

CEREAL RUST BULLETIN

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- Wheat leaf rust is increasing throughout the southern U.S.
- Wheat stem rust was found in south central Texas and southwest Louisiana.
- Wheat stripe rust is predominant wheat disease in Arkansas.
- Oat stem rust has been found in central Texas and southern Louisiana.

Winter wheat growth and development is behind compared to most years, however recent warmer temperatures have stimulated growth across the southern winter wheat region during the past week. In the spring wheat area of the northern plains, cold temperatures with recent rain and snowfall in the last week have slowed field work and planting.

Wheat stem rust. Wheat stem rust was reported in plots at Uvalde and Castorville, Texas, in light amounts the fourth week of April. A wheat stem rust center was found in a plot in southwest Louisiana on April 23. The rust was heavy in the plot but scattered in other plots. These are the first reports of wheat stem rust in 2002.

Wheat leaf rust. In mid-April, wheat leaf rust was found in fields in trace to light amounts, and was severe on susceptible cultivars in research plots from central Texas to South Carolina. In early April, sufficient moisture conditions in central and southern Texas allowed leaf rust to increase to 70% severity levels on flag leaves in plots at College Station and McGregor. At both locations in Texas 70% leaf rust severities were observed on flag leaves on wheat cultivars that have *Lr9* (Lockett) or *Lr41* (Thunderbolt). Leaf rust races such as PMNQ, which is virulent to *Lr9* and *Lr41*, have most likely been selected by cultivars with these two genes. In drier areas of west Texas, only 5-10% leaf rust severities were observed on lower leaves. From northeastern Louisiana, through Alabama and Georgia to North Carolina, trace to light amounts of leaf rust have been observed in research plots. Leaf rust is widely present in at least trace amounts throughout the winter wheat area of the southern plains and the southeastern states. Leaf rust incidence and severity should increase in the next few weeks with increased rainfall and warmer temperatures.



From leaf rust collections made during January and February, the following races were identified: Texas – MCDS, MBDS, TCDS and TLGF; Arkansas – MCDS, MBDS, SBDF, FMMQ, and TLGJ. Races MCDS, MBDS, and TCDS are virulent to Jagger which has *Lr17*. TLGF and TLGJ are virulent to some cultivars with *Lr9*.

Wheat stripe rust. Wheat stripe rust development in central Texas has slowed in some areas, but is still active despite the recent warm weather in some plots in Uvalde and Castorville (south central Texas).

In mid-April, stripe rust infections of 40% severity were found in fields in northeastern Louisiana. Recent temperatures of 80s F and higher, should slow the development of stripe rust, although some yield losses can still be expected given the high severity levels. Across all of Louisiana, stripe rust was at moderate levels, with a number of fields having been sprayed with fungicides to reduce yield losses. Significant amounts of stripe rust have occurred in three of the last five years in Louisiana. Wheat lines Coker 9663 and AGS 2000 have been resistant to stripe rust in Louisiana.

In mid-April, light amounts of stripe rust were found in southern Alabama wheat plots.

Stripe rust will cause significant yield losses in Arkansas in 2002, being the most important disease of wheat this year. Infection levels of up to 95% severity at flowering stage were seen in fields and research plots. The fungicide Tilt is being widely used to reduce stripe rust infections and yield losses. Recent warm weather in mid-April may slow the development of stripe rust in Arkansas. Stripe rust development in central Texas and eastern Oklahoma has slowed most likely due to warmer temperatures. In 2002, stripe rust developed in the lower Mississippi Valley area due to adequate moisture and cooler temperatures that allowed the rust to infect and spread over a larger geographic area. Stripe rust races with virulence to *Yr9* may also be common. These races have greater virulence to winter wheats with the 1B/1R translocation.

Wheat stripe rust is severe in northwest Washington, where conditions have been suitable for rust infection, increase, and spread. Stripe rust incidence was 100% in fields and research plots with severities of 5%-30%

Oat stem rust. Oat stem rust was found in early April in south Texas at Uvalde on the cultivar Harrison. Stem rust was light in plots in Uvalde and College Station, Texas in mid-April. In the third week of April, stem rust had increased in oat plots at Baton Rouge, LA, where the moisture and temperature conditions were ideal for stem rust.

Oat crown rust. In mid-April, crown rust was light in nurseries at College Station and McGregor, Texas, but severe in roadside oat (common and *Avena fatua*) throughout central Texas. Crown rust hot spots were found in plots at Uvalde, Texas. The oats there are late and lush and there appears to be increased virulence in the crown rust population based on the MR-MS readings which previously were VR for the same lines. Crown rust was severe in plots at Giddings where some lines approached 100 S.



Crown rust infections of 40% were found on the cultivar Brooks at Baton Rouge LA, in the third week of April. The oat crop is at heading stage, which will allow sufficient time for crown rust severity to increase.

Buckthorn. Buds on buckthorn, the alternate host for oat crown rust, are just beginning to break in the buckthorn nursery at St. Paul, Minnesota. This is later than normal for most years.

Barley stem rust. Light amounts of stem rust were found on barley in a few plots at Uvalde, Texas by the fourth week in April.

Barley leaf rust. There have been no more reports of barley leaf rust since the report of leaf rust in southern Texas in early April.

Stripe rust on barley. There have been no reports yet of stripe rust on barley.

Rye rusts. There have been no new reports of rye leaf rust since Bulletin #2.



Fig. 1. Leaf rust severities in wheat fields - April 23, 2002

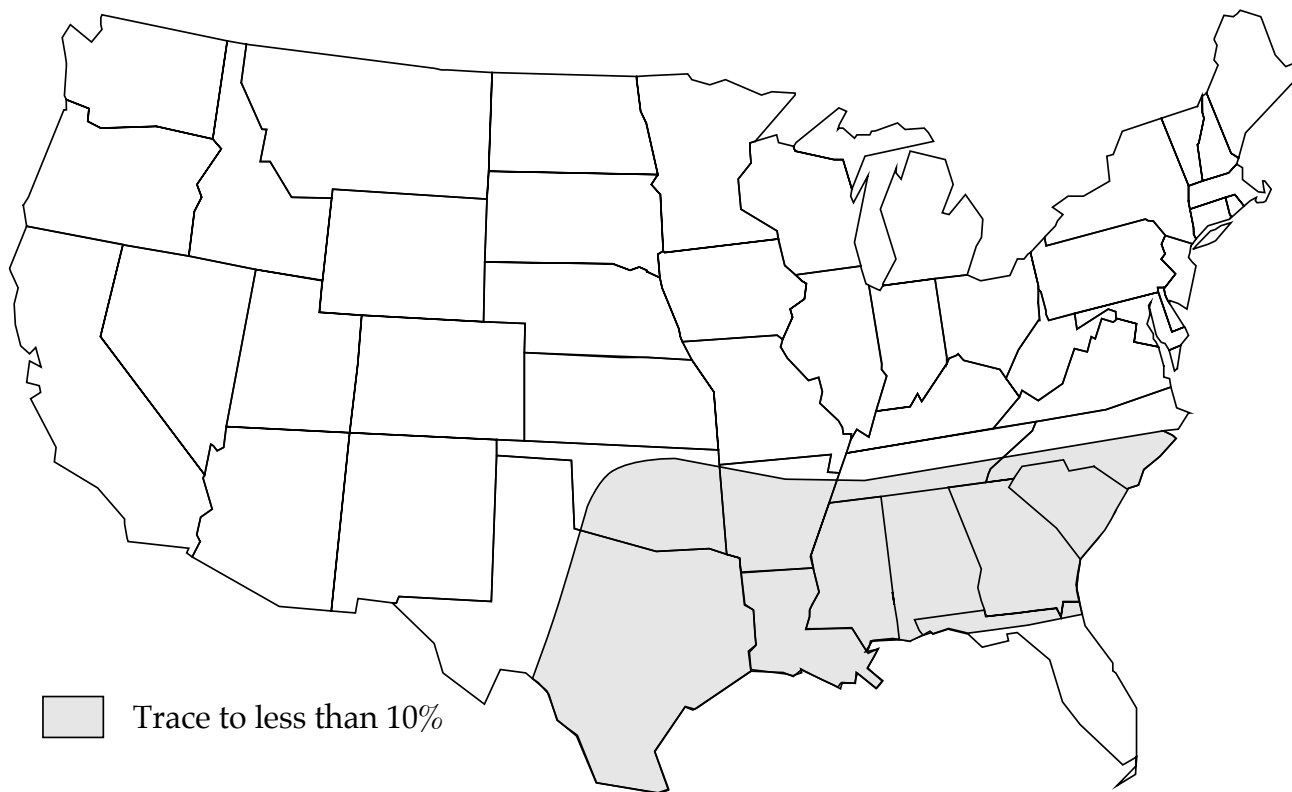


Fig. 2. Stripe rust severities in wheat fields - April 23, 2002

