



# Pest e-alerts



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## Winter Grain Mite in Wheat

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Roger Gribble, Area Extension Agronomist in Enid reported a wheat field that appeared to be damaged by herbicide, but on closer inspection, was heavily infested with winter grain mite (WGM) which is also called the blue oat mite.

**Description:** This mite is small (about the 1 mm long) with a dark blue to black body and 4 pair of orange-red legs. It also has a small reddish spot on the top of its abdomen that can be seen under magnification. The eggs of WGM are kidney-shaped, and change from clear, to yellow to reddish-orange after several days. They are laid on leaf blades and stems or the roots near the crown. Besides wheat, many grasses serve as host plants, including barley, oats, ryegrass and fescue.

**Life Cycle:** Winter grain mites complete two generations per year, the first beginning in fall from overwintering eggs and the second from eggs laid in January/February. In all cases, adult mites are females, all of which are capable of laying eggs. The first generation peaked in December/January and the second will peak in March/April. Newly-hatched mites molt 3 times before becoming adults, and take up to 60 days to



mature. Adults can live for up to 40 days. Winter grain mites overwinter as eggs. They get their name because they like grains and grasses, and they really don't like warm weather. They are most active when temperatures are between 40 and 70 F. Freezing conditions and/or snow cover don't really affect them.

**Nature of Damage and Scouting:** Winter grain mites feed by piercing plant cells in the leaf, which results in "stippling". As injury continues, the leaves take on a characteristic grayish or silverish cast and could be mistaken for injury due to herbicide. Winter grain mites are more likely to cause injury in wheat if it is already stressed due to lack of moisture or nutrients. Winter grain mites are light sensitive and tend to avoid bright, sunny days and windy days, so adjust your scouting accordingly. On still, cloudy days or early morning/evening, they will be active on the plants and can easily be counted. On sunny or windy days, they will be found under the soil surface (up to a couple of inches) or massed under dirt clods.



**Winter grain mite damage.** Leaves take on a characteristic grayish or silverish cast that can be mistaken for herbicide injury.



### **Winter grain mite infestation.**

**Control:** Winter grain mites are more common in fields of continuous wheat, so crop rotation will help break the cycle. In addition, they are reported to do better in fields that have a minimum amount of tillage applied to them. The infested field was a no-till field. Winter grain mites do not typically cause excessive injury unless present in excessive numbers and plant growing conditions do not sustain rapid growth of wheat foliage, such as when an infestation is coupled with nitrogen deficiency. While WGM pests can damage wheat even under normal growing conditions, it takes large numbers to justify an insecticide application for their control. There is no established threshold for WGM; my best “guestimation” is to treat when injury symptoms are visible and mite numbers exceed 10 per plant. The field I examined was well beyond that number, and damage was apparent.

There are few insecticides that include WGM on the label, but they can probably be controlled with other products registered for use in wheat. Check CR-7194, “Management of Insect and Mite Pests in Small Grains” for registered insecticides, application rates, and grazing/harvest waiting periods. It can be obtained from any County Extension Office or is available on the web: <http://pods.dasn.okstate.edu/docushare/dsweb/Get/Document-2601/CR-7194web2008.pdf>

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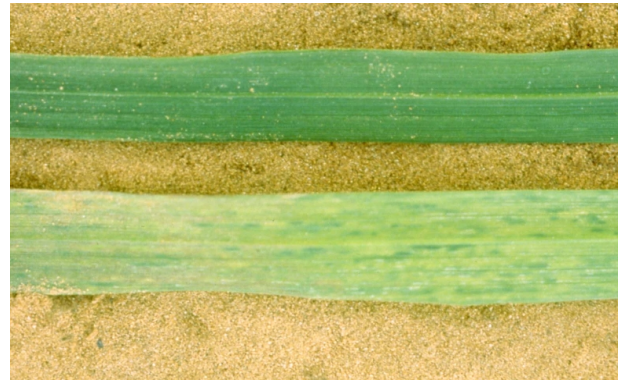
## Wheat Disease Update

Bob Hunger, Extension Wheat Pathologist



Not much different from a week ago around Stillwater. Samples collected last week revealed soilborne and spindle streak mosaic viruses in various samples as expected, even though symptoms are not yet that striking. Barley yellow dwarf virus also was confirmed in some samples, but not as many as I thought would test positive.

Gary Strickland (Extension Educator – Jackson County in SW OK) indicated to me today that there has been little to no diseases to date. He does feel that insects have started to cause some problems and will be scouting today. He indicated that wheat in his area is just on the verge of jointing, especially earlier varieties such as Jagger.



Soilborne (above) or spindle streak (left) viruses on wheat.

**Texas** Dr. Amir Ibrahim (Assoc. Prof, Small Grains Breeding and Genetics, Texas A&M), 2-Mar: “We have found an isolated yellow rust “hot spot” on ‘Cedar’ wheat today at College Station, TX. The hot spot is about 4x3 foot with some leaves rated as 100 S. I could not detect any yellow rust in the remaining replicates of Cedar in the Texas Uniform Variety Trial. The wheat crop is relatively early this year. ‘Billings’ is at Feekes’ 10 with a visible boot swollen in the sheath. Leaf rust is developing uniformly in the lower canopy of the border, ‘TAM 110’ with a reading of 60S.



The plots, head-rows, and populations at the rust evaluation nursery at Castroville are in excellent shape and the growth is lush. We have good separation between head-rows, so this lush growth will not impede note taking. Leaf rust started to develop in the lower canopies of the spreader blends (several leaf rust susceptible cultivars varying in maturity, height, and susceptibility to different leaf rust races). The wheat crop is earlier by at least a week at Castroville this year. Mid-April will be a good target date for evaluating leaf rust. I will keep monitoring the rust conditions and will update this group on biweekly basis from now on.”



**Kansas** (Dr. Erick De Wolf, Wheat Plant Pathologist, KSU), 2-Mar: “I was out looking at research plots near Manhattan, Kansas (Northeastern, KS) March 1. Wheat at this location ranged from tillering to near jointing (Feekes 3-5). I was not able to find leaf rust, stripe rust or stem rust at this location. Historically, this is a location where we often find leaf rust this time of year. The absence of overwintering rust could be important for Kansas and the region. I will visit some other locations in Kansas this coming week to verify the status of disease in other regions. Based on the recent reports from Arkansas and Texas; however, we should be carefully monitoring the situation in southern wheat crop.

I was able to find low levels of powdery mildew, and *Septoria tritici* blotch in the research plots. I also suspect barley yellow dwarf will also be a factor at this location. Aphids were active at this location, and lady bird beetles were already active in the fields.”

**Arkansas** (Dr. Jason Kelly, Wheat and Feed Grains Extension Agronomist, University of Arkansas) 01-Mar: Reports of wheat stripe rust have really jumped this week with confirmed cases of stripe rust now being reported in 9 counties in East-Central Arkansas. The levels of stripe rust being found ranges from individual infected leaves to large “hot spots”. The reports of large hot spots is particularly alarming since much of the wheat in the area where stripe rust is being reported is just now beginning to joint. The hot spots that I have seen have stripe rust all the way to the top of the plant and much of the lower leaves have already died from stripe rust.



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

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