



# PST e-alerts



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## Wheat Disease Update

Bob Hunger, Extension Wheat Pathologist



Wheat in southern/southwestern Oklahoma is maturing and will speed up with the warmer (>90 F) over the last couple of days. In central Oklahoma, around Stillwater and to the north, wheat is just finishing or has just past flowering and kernel development is starting. As you head to northwest Oklahoma, wheat also is in late flowering or has just finished flowering. I'm not sure about out toward the panhandle but know there is not much wheat that will be harvested as you move west of Woodward and Buffalo. I'll be taking a trip to the panhandle the end of the coming week and will report more after that trip.

Disease-wise, not a lot changed over the past week in Oklahoma. Leaf rust remained practically absent although infections in the 15-40S range were observed in Jagalene (or Jagger) guard rows in breeder plots at Stillwater. However, little to no leaf rust was found elsewhere around Stillwater and no reports were observed or reported from north-central and northwestern Oklahoma. Stripe rust is slight more prevalent. Several "hot spots" were noted around trials at Stillwater and occasional "stripes" (but not hot spots) were noted at field days west of Enid, north of Ponca City, and north of Stillwater. Leaf spotting diseases, barley yellow dwarf, and wheat streak mosaic (WSM) are the most commonly observed diseases in samples seen at field days and submitted to the Plant Disease and Insect Diagnostic Clinic. This past week a few samples also tested positive for High plains virus. Several reports from Ag Educators, consultants, and growers have indicated that WSM has devastated wheat in fields in northern and western Oklahoma. In all cases where I talked to the person, there was an indication that volunteer wheat was involved either in the field or adjacent to it.



WSM

**Arkansas:** Dr. Gene Milus, (Professor/Small Grains Pathologist, Univ of Arkansas, Fayetteville, AR) 17-May-2013: Visited plots at Kibler near Fort Smith today. Wheat is in soft dough. Stripe rust is still active. Leaf rust was present at mostly low levels. Also Septoria, bacterial streak, powdery mildew, and Stagonospora on flag leaves depending on the line. Most lines in the variety test had resistance to most or all of the above diseases. Weather is hot and humid. Plenty of soil moisture.



**Kansas:** Dr. Erick De Wolf (Professor/Small Grains Extension Pathologist, Kansas State Univ, Manhattan, KS) 17-May-2013: Stripe rust continues to be reported at low levels in Kansas this week with new finds in Sedgwick, Kingman, Sumner, and Pratt counties. The wheat in this area of the state is still heading or flowering. Generally, only trace levels could be found in these fields. Tom Maxwell, Central Kansas District agent, reported finding low levels of stripe rust in Saline County on May 17. The wheat there is generally in the early heading stages. I have found a few fields and a demonstration plot in Pratt County where the disease is at high enough levels to justify a fungicide application. This area of the state has received more rain than others in recent weeks and some fields in Pratt County have good yield potential. The affected varieties included Everest and Armour, which were found to be susceptible in 2012. A lot of wheat in this area of the state is struggling with continued dry weather.

I encourage farmers to carefully check fields for symptoms of disease. Fields where stripe rust can be readily found on the flag leaf (one lesion every 2-3 feet) will likely benefit from a fungicide application. The wild card on this decision is the weather. Low temperatures in the upper 60's are generally thought to be suppressive to stripe rust development. High temperatures in the upper 80's or above for several days in a row also tend to suppress stripe rust. But if temperatures in that range last only last a few days or so, followed by cooler weather, stripe rust can resume activity.

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### Caterpillars of Common Oak Moth are Defoliating Oklahoma Oaks

Eric J. Rebek, Extension Entomologist

Many of our native oak trees are experiencing light to moderate defoliation (Fig 1) by caterpillars of the common oak moth, *Phoberia atomaris*. The ground under infested trees often is littered with frass and dead caterpillars. These caterpillars are variegated pale to deep chocolate brown, smooth, shiny, and somewhat flattened with a tapered rear end (Fig 2). A



Kelly Bostian, Tulsa World

beaded or wavy black stripe is present just above each side and is especially evident on the abdominal segments. A pattern of diamond-shaped spots covers the top of the abdominal segments. A dark stripe runs along each side and the head is extensively mottled. Larvae are nearly an inch long when fully grown.



**Fig 1.** Damage on oak due to defoliation by common oak moth caterpillars.



**Fig 2.** Common oak moth caterpillar.

Common oak moth is found in barrens, woodlands, and forest edges from Wisconsin, southern Canada, and Massachusetts, south to Florida and Texas. There is one generation per year. Eggs are laid in bark fissures in early spring and in Oklahoma, larvae reach full maturity by late spring. Caterpillars feed exclusively on oak, and white oaks appear to be most severely affected. When mildly alarmed the caterpillar plays dead or draws the head under the body. Agitated caterpillars hurl themselves from their perch and forcibly writhe and snap their bodies about. The pupa overwinters in the soil.

Despite its name, caterpillars of the common oak moth are not typically encountered unless you search foliage by night or closely examine bark in late spring. However, populations occasionally outbreak and cause local and regional defoliation events such as what we are experiencing this year. Chemical control usually is not warranted, nor even practical due to the large size of infested trees. Affected trees will not die unless they are repeatedly defoliated over several years, which is not likely to occur with common oak moth caterpillars. However, defoliation can stress trees and make them susceptible to other problems like disease pathogens and woodborers. In most years, populations of common oak moth are kept in check by natural factors including natural enemies (Fig 3). Indeed, this year we are seeing an abundance of beetle predators called fiery searchers or caterpillar hunters (Fig 3), which are responding to the abundant supply of common oak moth caterpillars.



**Fig 3.** Parasitized common oak moth caterpillar.



**Fig 4.** “Caterpillar hunter”, a ground beetle predator of common oak moth caterpillars.

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