

CEREAL RUST BULLETIN

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Issued by:

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- Wheat stem rust in the southern U.S. is much lighter this year than last year.
- Wheat leaf rust in Texas and Oklahoma is more severe than last year.
- Stripe rust has not been found in the south central U.S., but both wheat and barley stripe rust are increasing in California.
- Oat crown rust development has slowed in the southern U.S.

Small grain harvest has begun in the southern U.S. The winter wheat crop in the central Great Plains is in good shape and ahead of normal maturity. Warm, dry weather the last week of April, in most of the spring grain-growing area, allowed producers to make substantial progress on planting of small grains, but rain the first part of May slowed planting.

Wheat stem rust. During late April, wheat stem rust severities were light in central Texas fields and nurseries, but no wheat stem rust was observed in nursery plots or in fields in the southeastern states. This year wheat stem rust is much lighter than last year in the southern U.S.

Wheat leaf rust. During the last week in April, in the southeastern U.S., severities of 60% were observed in plots of susceptible soft red winter cultivars, while in fields, 1% severities were common on the flag leaves (Fig. 1). The drier and cooler than normal conditions during the last part of April slowed the rust development. Due to the low relative humidities during the last half of April, there was little dew formation which is needed for rust infection to occur. Therefore, the numbers of spores released as inoculum was lessened for areas further north.

During the last week in April, wheat leaf rust severities in north central Texas and southern Oklahoma ranged from trace to 80% in plots, and in fields where rust overwintered, severities were as high as 70% on flag leaves. Leaf rust is more severe than last year in this area. These areas provide rust inoculum for wheat grown in Kansas and Nebraska.



In early May, traces of leaf rust were found on the flag leaves of susceptible wheat cultivars in fields in the southern half of Kansas. Rust will continue to develop with warm weather and moisture whether it is in the form of rain or dew.

During the last week in April, traces of leaf rust were found on *Triticum cylindrica* (*Aegilops cylindrica*) plants growing along the roadside in north central Texas. The pathotype (race) generally identified from these collections normally does not infect the commonly grown wheat cultivars.

In early May, 20% severities were reported on wheat lines growing in a nursery in the northern Sacramento Valley in California. Wheat leaf rust development in California is less than last year.

Wheat stripe rust. No wheat stripe rust has been observed in the south central U.S. this year. Last year light amounts of wheat stripe rust were scattered from the lower Mississippi Valley north to east central Minnesota.

During the first week in May, wheat stripe rust was continuing to develop in the Sacramento Valley in California, where temperatures have remained relatively cool. Disease foci readings ranged from 1 to 80% severities in fields of the fall-sown hard red spring wheat cultivars Express and RSI 5, the predominant cultivars grown in the Sacramento Valley.

Oat stem rust. During the last week in April, oat stem rust severities ranged from 1 to 20% in oat plots in central Louisiana and traces in southern Alabama. By late April, oat stem rust had killed some of the cultivars growing in plots in a south Texas nursery. In general, oat stem rust development is much less than last year throughout the southern U.S.

From oat stem rust collections made in south Texas, in mid-March, the common pathotype NA-27 was identified.

Oat crown rust. By late April, crown rust was severe in plots of susceptible cultivars and light in commercial fields in the southern U.S. In much of this area, the drier and cooler than normal weather during the last half of April was not conducive for rust development. These southern areas provide some inoculum for areas further north.

By late April, pycnial infection was noted on buckthorn bushes in southeastern Minnesota and in the St. Paul buckthorn nursery. At St. Paul, most of the pycnia were found along the edge of the nursery rather than where the oat telial straw was located. Therefore, the first pycnia observed may be forms that infect grasses rather than oat. The pycnia development is later than normal this year in the St. Paul nursery. This suggests that the release of basidiospores may be peaking later this year, relative to the development of the buckthorn leaves.



In early May, heavy infections of pycnia and some early stages of aecia were observed on buckthorns at Brookings, South Dakota.

Barley stem rust. No barley stem rust has been reported in the U.S. this year as of May 10. Limited amounts of barley are grown commercially in the southern states. Stem rust on barley rarely occurs in this area.

Barley leaf rust. In late April, traces of barley leaf rust were found on cultivars growing in nurseries in central Texas.

Stripe rust on barley. By early May, barley stripe rust had been observed in nurseries in the Sacramento and San Joaquin Valleys of California at severities of 80-100%.

Rye leaf rust. In late April, 10% severities were observed on flag leaves in rye fields in southern Alabama and central Texas.

Rye stem rust. During late April, traces of rye stem rust were found in a field in central Texas.

Barberry rust. In late April, the pycnia stage of wheat stem rust was found on barberry leaves in southeastern Minnesota and the aecia stage was found at two locations in south central Wisconsin on the common susceptible barberry (*Berberis vulgaris*).

Special Note: In an effort to keep cooperators updated on the *Sr31* virulence found in Uganda, Africa, we will continue to add new information to our web page (http://www.cdl.umn.edu/Special_Rpts/Sr31vir/Sr31_vir.html) as we receive it.



Fig. 1. Leaf rust severities in wheat fields on May 10, 1999

