

CEREAL RUST BULLETIN

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Issued by:

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- The spread of wheat leaf rust in the Great Plains has been slow this year; damage will be minimal in areas where the crop is near or at maturity.
 - Wheat stem rust continues to be lighter than in recent years.
- Aecial infections of crown rust on buckthorn are abundant, but later in developing than last year.

Most of the winter-sown small grain crop is in good condition throughout the United States. By mid-May, harvest was underway from southern Georgia to north central Texas. Most of the crop in the central plains is near normal or slightly ahead of normal crop maturity. In the spring grain-growing area, planting is near completion and crop emergence is later than normal for this date.

Wheat stem rust. During mid-May, wheat varieties that still were green (non-vernalized) were heavily rusted with stem rust in southern Louisiana nursery plots. This was the only new report of wheat stem rust found in the last two weeks in the U.S.

Wheat leaf rust. By the third week in May, leaf rust was severe in plots and light in most fields in north central Oklahoma. In plots in north central Oklahoma, 60% severities were reported on flag leaves of susceptible cultivars such as Chisholm, Karl 92, and Jagger. However, severities of less than 2% were observed on cultivars like 2163, Custer, and Tomahawk. Rust was severe in some fields in central Oklahoma where wheat was planted early, which allowed fall infection and overwintering of leaf rust. During the third week in May, in a south central Kansas nursery plot, 40% leaf rust severities were reported on the flag leaves of susceptible cultivars (e.g., TAM 107). Severities of 10% were found on flag-1 leaves in fields of the cultivar Jagger in southeastern Kansas in mid-May. In some central Kansas fields, the flag leaves were clean, but the flag-1 leaves had leaf rust severities of trace to 5%. The northward development of leaf rust has been slow into the Great Plains states because of the cooler than normal weather and moist conditions which kept the spores within the crop canopy.



During the third week in May, leaf rust severities ranging from 10 - 40% were observed on *Triticum cylindrica* (*Aegilops cylindrica*) plants growing alongside the road in north central Oklahoma.

By the third week in May leaf rust was heavier than normal in Arkansas. Wheat in the southern part of the state was too mature for rust to cause much loss. In northern Arkansas (north of I-40), losses may occur in fields that were later than normal in maturity. This area could provide a source of inoculum for areas to the north. In some fields in this area, leaf rust development has been stopped by severe Septoria infection of leaves.

In most of the southeastern U.S., dry weather through March and most of April was a limiting factor in rust development. Since late April, frequent rains have occurred which were followed by rapid leaf rust development on susceptible cultivars. But now the crop is maturing to the point where losses to leaf rust will be limited.

During the third week in May, traces of leaf rust were reported in south central Michigan (Fig. 1).

Traces of leaf rust were found in winter wheat plots in Brookings, South Dakota in late May (Fig. 1). Growth stages ranged from emergence of flag leaf to late boot.

By mid-May, late infections of wheat leaf rust occurred throughout the Central Valley of California and because the infections were so late, losses will be minimal. By the third week in May, leaf rust was just starting to show in nurseries in western Oregon but none was yet found in commercial fields. Disease levels were much lower this year than in previous years because of the cool spring and a cold spell in late December.

Wheat stripe rust. During the third week in May, because of the cool weather, wheat stripe rust was continuing to increase in fields in the Sacramento and San Joaquin Valleys in California. Yield losses will be low because in most of the fields the rust was late in developing and the wheat was grain filling when the infection began.

In western Oregon nurseries, wheat stripe rust was starting to show, but none was found in commercial fields in late May.

Oat stem rust. There have been no new reports of oat stem rust since the last bulletin. In late April, significant amounts of oat stem rust were found in southern U.S. fields and plots.

Oat crown rust. Oat crown rust was moderate to severe in plots in southern Georgia, but developed late in the season. In mid-May, 70-80% severities were observed on susceptible oat cultivars like Simpson growing in the Blackville, South Carolina area (southwest SC). However, at Florence (east central) and Clemson (northwest) South Carolina, no crown rust was found.

Buckthorns in east central South Dakota were severely infected with crown rust and mature aecia were found by the fourth week in May. No infection on oats or barley has yet been found. Aeciospores were being released from crown rust infected buckthorn bushes growing in Fargo, North Dakota at this time. The infections are moderate and most likely from other grasses as there are no oats in the area.



By the fourth week of May, there was abundant crown rust infection on buckthorn at St. Paul, but no uredinia have been found yet on oats in the buckthorn nursery. The first pycnia appeared on the buckthorn in mid to late April, but the main flush of new pycnia did not appear in the buckthorn nursery at St. Paul until the second week of May. Most of the new infections still have few aeciospores. Cool weather has delayed development of aecia.

Barley stem rust. No barley stem rust has been reported in the U.S. this year as of May 23.

Barley leaf rust. There have been no new reports of barley leaf rust since the last bulletin when traces were reported in nurseries in central Texas in late April.

Barley crown rust. Moderate levels of infection were observed on buckthorn in the barley crown rust nursery in Fargo the week of May 24. Aecia are forming but no infection on the barley was observed at this time.

Stripe rust on barley. By the third week in May, foci of stripe rust were found in barley plots at Corvallis, Oregon.

Rye leaf rust. During the third week in May, 20% leaf rust severities were observed in rye fields in north central Oklahoma. Rye leaf rust developed late and was very light in plots in southern Georgia.

Rye stem rust. There have been no new reports of rye stem rust since the last bulletin when traces were reported in a field in central Texas in late April.

Barberry rust. There have been no new reports of rust on barberry since the last bulletin when infections on barberry were found in southeastern Minnesota and south central Wisconsin in late April.

Latest on the CDL web page:

McVey spring wheat cultivar released

(http://www.cdl.umn.edu/Special_Rpts/sprMcVey.html)



Fig. 1. Leaf rust severities in wheat fields on May 25, 1999

