CEREAL RUST BULLETIN

Report No. 1
March 16, 2004

Issued by:

Cereal Disease Laboratory
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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 is severe in Texas plots.
- Wheat stripe rust infection sites were found in Texas, Louisiana, California, Oregon and Washington.
- Oat crown is severe in Texas.

Wheat Stem Rust. As of mid-March no wheat stem rust has been reported in the U.S.

Wheat Leaf Rust. **Southern Plains** - In late January, a low level of leaf rust infections was found in central Texas plots. The most severe rust was reported on the cultivar TAM 110. Cool temperatures in the first part of February slowed leaf rust development. By late February, 40% leaf rust severities were observed in central Texas plots and infection levels were lower in south Texas because of the drier conditions. In the second week in March, 60% leaf rust severities were reported on susceptible cultivars in southern Texas (east of San Antonio). In early March, additional moisture caused the rust level to increase in locations scattered throughout Texas. Leaf rust is more scattered and severe throughout Texas than last year.

By early March, leaf rust was reported in Oklahoma but at lower severity levels compared to last fall. This year cold temperatures during mid-January to mid-February were not conducive for rust overwintering in Oklahoma.

From rust collections made in Oklahoma and Texas during the early winter of 2003-2004 the following leaf rust races were identified: MBDS (with *Lr17* virulence, identified from Jagger), TNRJ (with *Lr41* virulence, identified from Thunderbolt), TBBJ (identified from TAM 110), and KDDJ (with *Lr17* and *Lr24* virulence, identified from Jagalene).

Louisiana – In mid-January, leaf rust was reported in southwest Louisiana. By early March, leaf rust was at significant severity levels in south/west central Louisiana. Rust was widespread and severities of up to 30% were recorded in nursery plots and fields. Some cultivars showed heavy rust on older leaves (fall infection) but little on the upper leaves.

Alabama – In mid-February, low severity levels of wheat leaf rust were observed in fields and plots in southwestern Alabama in Baldwin County. In the past two weeks weather conditions have been ideal with rainfall and warm temperatures for further rust development in the southeastern US.

Wheat stripe rust. California – Stripe rust on wheat was first detected on February 12 in the UC Regional Wheat Nursery in the Sacramento/San Joaquin Delta nursery in California. Rust was scattered throughout the nursery in light amounts (less than 1% incidence), but pustules on infected plants were sporulating profusely. Infected leaves had up to 30% severity. By early March, wheat stripe rust had increased to 50% severity and 20% incidence in the nursery at Sacramento/San Joaquin Delta. The crop was in late jointing stage. In early March, light levels of wheat stripe rust were found in nurseries in Madera county and Davis, California.

Southern Plains – In late February, severe wheat stripe rust was found in plots south-west of Houston, Texas. By the second week in March the stripe rust in these plots had dried up. The only other reports of stripe rust in Texas were in fields west of College Station and in Williamson County. Stripe rust has been found in fewer locations and is at lower levels than last year in Texas.

Louisiana – In late February, low levels of stripe rust infections were reported in south/east central Louisiana fields. Several hot spots were observed across the fields and fungicide will be applied.

Pacific Northwest - On March 11, severity levels up to 30% were reported in winter wheat fields and plots in northwestern Washington. Stripe rust was uniformly distributed in commercial fields. Stripe rust severity and distribution patterns were typical for this area for this time of the year.

Please send wheat and barley stripe rust collections (5 or more rusted green leaves) as soon as possible after collection to:

Dr. Xianming Chen
USDA-ARS
361 Johnson Hall
P.O. Box 646430
Washington State University
Pullman, WA 99164-6430
email: xianming@mail.wsu.edu

Note: Stripe rust collections are vulnerable to heat and do not survive long at warm temperatures; therefore, if shipment of collections for race identification is delayed; their viability will be greatly reduced. An overnight courier service is preferred for sending stripe rust collections.

Barley Stripe Rust. California – Trace levels of barley stripe rust were found on the susceptible line Max in the barley stripe rust screening nursery at UC Davis on February 23 at late tillering stage.

Pacific Northwest - In early March, severe stripe rust (up to 50%) was observed on susceptible winter barley varieties in a nursery near Corvallis in northwestern Oregon.

Mexico – Wheat stripe rust in southern Sonora is not as severe as in previous years. However, this year northern Sonora and the neighboring state of Baja California have had more rainfall. This area (Mexicali valley) is close to a US wheat growing area where stripe rust could have an economic impact.

Oat Stem Rust. As of mid-March no oat stem rust has been reported in the US.

Oat Crown Rust. In late January, crown rust was increasing in fields and plots in South Texas. In a field in Lavaca County, 70-80% severities were reported and rust had killed many of the leaves. Rust was severe in irrigated fields of the cultivar TAMO 397 which is the main cultivar in south Texas. By late February, seed production fields of TAMO 397 were heavily infected with crown rust. In early March, 30% crown rust severities were observed in plots at College Station, in central Texas, and the heaviest oat crown rust at Beeville was in TAMO 397 at 90% severity. This year oat crown rust may be equal or more severe than last year in Texas. In mid-January, light oat crown rust was found in southern Louisiana plots.

Rye Leaf Rust. No rye leaf rust has been reported as of mid-March in the US.

Please Note:

Current cereal rust situation
Cereal Rust Bulletins are distributed every two weeks on average; for the latest cereal rust situation reports, subscribe to the cereal rust survey mail list. Instructions can be found at: http://mailman.coafes.umn.edu/mailman/listinfo/cereal-rust-survey. Or, if you prefer, simply send a message to Mark Hughes (markh@umn.edu) and he will add you to the mail list. Messages from the mail list are maintained on the CDL website (http://www.cdl.umn.edu/crb/updates.html).

If you have information on the cereal rust situation (or other small grain diseases) in your area that you would like to share, please email your info to:

Mark Hughes (markh@umn.edu) and David Long (davidl@umn.edu)

Or to: cereal-rust-survey@coafes.umn.edu

Or, if you prefer: call Dave (612-625-1284)

We would like to include your name and email address so others can contact you. If, however, you prefer not to have your name or email address appear with the information, we will omit them. Of course, we will continue to incorporate these reports into the Cereal Rust Bulletin.

Information of most importance
We welcome any information you can provide, but are particularly interested in:

- Rust (leaf rust, stem rust, stripe rust)
- Host (wheat, oat, etc.)
- Cultivar or line name if known
- Severity and prevalence
- Growth Stage -when rust likely arrived, when infection first noted and current stage
- Where rust is found on the plants, e.g., lower leaves, flag leaf, etc.

Rust collections
Reports on distribution of races of cereal rust fungi are an important part of our surveys as reported in the Cereal Rust Bulletin. We regularly collect and test isolates of stem rust (wheat, oat, and barley), wheat leaf rust, and oat crown rust. We appreciate receiving collections of these rusts from cooperators around the U.S. If you would like to contribute, please contact Dave Long or Mark Hughes and they will send you a packet of collection envelopes and forms.