



# Pest e-alerts



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## Wheat Disease Update

Bob Hunger, Extension Wheat Pathologist



**Oklahoma:** 20-Apr; Dr. Bob Hunger, Extension Wheat Pathologist, Oklahoma State University: Examining plots and trials around Stillwater I found powdery mildew, leaf rust and stripe rust. Wheat was mostly in at full boot with some heads just starting to emerge. Later planted wheat was approaching boot. Barley yellow dwarf virus was observed in several trials around Stillwater; however, no or only very few aphids were seen. Presence of BYDV was indicated by flag leaf discoloration, which is indicative of spring infection. In one early planted trial differences in height also were noticeable, which is more indicative of fall infection.

Where powdery mildew was previously found, it has increased significantly on lower leaves (F-3, F-4) and was easily in the 65-90S range. In some early planted Jagalene, I found powdery mildew, leaf rust and stripe rust with leaf rust (25-40S) being the primary disease present. Flag leaves were still clean and infection on the F-1 leaf was still low (10% range). Stripe rust was present here and elsewhere, but at a relatively low incidence. Dr. Art Klatt (OSU wheat breeder) and Sarah Wright (graduate student) also have reported seeing stripe rust in there breeder lines here at Stillwater. Leaf rust also was observed in several plots and trials around Stillwater. These observations indicate to me that for Oklahoma the decision to spray a foliar fungicide onto higher-yielding fields is here – especially for central and southern OK. The wheat in this area is between growth stage 10-10.5 (full boot-heads fully emerged), and the window to spray will quickly close as fungicides cannot be applied after heads are fully emerged. This is especially true for the earlier planted wheat. In northern, northwestern and the panhandle of Oklahoma, the wheat probably is not quite as far along, but weather for the last 4-5 days and the forecast for the next 4-5 days has been and is favorable for infection and spread of foliar diseases. For more information on foliar fungicides, please see the OSU Current Report (CR-7668 “Foliar Fungicides and Wheat Production in Oklahoma – April 2010”) @: <http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-4987/CR-7668web.pdf>.



Range of stripe rust that has been observed. Photos courtesy Sarah Wright, OSU Plant and Soil Sciences graduate student.

**Texas:** 16-Apr; Mr. Rex Herrington, Research Associate, Texas A&M: "Here in our College Station nursery, wheat stripe rust is still active. Wheat leaf rust is rapidly increasing on susceptibles, and TAM 110 rust spreader borders are up to 90-100S LR on flag leaves where the stripe rust missed them. Oat crown rust is also increasing on susceptibles. There is only a trace of oat stem rust



now. No wheat stem rust has been found yet in the nursery. Temperatures are averaging from the mid 50's to the mid 70's.

At McGregor (west of Waco), wheat stripe rust is very active, and is widespread throughout the nursery. Infections appear the same as at College Station, with Jagger, Jagalene, and 1822 being the worse in the uniform variety test. TAM 110 borders are also very susceptible to stripe rust. Wheat LR is 30S on TAM 110 flag leaves, and I found a green middle leaf of Jagger that was 70S. Many susceptible wheat flag leaves are covered in both stripe and leaf rust. The majority of the wheat has headed out. I found a few pustules of oat crown rust erupting on the flag leaves of Nora oat. No wheat or oat stem rust was observed. Elbon rye had @ 20S LR on lower leaves."



**Kansas:** 20-Apr; Dr. Erick DeWolf, State Extension Specialist, Kansas State University: "Stripe rust was observed in North Central Kansas today. The disease was found at low levels in research plots near the town of Belleville (Republic County) and was present in the varieties Jagalene, Jagger, and Santa Fe. The size of the lesions and position in the canopy suggests that the inoculums resulting in these infections likely arrive 3 to 4 weeks ago. Wheat at this location was at the end of jointing with flag leaves emerging over the next week to 10 days. This is the first report of stripe rust in Kansas for 2010. This find is significant because all the varieties affected should have been resistant to stripe rust. All evidence to date suggests that the population stripe rust population has changed within the Southern Great Plains and that varieties including Fuller, Santa Fe, Overley, Post Rock, Jagalene, and Jagger should now be considered susceptible to stripe rust. The risk of significant yield loss to stripe rust is high for growers in Central Kansas. The current weather forecast for this region includes temperatures near 70°F and scatter showers. Growers in this region should be on alert for potential development of stripe rust in their fields and be ready to apply a fungicide between flag leaf emergence and heading. Fields with a yield potential of more than 40 bu/acre and/or seed production fields should be a top priority. No leaf rust or stem rust was observed at the Belleville location."

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