.



Flowering is the latest growth stage to apply a fungicide, and many fields are at or near flowering. Assuming that any stripe rust has already been taken care of, an application for Septoria leaf blotch is the most likely to provide a positive economic return.



Kansas: Dr. Erick De Wolf (Professor/Small Grains Extension Pathologist, Kansas State Univ, Manhattan, KS) 03-May-2013: The wheat in Southern Kansas ranges between the flag leaf emergence and boot stages of growth. Most fields in Central Kansas are at or near flag leaf emergence. These growth stages signal the critical time for growers to be evaluating the need for fungicides for leaf disease management.

The disease levels have also been low in Kansas so far this year. I visited fields Sumner, Reno, McPherson, Marion, and Dickenson counties this past week and found only trace levels of powdery mildew, Septoria tritici blotch and tan spot lower in the canopy. In Southeast Kansas, Doug Shoup, Kelly Kuzel and Josh Coltrain (KSU Research Extension), reported trace levels of stripe rust in Labette and Nesho counties this week. The stripe rust was reported on the variety "Everest", which is known to be susceptible to stripe rust after the changes in the fungal population last year. This report of stripe rust is important and growers in this area should carefully monitor their fields for signs of disease.

We continue to have reports of wheat streak mosaic virus in central and eastern KS. Only a few reports of barley yellow dwarf to date.

Plant Disease Corner, May: Low temperature injury to garden plants

Jen Olson, Plant Disease Diagnostician

You have probably heard the famous Will Rogers quote "If you don't like the weather in Oklahoma, wait a minute and it'll change." As usual, the weather in Oklahoma has been erratic this spring. Mother Nature is on the naughty list and hopefully, she will send nice weather to Oklahoma for the rest of the season.

By now you have probably had at least one complaint about the weather from those trying to plant a vegetable garden. If warm-seasoned plants such as tomatoes and peppers were planted early, hopefully they were covered during late freeze/frost events. Even with protection, the plants may have been damaged. This morning, I took images of symptoms of cold injury in plants in my own garden (see Fig 1-4). It may take 10 days or longer to determine if plants will recover from the damage. If a significant number of growing points of annual plants were damaged, replanting is recommended.

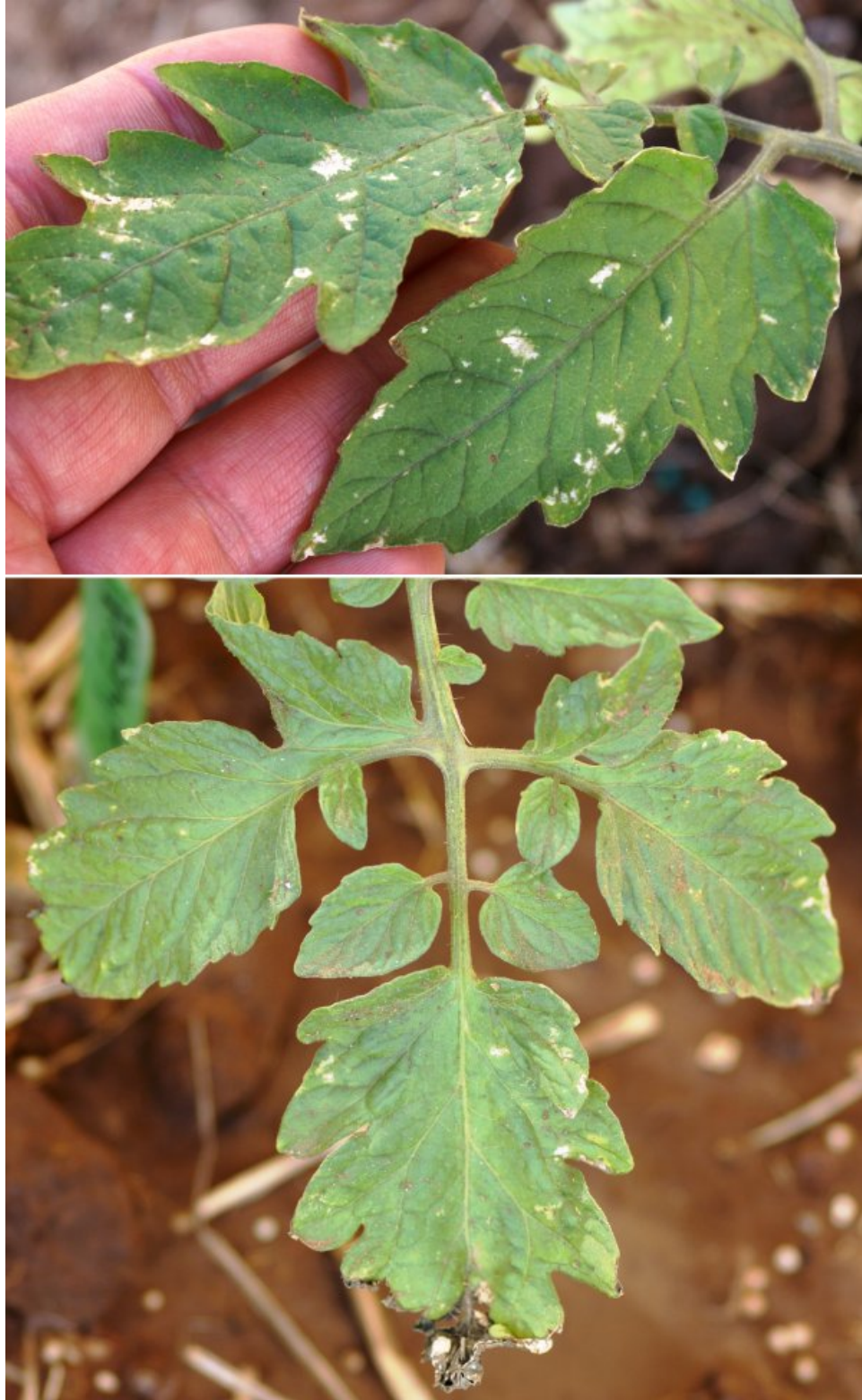


Fig 1. Typical symptoms of cold injury on a tomato leaves. These plants were covered on nights with temperatures below 40°F, but still suffered some damage.



Fig 2. Granny Smith apple leaves with purplish-black discoloration caused by freezing temperatures. Tattering of leaves is due to mechanical (wind) injury.



Fig 3. Leaf roll and discoloration on summer squash leaves after 33°F temperatures. The plant was covered with a plastic container during the low temperature event.



Fig 4. Potato leaves with minor dieback and discoloration following near freezing temperatures.

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

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