CEREAL RUST BULLETIN

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- Wheat leaf rust in the upper Midwest is moderate on winter wheats and increasing on the susceptible spring wheats.
- Stem rust was observed on susceptible wheat plots in the upper Midwest.

The small grain harvest has commenced from southeastern Pennsylvania to southern Nebraska. Hot weather quickly ripened winter wheat fields and promoted rapid growth of spring planted small grains. Winter wheat is generally in good condition and 1-2 weeks ahead of normal maturity throughout most of the U.S.

Wheat stem rust. During the last week in June, traces of stem rust were observed on susceptible winter wheat cultivars in central and east central South Dakota and east central North Dakota plots. On July 1, traces of stem rust were found on a susceptible spring durum in Fargo, North Dakota plots. In much of the northern Great Plains above normal temperatures and dry conditions have limited rust development. The number of stem rust samples received at the Cereal Disease Lab so far this year is approximately one-half when compared to the past three years.

Wheat leaf rust. By the last week in June, 60% rust severities were reported on susceptible winter wheat cultivars in east central and south central Minnesota plots. During the final week in June, leaf rust on winter wheat was light in central and eastern areas of South Dakota. In a few susceptible cultivars like Jagger and Alliance, 30% severities were observed, but on the majority of cultivars only trace levels of infections were observed on the flag leaves. The rust infections in South Dakota and Minnesota probably originated from inoculum sources in Oklahoma and Kansas. Leaf rust is more severe in Minnesota than in South Dakota since moisture conditions were more favorable for the rust infection process to occur. As in previous years, winter wheat flag leaves dried up quickly because of hot windy conditions throughout South Dakota and southern Minnesota. During the last week of June 40% rust severities were observed on the lower

leaves (Flag-2) of susceptible spring wheat cultivars in southern Minnesota plots. In most of the spring wheat cultivars growing in plots and fields only traces of rust were observed.

During the fourth week of June, trace to 20% rust severities were found in winter wheat (heading stage) plots in east central North Dakota. In the same area, traces of leaf rust were common in fields of spring wheats (berry stage). In the Fargo, North Dakota nursery, 30% rust severities were reported in a plot of the susceptible cultivar Thatcher .

This year leaf rust is more widespread in the upper Midwest in spring wheat than last year. Inoculum arrived from the south in early June with rain showers but now additional moisture is needed before more rust will develop. The spring wheat cultivars currently grown are more susceptible to leaf rust than those 10-15 years ago.

Wheat stripe rust. There have been no new reports of wheat stripe rust in the central U.S. since CRB#7 (http://www.cdl.umn.edu/crb/2002crb/02crb7.html).

By late June, wheat stripe rust was developing very rapidly in fields of susceptible spring wheat cultivars in eastern Washington. Conditions have been favorable for rust increase and growers have been spraying with fungicides the past two weeks.

Oat stem rust. In late June, trace amounts of oat stem rust were found in fields in northwestern Iowa and south central South Dakota.

Oat crown rust. By the last week in June, trace to 5% severities were observed on lower leaves of oat in south central Minnesota. In fields in northwestern Iowa and southeastern South Dakota trace to 20% severities were found at the early berry stage. By late June, oat crown rust had developed very slowly in the upper Midwest.

Barley stem rust. There have been no reports of barley stem rust this year.

Barley leaf rust. There have been new reports of barley leaf rust since CRB #5 (http://www.cdl.umn.edu/crb/2002crb/02crb5.html).

Stripe rust on barley. In late June, barley stripe rust was developing in eastern Washington and northern Idaho. Crops are later than normal and conditions have been favorable for disease increase in the past two weeks, so more rust development is expected.

Barley crown rust. In late June, traces of crown rust were found in east central South Dakota and west central Minnesota barley plots.

Rye leaf rust. By late June, 60% severities of leaf rust were found on upper leaves of winter rye and trace-1% severities in spring rye in east central Minnesota plots.

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

Stem rust on Barberry. There have been no new reports of stem rust on barberry since CRB #7 (http://www.cdl.umn.edu/crb/2002crb/02crb7.html).

Fig. 1. Leaf rust severities in wheat fields - July 2, 2002