

PLANT DISEASE AND INSECT ADVISORY



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Wheat Disease Update Bob Hunger, Extension Wheat Pathologist

Wheat soilborne mosaic virus (WSBMV). So far, symptoms and reports of WSBMV have been lacking. However, the strong flush of spring growth is just getting ready to occur, and that is the time when WSBMV symptoms are the most obvious.



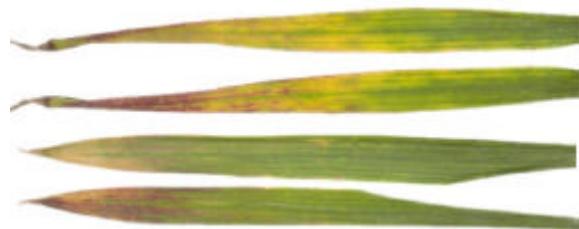
Leaf and stripe rust. During March 10-12, I traveled to a meeting at Vernon, TX, and took the opportunity to stop several times and examine wheat near Chickasha, Apache, Altus, Vernon, and Frederick. Only one pustule of leaf rust was observed on the entire trip, which was in a field of 2174 near Vernon, TX. I also have not yet seen any leaf rust near Stillwater, but have had one report of some leaf rust pustules on Jagger in north-central OK (west of Enid). While at the meeting in Vernon, I did hear reports of heavy stripe rust in central and southern TX, with leaf rust only being observed where stripe rust was not occurring. Hence, it appears as though rust inoculum (both leaf and stripe) will be blowing-up from the south once again. Immediately below I have pasted the most recent update from the Cereal Disease Lab describing leaf and stripe rust in TX and OK.

“In mid-February, light amounts of **leaf rust** were found in the central and Rolling Plains areas of Texas. In the plots the most severe rust was reported on the cultivar Jagger. In early March, wheat leaf rust hadn't increased much in central Texas plots, probably because of the cool temperatures in late February. The most severe rust was in border rows of TAM 110 where 10-20% severities were observed on the lower leaves. – Cereal Disease Lab – 13 March 2003.”



“In mid-February, many hot spots of **stripe rust** infection (1-3 feet in circumference) were found in central Texas wheat plots. This suggests stripe rust might have overwintered in this region. In a field 70 miles east of San Antonio, stripe rust was present in a commercial field of Ogallala, and in the nursery it was virulent on Ogallala and Coronado. In late February, cold temperatures in central Texas slowed stripe rust in plots, but conditions were still good for stripe rust increase since it rained or drizzled regularly in late February and early March. By early March, stripe rust had spread throughout the central Texas nurseries, but did not appear to have spread as much as in southern Texas. – Cereal Disease Lab – 13 March 2003.”

Other foliar diseases. While on the trip to Vernon, I did find a few *Septoria* leaf blotch lesions on lower leaves of wheat near Altus, and numerous tan spot lesions on wheat in a no-till field near Vernon. Both of these diseases usually are observed in the early spring on lower leaves, but only occasionally cause a problem later in the season because of their requirement for cool temperatures and long periods of free moisture on leaves for continued spread.



Aphids/barley yellow dwarf virus. In contrast to the absence of leaf rust, aphids were seen at every stop made between Stillwater and Vernon. Both greenbugs and bird cherry-oat aphids were seen, with infestations ranging from low to sufficiently high to warrant spraying. No strong symptoms of BYDV were observed, but several reports of BYDV-like symptoms were heard.

Keep an Eye Out for Soybean Rust

John Damicone, Extension Plant Pathologist

Soybean growers and crop advisors would be wise to be on the lookout for soybean rust. A weak strain of soybean rust has occurred for some time in Caribbean countries and Puerto Rico. The more damaging Asian strain of soybean rust (*Phakopsora pachyrhizi*) has spread from tropical and subtropical areas of Asia to Africa and Australia in recent years. It was reported for the first time in the Western Hemisphere in Paraguay in 2001. In 2002, Asian soybean rust spread into the major soybean producing countries of Brazil and Argentina. The disease has not yet been found in the United States. However, the fungus produces airborne spores that can be transported long distances in upper air currents. Experts are worried that Asian soybean rust might eventually spread into the continental U.S.

Soybean rust is usually found first on the lower leaves of plants at or near flowering. Lesions appear as small, pale green spots on the upper leaf surface (Figure 1). Lesions enlarge, become angular in shape, and eventually turn brown to reddish-brown as they mature (Figure 2). The rust pustules are cryptic as they appear in mature lesions as tan-colored bumps on the lower leaf surface (Figure 3). Because the rust pustules are not as obvious as those caused by rust disease on wheat, symptoms may be confused with other foliar diseases such as bacterial blight and bacterial pustule. Severely infected leaves eventually turn yellow and fall off the plant. Yield loss is caused by premature defoliation. The disease is favored by warm, humid weather. Apparently, temperatures above 86F inhibit rust development. Other legumes such as kudzu, sweet clover, vetch, medic, lupine, bean, and southern pea serve as alternate hosts for Asian soybean rust and may serve to perpetuate the fungus in the absence of soybean.

In areas where rust has become severe, yield losses over 50% have been reported. The planting of resistant varieties is the best way manage Asian soybean rust. However, it is not known whether soybean varieties grown in the U.S. possess any resistance. Soybean varieties currently being grown in the U.S. are being screened for resistance in South America. From one to three fungicide applications are required to control the disease on susceptible varieties. Fungicides are also being screened in South America. Apparently there is going to be a program to secure a

national emergency exemption (Sec. 18) for one or more fungicides to control rust should it spread into the U.S.

If soybean rust is suspected, leaf samples should be submitted to the OSU Plant Disease and Insect Diagnostic Lab for verification.



Figure 1. Early symptoms of soybean rust are tiny, pale green spots on leaves.



Figure 2. Mature lesions of soybean rust are brown and angular.



Figure 3. Rust pustules appear on the lower leaf surface as tan-colored bumps in the center of mature lesions.

New Fungicide Registered for Use on Peanuts and Vegetable Crops

John Damicone, Extension Plant Pathologist

Headline and Cabrio are trade names for the fungicide pyraclostrobin that has been registered for use on several crops of importance in Oklahoma. The product has been tested as BAS 500 and has broad spectrum activity on numerous types of diseases. Pyraclostrobin is a strobilurin fungicide that has the same mode of action as azoxystrobin (Abound, Quadris) and trifloxystrobin (Flint). It is important that resistance management guidelines specified on the label are followed to help prevent the development of fungicide resistance. Resistance has quickly developed to strobilurin fungicides in gummy stem blight of cucurbits and powdery mildew on several crops.

Headline 2.09E is registered for use on peanuts, potatoes, dry beans, and wheat. On peanuts, Headline provides superior control of early leaf spot of peanuts at 6 to 9 fl oz/A. Application intervals can be extended to 21 days for the 9 oz rate. Rates of 12 to 15 fl oz/A are needed for control of soilborne disease such as southern blight and limb rot. I understand that the cost of Headline at 6 fl oz will be similar to Bravo at 1.5 pt/A. Only two consecutive applications may be made before switching to a non-strobilurin fungicide and three applications are permitted per season. On potatoes, Headline is labeled for early and late blights. The use rate on potatoes is 6 to 9 fl oz for early blight and 6 to 12 fl oz for late blight. Applications for late blight should be alternated with a non-strobilurin fungicide.

Cabrio 20WG is registered for use on bulb vegetables (onion, garlic), berries, cucurbits (watermelon, pumpkin, etc.), fruiting vegetables (eggplant, peppers, and tomatoes), and root

vegetables (including turnip). In trials in Oklahoma, Cabrio has provided good to excellent control of anthracnose and good control of powdery mildew of cucurbits at 12 to 16 oz/A. While we have not had a chance to get a reading on cucurbit downy mildew, Cabrio has been excellent on this disease in the southeast. The fungicide has also been excellent on Cercospora leaf spot on turnip greens in Oklahoma trials.

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