

CEREAL RUST BULLETIN

Report No. 8
July 1, 2003

Issued by:

Cereal Disease Laboratory
U.S. Department of Agriculture
Agricultural Research Service
1551 Lindig St, University of Minnesota
St. Paul, MN 55108-6052
(612) 625-6299 FAX (651) 649-5054
markh@umn.edu

For the latest cereal rust news from the field, subscribe to the cereal-rust-survey mail list. To subscribe, send an email message with the word *subscribe* in the message body (not subject line) to: cereal-rust-survey-request@coafes.umn.edu

Reports from this mail list as well as all Cereal Rust Bulletins are maintained on the CDL web page (<http://www.cdl.umn.edu/>).

- • Wheat leaf rust in the upper Midwest is severe on winter wheat and increasing on susceptible spring wheat.
- • Wheat stripe rust is found throughout the northern grain growing area.
- • Oat stem rust is increasing in the Central Plains states.
- • Oat crown rust is increasing in the northern oat growing area.

The small grain harvest has commenced from southern Ohio 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 at normal maturity throughout most of the U.S.

Wheat stem rust. There have been no additional reports of wheat stem rust in the U. S. since CRB #6 when infections were found in a plot in north central Oklahoma.

Wheat leaf rust. In the final week in June, susceptible winter wheat cultivars from east central Minnesota to west central South Dakota had 60% rust severities. Susceptible cultivars like Jagger and Expedition, had severities of 60% infection, but most of the cultivars had only trace levels of infections on the flag leaves. The rust infections in South Dakota and Minnesota probably originated from inoculum sources in Oklahoma and Kansas.

In the last week of June, susceptible spring wheat cultivars in southern Minnesota plots had 20% rust severities, with most infections on the lower leaves. Traces of leaf rust were observed in many of the spring wheat fields in southern Minnesota.

In late June, leaf rust infections on spring wheat were increasing rapidly in southern North Dakota. This year leaf rust is widespread in the upper Midwest in spring wheat. Rust inoculum arrived from the south in late May and early June with rain showers and temperature and moisture conditions have been good for infection and spread of leaf rust. The spring wheat cultivars currently grown have less effective resistance to leaf rust than those 10-15 years ago.

Wheat stripe rust. In the last week of June winter wheat fields and plots in western Nebraska and south central South Dakota had stripe rust severities from trace to 60%. If temperatures stay cool (less than 55 F at night) and moisture and dews are commonly present, stripe rust infections will continue to develop.

On June 20, winter wheat plots in east central Minnesota had wheat stripe rust severities between trace level to 60%. Coker 9835 was very susceptible, with severity between 40-60%. Cultivars with Lr26/Yr9/Sr31 genes on the wheat-rye 1B-1R translocation also tended to have higher stripe rust



severities. Many cultivars had a resistant response characterized by necrotic strips, moderately resistant cultivars had necrotic strips with stripe rust pustules, moderately susceptible cultivars had chlorotic strips with pustules, and susceptible cultivars had strips of pustules without necrosis or chlorosis. Cultivars known to have Lr34/Yr18 had a moderately resistant response.

In late June, stripe rust infections were in spring wheat plots throughout east central South Dakota and east central Minnesota. Some of the cultivars (e.g. Briggs and Walworth) had stripe rust severities of 10%. The cooler temperatures with sufficient moisture levels have been conducive for stripe rust development in the north central region.

In late June, severe stripe rust was found in spring wheat fields in east central North Dakota. Fields sprayed with fungicides in the eastern North Dakota area still were disease free.

In the third week in June light stripe rust infections were found in plots in north central Ohio.

Oat stem rust. In late June, trace amounts of oat stem rust infections were found in fields at the late milk stage in south central Nebraska. Oat fields in north central Kansas had 20% severities.

Oat crown rust. In the last week in June lower leaves of oat in south central Minnesota had trace to 5% severities of crown rust. Crown rust on oats in the buckthorn nursery at St. Paul, Minnesota was severe with severity levels up to 80%. In oat fields in northwestern Iowa and southeastern South Dakota, trace to 20% crown rust severities were found at the early berry stage.

Barley stem rust. There have been no additional reports of barley stem rust since it was found in early April in southern Texas plots.

Barley leaf rust. There have been no additional reports of barley leaf rust since CRB #7.

Stripe rust on barley. There have been no additional reports of barley stripe rust since CRB #7.

Barley crown rust. In late June in east central South Dakota and in south central Minnesota, lower leaves of oats had trace levels of crown rust infection. Wild barley (*Hordeum jubatum*) in south central South Dakota had 20% crown rust severities. Susceptible barley cultivars in the buckthorn nursery at St. Paul, Minnesota had trace to 5% crown rust severities

Rye leaf rust. By late June 10% severities of leaf rust were found on upper leaves of winter rye and trace 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.



Fig. 1. Leaf rust severities in wheat fields - July 1, 2003

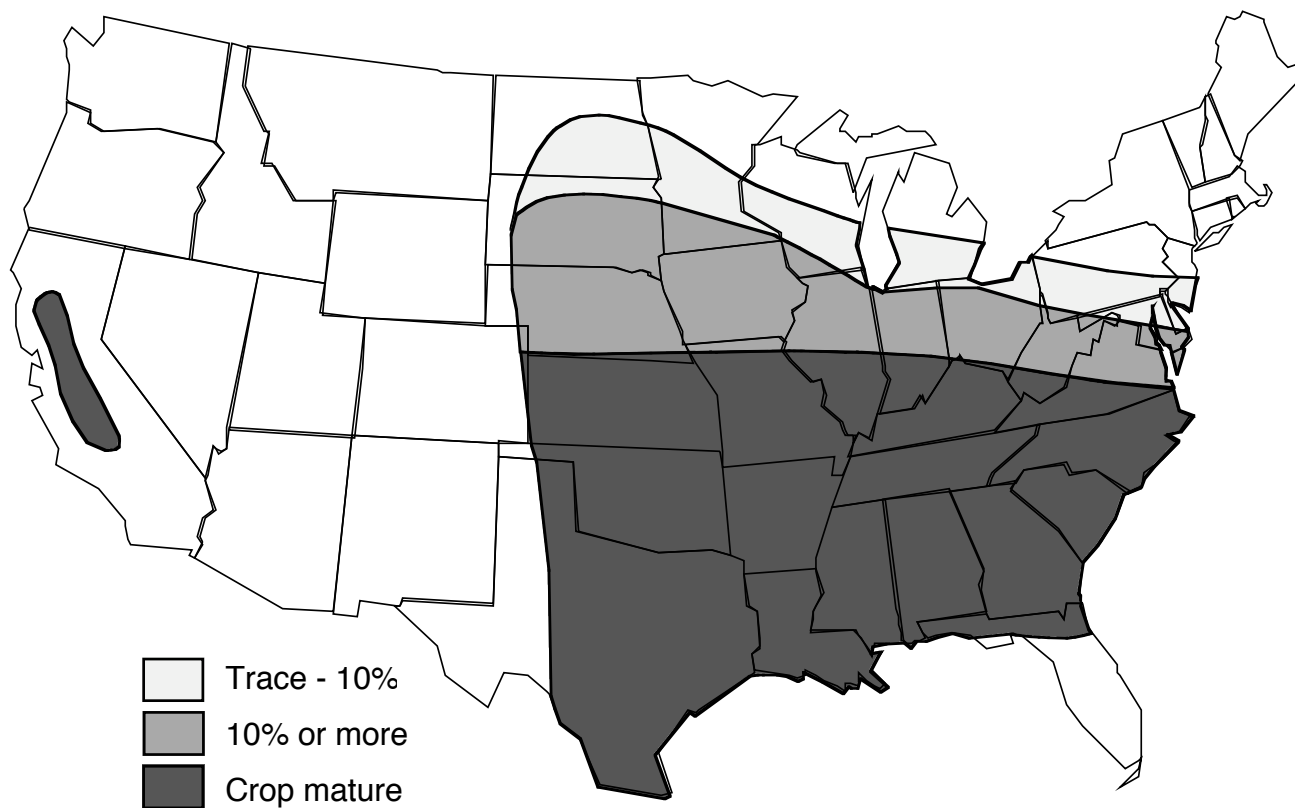


Fig. 2. Stripe rust severities in wheat fields - July 1, 2003

