CEREAL RUST BULLETIN

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- Wheat stem rust has been reported on susceptible spring wheat in the northern plains.
- Wheat leaf rust is present in low to high severity levels on spring wheat cultivars in the northern plains.
- Wheat stripe rust development has stopped in the northern spring wheat area**.**
- Oat stem rust and oat crown rust is common in upper Midwest fields.

The small grain harvest has commenced from southwestern New York to northern South Dakota. Drought-like conditions are common in the most of the northern small grain area, which will hasten crop maturity.

Wheat stem rust. In mid-July, trace to 10% severities of wheat stem rust were observed on the susceptible spring wheat cultivar Baart in southern and west central Minnesota and east central North Dakota. All of the current spring wheat cultivars are resistant to the prevalent U.S. race population. Earlier in the year, there were few reports of wheat stem rust in the southern U.S. grain growing area.

Stem rust observation maps are now available on the CDL website (http://www.ars.usda.gov/Main/docs.htm?docid=9757).

Wheat leaf rust. In mid-July, trace to 60% leaf rust severities were observed on flag leaves of spring wheat cultivars in fields and plots from north central South Dakota to west central Minnesota (Fig. 1). In early July, high levels of leaf rust severity were found on susceptible winter wheat in plots in southeastern North Dakota and in mid-July high levels of infection were found in spring wheat fields in north central North Dakota. Many wheat fields have been sprayed with fungicide to prevent losses due to rust and scab. Hot dry weather combined with severe leaf rust infections will kill the flag leaves of spring wheat.

In early July, low levels of leaf rust were found in winter wheat plots at Ithaca, New York.

In mid-July, leaf rust was very light in experimental plots at Pullman and Mt. Vernon, Washington. No rust was found in grower's fields.

Wheat stripe rust. In mid-July, hot dry weather had stopped development of stripe rust on spring wheat in the northern Great Plains.

By mid-July, stripe rust development has slowed in Pacific Northwest fields because of the hot dry weather. In early-July, 70-100% severities were reported on susceptible entries in plots where moisture was not limiting. Compared to last year, wheat stripe rust is lighter in the Pacific Northwest.

Oat stem rust. During mid-July, trace to 40% severities of oat stem rust were found in fields and plots at the soft dough growth stage throughout southeastern South Dakota, southern Minnesota, northern Iowa and southwestern Wisconsin. Most current oat cultivars are not highly resistant to stem rust.

Oat crown rust. During the second week in July, trace to 80% oat crown rust severities were found in fields and plots throughout west central Wisconsin to eastern South Dakota. Much of the primary inoculum originated from buckthorn, the alternate crown rust host, common throughout the Upper Midwest. Based on observations in the buckthorn nursery in St. Paul, the only resistance gene conferring complete resistance to the crown rust population is Pc94.

Barley stem rust. In mid-July, the first reports of barley stem rust this year were trace severities in plots of the susceptible two-row cultivar Hypana in east central and south central Minnesota plots. Also, light amounts of barley stem rust were widespread in a field in Roseau County in northwestern Minnesota.

Barley leaf rust. In mid-July, 10% severities of leaf rust were found on upper leaves of susceptible spring barley in east central and southwestern Minnesota plots.

Stripe rust on barley. In mid-July, light amounts of stripe rust were found in barley fields in Washington and 50% severities were reported on susceptible entries in experimental fields near Pullman. In Mt. Vernon, Washington severities ranged up to 100% on susceptible barley entries and 10 to 30% at Walla Walla and Lind, Washington. Barley stripe rust is also lighter this year than last year in the Pacific Northwest.

Barley crown rust. In mid-July, 20% severities of crown rust were observed in barley plots in southern Minnesota and traces in east central North Dakota barley plots.

Rye leaf rust. In mid-July, severe amounts of rye leaf rust were found on the upper leaves of spring rye in southern and west central Minnesota plots.

Rye stem rust. There have been no reports of rye stem rust this year.

Rust on other grasses. In mid-July, heavy crown rust infections were observed on quack grass (*Elytrigia repens*) in east central South Dakota and west central Wisconsin.

Fig. 1. Leaf rust severities in wheat fields - July 18, 2006