# CEREAL RUST BULLETIN

Report No. 1
March 15, 2005

Issued by:

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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 fields and plots throughout the southern US.
- Wheat stripe rust infection sites were reported in Texas, Louisiana, Arkansas, California, Oregon and Washington.
- Traces of oat stem rust were found in Texas.
- Oat crown rust is severe in Texas.
- Barley stripe rust is reported in Oregon and California.

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

**Wheat Leaf Rust**. **Texas -** In late January, a low level of leaf rust infection was found in central Texas plots. The most severe rust was reported on the cultivars TAM 110 and Cutter. Warm temperatures and wet weather in February were good for leaf rust development. In mid-February, 80% severities were observed on cultivars like Jagger in southern and central Texas varietal plots. By late February, leaf rust was widespread across central Texas in fields of the cultivars Coronado, Cutter and Jagalene and some of the fields were sprayed for rust control. In early March, leaf rust was increasing rapidly in south Texas plots at Castroville, and cultivars like Cutter, Jagalene, and TAM 107 had 40-60% severity ratings. Thunderbolt, Overley, and Ogallala had little rust. In early March, moderate levels of leaf rust were found in a nursery at McGregor in central Texas, while plots of Cutter that were planted in early September were brown because of leaf rust. In mid-March leaf rust was the major disease of wheat in central Texas. Temperatures and rain have been ideal for leaf rust development throughout Texas in March.

**Oklahoma** - In mid-January, leaf rust was found in southern Oklahoma and conditions were conducive for sporulation, spread and development of leaf rust. In mid-February, healthy leaf rust pustules were observed on lower leaves of susceptible varieties which probably means leaf rust had survived the winter in much of Oklahoma. By the first week in March, sporulating pustules of leaf rust were observed in the wheat varietal plot at Stillwater, Oklahoma.

**Louisiana** - In late January, heavy leaf rust (>5%) was observed in varietal plots in a nursery at Baton Rouge. By mid-February, leaf rust was severe on susceptible cultivars throughout the state in plots and fields. Weather conditions in February and March were ideal for rust development throughout the southern red winter wheat region.

**Arkansas** - In late February, leaf rust was severe in fields of susceptible varieties in southwest Arkansas and some fields were sprayed for rust control. By mid-March, leaf rust infections were more severe and widespread than usual in southwestern Arkansas.

**Mexico** – In the second week in March, leaf rust was present in light amounts on durum wheat and bread wheat throughout the Yaqui Valley. Plots of Morocco had light (5%) levels of leaf rust. Isolated areas of high leaf rust infection were found on durum wheats.

**Wheat stripe rust. Texas** – During the second week in February, low levels of stripe rust were found scattered throughout the varietal nursery in central Texas at College Station. A spore shower probably occurred during the last week in January. Weather conditions were ideal for stripe rust development. In mid-February in south Texas at Castroville, stripe rust was severe on susceptible varieties while in most varieties rust was at low levels. In early March, stripe rust was increasing rapidly and was widespread throughout the nursery at Castroville. Most infections sites were on lower leaves, with a few on the upper leaves. The cultivar Jagger is still resistant to stripe rust. In south Texas a few fields were sprayed for rust control.

**Oklahoma** – By the second week in March, no stripe rust had been reported in Oklahoma.

**Louisiana** – In early February, heavy stripe rust was observed in some varietal plots at Baton Rouge. In February, conditions were ideal for stripe rust development throughout Louisiana. During the third week in February, fields were sprayed for stripe rust control in central Louisiana.

**Arkansas** – In early March, stripe rust development was normal in southwestern Arkansas plots. Susceptible varieties averaged 30% rust severity while other varieties had 0 to 5% severities. Susceptible varieties may need 2 fungicide applications to maintain their yield potential.

**Mexico** - Stripe rust was at moderate to high infection levels on a few bread wheat cultivars. Some fields were sprayed to prevent yield loss. Plots of Morocco had light (5%) levels of leaf rust.

**California** – Stripe rust on wheat was first detected on February 25 in the nursery at UC Davis in border rows of the highly susceptible variety D6301. On March 11th, trace infection levels of stripe rust were detected in the Sacramento Valley and in the Sacramento/San Joaquin Delta nursery. Severity levels and incidence were less than last year on the same date but with continued good weather conditions rust infections levels should increase in the next two weeks.

**Pacific Northwest –** In early February, stripe rust was found in experimental fields near Corvallis, Oregon. On March 10, 20% severities were reported on susceptible checks in winter wheat plots at Mount Vernon in northwestern Washington. The winter was warmer than normal in the Pacific Northwest, and therefore, stripe rust started sporulating earlier than normal in western PNW. So far, the weather has been unusually dry, which may slow stripe rust development.

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 –** In late February, barley stripe rust was observed in a nursery at UC Davis, mostly on rows of one of the susceptible check varieties, Russell. Barley stripe rust developed sooner than wheat stripe rust this year in California, although the incidence is still low. On March 10, 40% severities were detected in California fall-sown barleys in San Luis Obispo county.

**Pacific Northwes**t – In early February, stripe rust was found in a fall-planted barley nursery near Covallis, Oregon.

**Oat Stem Rust**. In early March, traces of stem rust were found in oat varietal plots at Castroville in southern Texas.

**Oat Crown Rust**. In early February, traces of crown rust were observed in south central Texas plots. By mid-February, severe crown rust infection was reported in south and central Texas varietal fields and plots. Along highways in south Texas *Avena fatua* (wild oats) and "feral oats" were orange because of oat crown rust. In late February, crown rust was heavy in central Texas in fields of Bob, Big Mac, Horizon 314, and TAMO 397. The level of oat crown rust infection was 4-6 weeks ahead of normal in south central Texas by late Febuary. By early March, 40 to 80% severities were reported on susceptible varieties at College Station.

**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.

Fig. 1. Leaf rust severities in wheat fields - March 15, 2005

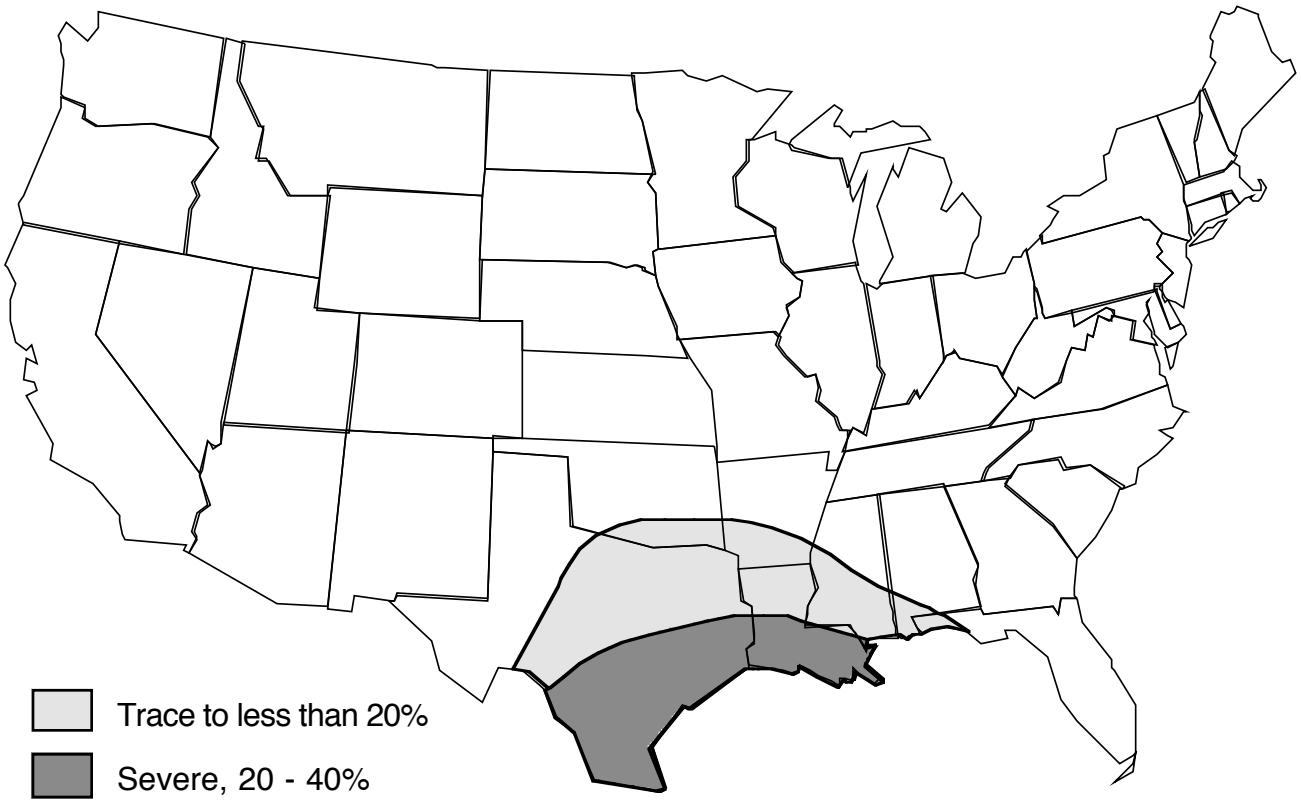


Fig. 2. Stripe rust severities in wheat fields - March 15, 2005