CEREAL RUST BULLETIN

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- Wheat leaf rust is severe in fields in Nebraska and South Dakota.
- Wheat stem and stripe rust were found in a plot in central South Dakota.

The small grain harvest has commenced from central Pennsylvania to northern Kansas. Winter wheat is generally in good condition and one week ahead of normal maturity throughout most of the U.S. In the northern small grain area, most of the spring-sown grains are in good condition and ahead of normal crop development. Small grains are generally in good condition in the main grain growing area of the Red River Valley.

Wheat stem rust. In late June, traces of wheat stem rust were found in a plot of cultivar 2137, in a central South Dakota winter wheat nursery. Thirty percent severities were reported in the foci. In the last four weeks, this is the only new report of wheat stem rust in the U.S.

From six wheat stem rust collections made in late April in northwestern Florida, southern Mississippi, southern Louisiana and southern Texas, race RCRS (virulent to *Sr*5,21,7b,9g,36,9b,17,9a,9d,10) was identified. From one rust collection made in central Louisiana the common race TPMK (virulent to *Sr*5,21,9e,7b,11,8a,9g,36,17, 9d,10,Tmp) was identified.

Wheat leaf rust. During the fourth week in June, leaf rust severities ranged from 10 to 60% on flag leaves of susceptible winter wheat cultivars in south central Nebraska, southeastern and central South Dakota fields (Fig. 1). Flag leaves are drying up quickly because of the leaf rust. By the fourth week in June, leaf rust severities ranged from trace to 80% on cultivars in south and west central Nebraska varietal plots. In the south central Nebraska plots at North Platte, most cultivars were rusted. The rust infections in Nebraska and South Dakota probably originated from inoculum sources in Oklahoma and northern Texas.

During the fourth week in June, leaf rust severities of 10 to 40% were reported on the lower leaves of susceptible spring wheat cultivars in plots in southwestern and west central Minnesota. In fields, severities ranged from 0 to 10% on the lower leaves of spring wheats in western Minnesota and northeastern South Dakota.

By the fourth week in June, wheat leaf rust was increasing throughout the state of Washington. Rust was severe in winter wheat plots at Pullman in eastern Washington and Mt. Vernon in western Washington.

During the last week in June, leaf rust was found in winter wheat plots 85 km southwest of Winnipeg, Canada. Infections ranged from 5-20% on lower leaves, while traces were found on the flag leaves. This is the normal stage of rust development for the last week of June.

Wheat stripe rust. During the fourth week in June, wheat stripe rust was light on the winter wheat cultivar 2137 in a central South Dakota nursery. This year stripe rust has been reported from the Texas-Louisiana area northward throughout the central U.S. into the Minnesota-South Dakota area. Generally, when temperatures warm up in an area, stripe rust development ceases.

By late June, stripe rust was starting to increase on spring wheats in the Pacific Northwest, but rust losses will be minimal, since most of the cultivars have high temperature, adult plant resistance.

Oat stem rust. There have been no new reports of oat stem rust since the May 5th bulletin. From collections made in late April, in northwestern Florida, southern Alabama, southern Mississippi and central Texas the common race NA-27 (*Pg*-1,-2,-3,-4, and -8 virulence) was identified.

Oat crown rust. By the fourth week in June, oat crown rust severities of 5% were reported in fields in northeastern Nebraska and northwestern Iowa and traces of rust were observed in fields in central South Dakota and southwestern Nebraska. Rust severities on flag leaves in oat plots ranged from traces in west central Minnesota to 15% in southeastern South Dakota. Crown rust severities of 30-40% were found on flag-1 leaves on susceptible oat cultivars in the buckthorn nursery in St. Paul.

By late June, crown rust was severe on susceptible oat cultivars in the central Ohio nursery at Wooster.

Barley stem rust. No barley stem rust has been reported in the U.S. as of June 29.

Barley leaf rust. In late June, severities of 5% were reported in barley plots in east central Nebraska and traces in plots in south central Minnesota.

Stripe rust on barley. By late June, stripe rust on barley was increasing in fields and varietal plots in eastern Washington and northern Idaho. Weather conditions were ideal for rust development under the canopy. Most of the 6-row cultivars were severely infected, while many

of the 2-row cultivars were moderately susceptible. Some farmers in this area were spraying with a systemic fungicide, such as Tilt or Folicur, to control stripe rust.

Crown rust on barley. By late June, crown rust on barley had developed very slowly at the Brookings, South Dakota nursery and 5-10% severities were observed on lower leaves of susceptible cultivars at the heading stage. Traces of crown rust were found on barley in the buckthorn nursery at St. Paul.

Rye leaf rust. By the fourth week in June, 20-50% severities were common on flag leaves of winter rye in plots and fields in southeastern South Dakota and east central Minnesota. In late June, 20 to 40% severities were reported on flag-1 leaves in winter rye plots in southeastern North Dakota. Only traces of leaf rust were found in spring rye plots in southern and west central Minnesota.

Rye stem rust. Rye stem rust has not been reported in the U.S. as of June 29.

Other rusts. In early June, stem rust was found on tall fescue in north central Alabama.

Fig. 1. Leaf rust severities in wheat fields on June 30, 1998