CEREAL RUST BULLETIN

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CEREAL RUST LABORATORY
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Reports from this mail list are also maintained on the CRL web page (http://www.crl.umn.edu/).

- Wheat stripe rust was found in Minnesota for the first time in several years.

The winter wheat harvest is underway from South Carolina to southern Kansas. Most of the small grains in the U.S. are 1 to 2 weeks ahead of normal crop maturity.

Wheat stem rust. There have been no new reports of wheat stem rust since CRB #5.

Wheat leaf rust. During the second week in June, leaf rust severities of trace to 5% were reported in wheat fields from northeastern Missouri to northwestern Ohio and southern Michigan (Fig. 1). On June 10, on flag leaves, leaf rust severity ratings of trace to 5% were recorded on most of the wheat varieties in northeastern Indiana plots, while 60% severities were recorded on a few susceptible lines. Throughout this area, leaf rust was more severe than last year, because of the large amounts of leaf rust inoculum that arrived from the southern U.S. and because in May the weather was warmer and wetter than normal.

By the second week in June, the last of the green leaves dried up in northern Kansas. The hot dry winds at the end of May caused premature ripening of wheat in central Kansas. Leaf rust developed late, but still managed to kill the flag leaves of susceptible cultivars during the soft dough stage throughout eastern and central Kansas. Some of the commonly grown varieties like Jagger, had significant amounts of rust (50% severity at early dough).

During the second week in June, leaf rust severities of trace to 5% were reported on flag leaves of winter wheat in a nursery in southeastern South Dakota. On the lower leaves, leaf rust severities ranged as high as 40%. In spring wheat, traces of leaf rust were observed on early planted lines at Brookings, South Dakota. During the second week in June, trace to 20% severities were found in winter wheat varietal plots in east central Minnesota. Leaf rust severities of trace to 1% were observed on winter wheat in south central Wisconsin in early June. Rust development is more severe than last year in the northern wheat growing area. In early May, low levels of leaf rust that overwintered were reported in the snowbelt region east of

Lake Ontario. In early June, traces of leaf rust were observed in the winter wheat varietal plots at Ithaca, New York.

By the second week in June, wheat leaf rust was increasing throughout the state of Washington. Rust severities were high in winter wheat plots at Walla Walla and starting to increase in plots at Pullman in eastern Washington and Mt. Vernon in western Washington.

The preliminary leaf rust race identifications for 1998 are shown in Table 1. So far, there have been no major changes from 1997 in races which have been identified

Table 1. Wheat leaf rust races identified through June 15, 1998

		Number of isolates		
Prt code	Virulence formula[1]	TX	AL	GA
MBDL	1,3,17,10	7		
MBRL	1,3,3ka,10,11,30	8	3	1
MDBL	1,3,10,24	3		
MDRL	1,3,3ka,10,11,24,30	14	3	
MCDL	1,3,10,17,26	19		
MJBL	1,3,10,16,24	4		
MFBL	1,3,10,24,26	2		
MNRL	1,3,3ka,9,10,11,24,30			1
TBTL	1,2a,2c,3,3ka,10,11,17,30			1
TDBL	1,2a,2c,3,10,24	1		
TDDL	1,2a,2c,3,10,17,24	2		
TDRL	1,2a,2c,3,3ka,10,11,24,30	7		
TFBL	1,2a,2c,3,10,24,26	8		
TFRQ	1,2a,2c,3,3ka,10,11,18,24,26,30	1		
TFTL	1,2a,2c,3,3ka,10,11,17,24,26,30	4		
Number of isolates		80	6	3
Number of collections		41	3	3

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

Wheat stripe rust. During the second week in June, stripe rust severities of 60% were found in a winter wheat plot at Rosemount, in east central Minnesota. Hot weather will slow the stripe rust development.

By the second week in June, wheat stripe rust was widespread in the Pacific Northwest. In susceptible winter wheat cultivars in plots near Pullman, Washington, 100% severities were observed at heading to anthesis. Severities of 90% were reported in eastern Washington fields of Westbred 470 near Walla Walla. The rust is also developing in spring wheats. Farmers growing Westbred 470 are spraying for the rust, while cultivars with high-temperature, adult-plant resistance continue to provide durable resistance.

Oat stem rust. From oat stem rust collections made in early April in southern Texas the common race NA-27 was identified and from collections made in southern Alabama the NA-16 and NA-27 races were identified.

Oat crown rust. In early June, moderate aecial infections were found on buckthorn bushes in south central and southeastern Wisconsin. By the second week in June, traces of crown rust were found in southern Wisconsin fields.

By June 15, crown rust was severe on the lower leaves of oat growing near the buckthorn bushes in the nursery on the University of Minnesota, St. Paul campus, but little rust had spread to the upper leaves. Recent cool weather limited crown rust development.

By the second week in June, crown rust had shown up on susceptible spreader strips adjacent to buckthorn hedges, but had not spread to later planted plots in southern Ontario, Canada because of extreme dry conditions. The buckthorn was not heavily infected, but adequate to initiate a good epiphytotic in the spreader strips.

Barley stem rust. No barley stem rust has been reported in the U.S. as of June 15.

Barley leaf rust. During the second week in June, barley leaf rust severities of 80% were reported at the soft dough stage on some susceptible lines in a southern Ontario, Canada nursery. Rust was just starting to increase on spring barley.

In early June, barley leaf rust was increasing on spring barley at the late jointing stage, near Mt. Vernon in western Washington.

Stripe rust on barley. In early June, stripe rust on barley was found throughout southeastern Oregon and the state of Idaho. In a southwestern Idaho field, a 90% disease severity at the milk stage, was reported and in a northern Idaho field a 20% severity was reported, primarily on the lower leaves. Barley stripe rust is increasing on spring barley near Pullman in eastern Washington and Mt. Vernon in western Washington. At the present time, the only control recommended is the use of a systemic fungicide, such as Tilt or Folicur.

Rye leaf rust. Traces of rye leaf rust were found in southern Minnesota in early June.

Rye stem rust. Rye stem rust has not been reported in the U.S. as of June 15.

Stem rust on Barberry. In early June, aecial infection was light on barberry in south central Wisconsin and southeastern Minnesota. Moderately severe aecial infection was found on barberry in Massachusetts.

Latest rust news. As always, for the latest rust news, subscribe to the cereal rust survey mail list (see front page header) or visit the Cereal Disease Laboratory's web page (http://www.crl.umn.edu) regularly.

Fig. 1. Leaf rust severities in wheat fields on June 16, 1998