

CEREAL RUST BULLETIN

Report No. 5

May 31, 1994

From:
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The small grain harvest is underway from southern Georgia to southwestern Oklahoma. In the northern grain growing area most spring sown small grains have been planted.

Wheat stem rust. During the third week in May, wheat stem rust was severe in plots and light in fields at hard dough in eastern and central Louisiana. This late stem rust development is normal for this area. By the third week in May, traces of stem rust were found in plots and fields in eastern Arkansas and in plots in west central Mississippi at the soft dough stage. This year light amounts of wheat stem rust have been found scattered throughout the lower Mississippi Valley wheat growing area but not much stem rust has been found in the rest of the country. In all of these areas only minimal stem rust losses are expected.

Wheat leaf rust. By late May, leaf rust severities ranged from trace to 50% in plots from northwestern Alabama to northeastern Arkansas (Fig. 1). In fields in the same area only trace to 10% severities were observed. These infected plants are providing leaf rust inoculum for wheat farther north. In late May, leaf rust was light in southeastern and the eastern shore of Virginia.

During the third week in May, traces of leaf rust were found on flag leaves in plots and fields throughout central, south central and southwestern Kansas. Leaf rust is much lighter in this area than last year because very little leaf rust overwintered, temperatures were cooler than normal in the early spring and moisture was less than normal. By the third week in May, in a few north central Oklahoma fields, 20% leaf rust readings were observed on flag leaves and rust also was observed on lower dried-up leaves which means this was one of the few locations in the Central Plains where leaf rust overwintered this year. These 20% leaf rust severity readings were common on flag leaves in plots and fields throughout central and western Oklahoma. During the third week in May, trace to 1% leaf rust severities were observed on flag leaves of Triticum cylindricum (Aegilops cylindrica) across central and western Oklahoma.

By the fourth week in May, leaf rust had increased to severe levels in plots and fields in the Sacramento Valley of California.

TABLE 1. Wheat leaf rust races identified through May 31, 1994.

Prt code	Virulence formula ¹	Number of isolates by state	
		Alabama	Texas
MBG-10	1,3,10,11	8	1
MBR-10	1,3,3ka,10,11,30		5
MCD-10	1,3,10,24		2
MFB-10	1,3,10,24,26		5
PBR-10,18	1,2c,3,3ka,10,11,18,30	2	
TBD-10	1,2a,2c,3,10,17		2
TBG-10	1,2a,2c,3,10,11		2
TDB-10	1,2a,2c,3,10,24		4
TDG-10	1,2a,2c,3,10,11,24		6
TFB-10	1,2a,2c,3,10,24,26		1
Number of isolates		10	28
Number of collections		5	15

¹ Single gene resistances evaluated: *Lr*1,2a,2c,3,3ka,9,10,11,16,17,18,24,26,30

Wheat stripe rust. By late May, stripe rust was severe in some northwestern Washington plots and light in fields.

Oat stem rust. During the third week in May, light amounts of oat stem rust were found in southwestern Georgia, northwestern Mississippi and northwestern Louisiana nurseries. In southern Texas this year oat stem rust development was less than normal. No oat stem rust has yet been detected in the central plains.

Oat crown rust. During the third week in May, traces of crown rust were found in east central Mississippi and northeastern Arkansas plots at dough stage. Oat crown rust is just beginning to appear on oats adjacent to buckthorn, the alternate host, in St. Paul, MN.

Barley stem rust. As of May 31, no stem rust has been reported on barley in the U.S. this year. Limited amounts of barley are grown commercially in the southern states and central Plains states, and barley stem rust often is not found in this area.

Barley leaf rust. By late May, barley leaf rust was light in eastern Virginia plots where the rust had been artificially inoculated. No evidence of overwintered leaf rust was found in this area, which is unusual.

Barley stripe rust. There have been no new reports of barley stripe rust since the last bulletin. In nurseries in the San Joaquin Valley, California, barley stripe rust was much more widespread than last year. Although barley stripe rust has never been found in Oregon or Washington, there is a potential that it may spread into the Pacific Northwest this year. Last year barley stripe rust spread as far as Idaho from its original introduction in Texas in 1991.

Rye rusts. During the third week in May, in two north central Oklahoma rye fields, 5% leaf rust severities were observed. No stem rust has yet has been observed on rye this year.

Crown rust on Buckthorn. During late May, moderate infections of aecia were observed on buckthorns throughout southern Wisconsin and southern Minnesota. By May 31, crown rust had spread from buckthorn to adjacent plots of oats in St. Paul, MN.

Stem rust on Barberry. There have been no new reports of rust on barberry since the last bulletin.

Fig. 1. Leaf rust severities in wheat fields on May 31, 1994.

