

# CEREAL RUST BULLETIN

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Issued by:

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- Wheat stem rust is increasing in a few southern U.S. plots of susceptible wheat.
- Wheat leaf rust is widespread and increasing throughout the U.S.
- Wheat stripe rust is at low levels in the Midwest and severe in some areas in California.
- Oat stem rust is light in California and southern U.S. locations.
- Oat crown rust is light in the southern U.S.

The winter wheat harvest has commenced in the southern areas of the states from Texas to Georgia. Winter wheat maturity is behind normal in the central winter wheat growing area. In the spring wheat and oat area of the northern plains, cool and wet conditions have slowed crop development.

**Wheat stem rust.** In mid May light stem rust was found on green stems in plots of Winmaster and Deliver at College Station, Texas. Uredinia were found on only 4-5 stems. In mid-May, light levels of stem rust were found in plots at Stillwater, Oklahoma and 40 miles west of Stillwater at Marshall. In both locations the rust was found on McNair 701, which is a variety that is highly susceptible to stem rust. In mid-May, pustules of stem rust were found in a plot at Blackville in the coastal plain of South Carolina.

Wheat stem rust collections from Castroville, Texas were identified as race QFCS. This race has been the most commonly identified race from U.S. collections in the past few years, and is avirulent to most of the winter and spring wheats in the U.S.

Wheat stem rust observations map can be found on the CDL website:

([http://www.ars.usda.gov/SP2UserFiles/ad\\_hoc/36400500Cerealarustbulletins/2008wsr.pdf](http://www.ars.usda.gov/SP2UserFiles/ad_hoc/36400500Cerealarustbulletins/2008wsr.pdf)).

**Wheat leaf rust.** During early May, wheat leaf rust was severe on susceptible varieties in plots, trials and fields in Oklahoma where conditions (moisture and temperature) have favored rust development. In central Oklahoma, leaf rust was covering the flag leaves of unsprayed fields of Jagger. In western Oklahoma, the incidence and severity of rust decreased dramatically.



In mid-May, wheat leaf rust was increasing in fields of susceptible varieties (e.g. Jagger and Jagalene) throughout the state of Kansas. Many fields have been sprayed with fungicide to control the rust.

In mid-May, traces levels of leaf rust were found in south central Nebraska fields in counties that border Kansas. The rust is expected to spread north in the next few weeks.

In mid-May, the Arkansas wheat crop was in good shape, but high levels of leaf rust were found in many fields that were not sprayed with fungicide. In some fields the fungicides were applied too early and therefore they were not effective when the rust arrived. Wheat is maturing rapidly, so impact may be minimal.

In early May in the eastern soft red winter wheat region, leaf rust was found from South Carolina to Maryland. In South Carolina it was found in the Coastal Plain, where it was worse at Blackville than at Florence, but mostly because Blackville was more advanced in maturity. In Maryland a few widely scattered fields with leaf rust were found on the Delmarva peninsula, in Caroline and Queen Anne counties. Only a few pustules are developing on the flag leaves, but conditions are good for continued development. Much of the acreage is being sprayed for wheat diseases.

In early May, leaf rust was starting to develop in the nurseries at Blacksburg (southwestern Virginia) and Warsaw (northeastern Virginia) and has the potential to become severe as the crop develops.

In mid-May, a foci of leaf rust (50% severity) was found in wheat plots near Fresno, California.

From rust collections made in late March in southern Texas plots, the following leaf rust races were identified: MLDS (Lr17 and 41 virulence) from Overley; TDBGH (Lr2a and 24 virulence) from Jagalene and Cutter; and TFBJH (Lr2a, 24 and 26) from TAM 110. From collections made in southeastern Arkansas in late March the following races were identified: MCGJG (Lr11, 26 virulence), MFTNB (Lr11,17, 24, 26), MCPSC (Lr17, 26), TBRKG (Lr2a,11,18) and TDBGH (Lr2a, 24). These leaf rust races represent some of the most common races identified from rust collections made during the 2007 leaf rust survey (<http://www.ars.usda.gov/Main/docs.htm?docid=10493>).

**Wheat stripe rust.** On May 8, wheat stripe rust was found for the first time this season in Kansas in Sedgwick County in the south central part of the state. The rust was light on the variety 2137, which is known to be susceptible to the disease. Most varieties of wheat grown in Kansas are resistant to stripe rust and as the weather is getting warmer and drier the disease is not expected to cause any major losses in the state.

On May 20, a few stripe rust hot spots were found in research plots at Mount Vernon, Illinois. If the cool weather continues, there may be more reports of stripe rust in the area.

Cool conditions were favorable for continued development of wheat stripe rust in California's Central valley and surrounding areas through the middle of May. Several varieties that were not



infected earlier in the season had susceptible infection types in mid-May, possibly indicating that new races have become established. With few exceptions, fungicides were applied to fields of known susceptible varieties, so yield losses will be minimal. Five consecutive days of extremely hot weather (high 90's and 100's) beginning on May 15 terminated the epidemic and hastened the Central Valley's crop toward maturity. Many entries in the wheat stripe rust screening nurseries at the UC Davis Agronomy Farm had final disease severities of 60-100%.

On May 14, trace levels of stripe rust were found on a susceptible spreader row in a winter wheat nursery near Pullman, Washington. This was the first observation of stripe rust in the Washington/Idaho Palouse region this year.

**Oat stem rust.** On May 18, light amounts of oat stem rust were found in a plot of Jim at the Ashland Agronomy farm in northeastern Kansas at Manhattan.

In mid-May, light levels of oat stem rust were found on wild oats (*Avena fatua*) growing along the roadside in Yolo and Solano counties in the Sacramento Valley in California.

Several races of oat stem rust were identified from samples collected from FL, LA and TX, including TGD (NA29), TGL (NA28), TGN (NA79 or NA29+*Pga* virulence), TJN (NA30+*Pg12* virulence but avirulent on *Pga*), and TJS (NA78 or NA67+*Pga* virulence). Races with *Pga* virulence are common and predominant.

Oat stem rust observations map can be found on the CDL website:  
([http://www.ars.usda.gov/SP2UserFiles/ad\\_hoc/36400500Cerealarustbulletins/2008osr.pdf](http://www.ars.usda.gov/SP2UserFiles/ad_hoc/36400500Cerealarustbulletins/2008osr.pdf))

**Oat crown rust.** In mid-May, light levels of crown rust were found in plots at Davis, California.

**Buckthorn.** On May 12, light levels of aecial infections were observed on buckthorn in the nursery at St. Paul. Cooler than normal temperatures have slowed aecial development. Buckthorn serves as the alternate host for oat crown rust.

**Barley stem rust.** There have been no reports of barley stem rust this year.

**Barley leaf rust.** In mid-May, leaf rust was moderate in barley plots near Fresno, California.

**Stripe rust on barley.** In mid-May, stripe rust was found on wild barley along the roadside in Merced and Yolo, counties in California. Many entries in the barley stripe rust screening nurseries at the UC Davis Agronomy Farm had final disease severities of 60-100%.

**Rye rusts.** There have been no new reports of rye leaf rust since CRB #4.

**Stem rust on barberry.** In early May, light pycnial infection was found on susceptible barberry bushes (alternate host for stem rust) growing in south central Wisconsin. The infection was lighter than in years past.



Fig. 1. Leaf rust severities in wheat fields - May 21, 2008

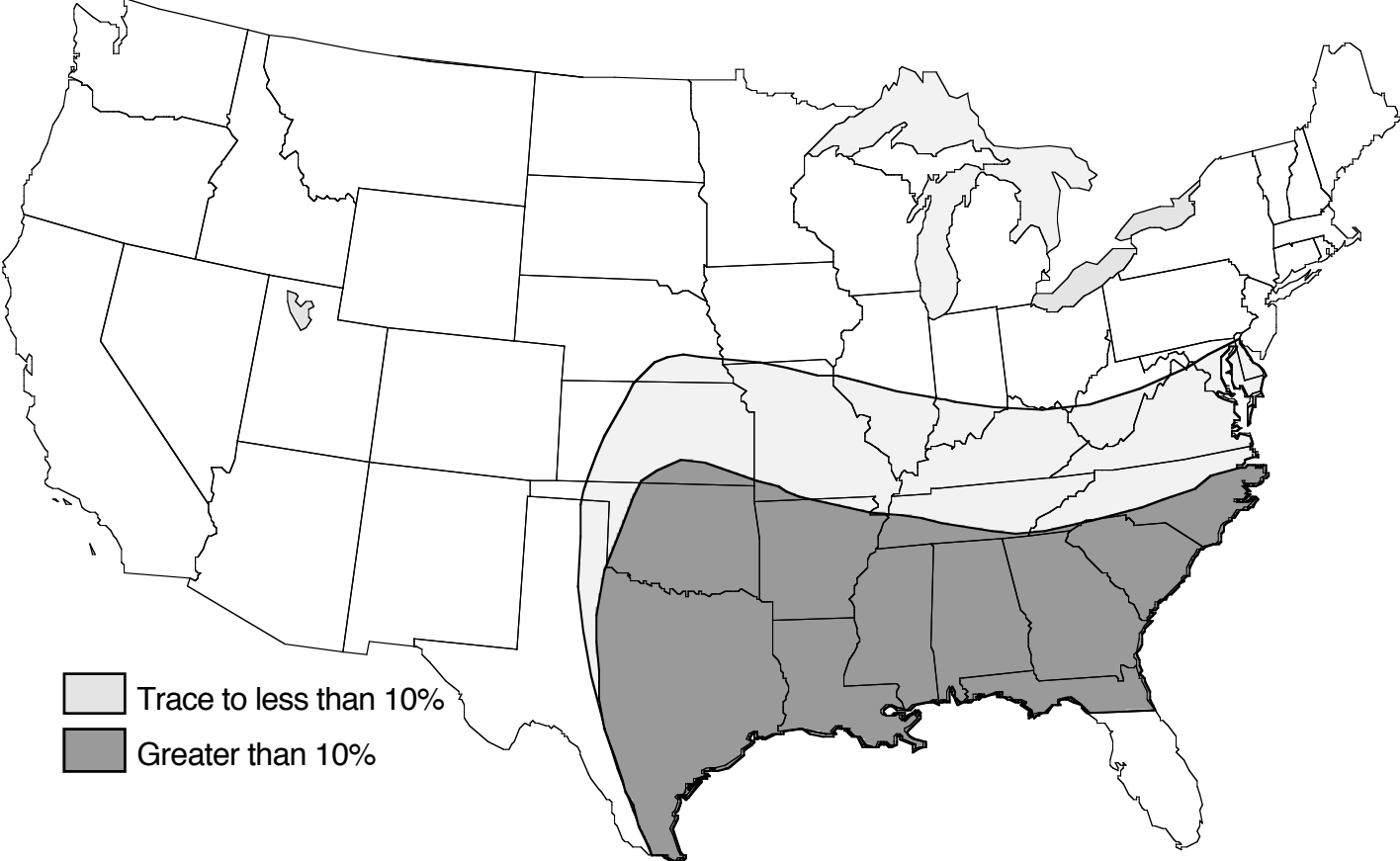


Fig. 1. Stripe rust severities in wheat plots and fields - May 21, 2008

