

*Issued by:***Cereal Disease Laboratory**

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For the latest cereal rust news from the field, subscribe to the cereal-rust-survey listserv list. To subscribe, please visit:  
<http://www.ars.usda.gov/Main/docs.htm?docid=9970>

Or, send an email to: [Mark.Hughes@ars.usda.gov](mailto:Mark.Hughes@ars.usda.gov)

Reports from this list as well as all Cereal Rust Bulletins are maintained on the CDL website (<http://www.ars.usda.gov/mwa/cdl/>)

- Wheat leaf rust has been reported in south Texas and southeastern Louisiana nurseries.
- Wheat stripe rust is increasing in southeastern Arkansas and northwestern Mississippi.
- Oat stem rust was found in a plot in southeastern Texas in late February.
- Oat crown rust was early and heavy in plots in the Florida panhandle in early February.
- Barley leaf rust was found in a plot in eastern Virginia on January 10.
- *Request for cereal rust observations and samples in 2013.*

For original, detailed reports from our cooperators and CDL staff, please visit the [Cereal Rust Situation](#) (CRS) reports page on the [CDL website](#) or click the [CRS](#) link found throughout the bulletin.

**Wheat stem rust.** Not yet reported this year in the U.S.

**Wheat leaf rust.**

**Texas** – Wheat leaf rust severity was high in plots (up to 80S) at Pearsall and uniform in the lower canopy of plots at Uvalde in south Texas in early February. Leaf rust continued to develop at Uvalde and susceptible cultivars at Feekes 4-5 growth stage had high leaf rust severity by late February (see [CRS](#)). Leaf rust was at trace levels and was uniformly distributed through the spreader rows in plots at Castroville in south central Texas in early February. Leaf rust continued to develop in the spreader rows and lower to mid-canopy of TAM 110 reaching 50S in early March at Castroville.

**Louisiana** – Low levels of wheat leaf rust were found in plots at Baton Rouge in southeastern Louisiana in early March.

**Wheat leaf rust map.** Please visit: (<http://www.ars.usda.gov/Main/docs.htm?docid=9757>).

**Wheat cultivar *Lr* gene postulation database.** Please visit: [Leaf rust resistance gene postulation in current U.S. wheat cultivars](#).

**Wheat stripe rust.**

**Texas** – Trace amounts of wheat stripe rust were found in plots at College Station in southeastern Texas in early February and by late February stripe rust had reached 20S and 60S on two early-planted increase strips (jointing to heading). Stripe rust (20S) was found on TAM 110 at Uvalde in early February and continued to develop in late February. Lines with Yr17 showed no stripe rust infection (see [CRS](#)). At Castroville, stripe rust continued to develop in the lower to mid canopy of the spreader rows and an unknown head row had a 100S reaction.



**Louisiana** – Wheat stripe rust was found in several fields by late February and was fairly common in northern Louisiana by early March (see [CRS](#)). Some stripe rust was found in plots at Baton Rouge in southeastern Louisiana in early March.

**Mississippi** – Wheat stripe rust was found in two fields in Leflore County in west central Mississippi on February 25. One field was a field of Armor Ricochet (Feekes 6-7) while the other was Coker 9553 (Feekes 7). By late March stripe rust was found throughout the Mississippi Delta area in the northwestern part of the state. Several fields in Leflore County had large hot spots of stripe rust and one field in Bolivar County had severe stripe rust (see CRS).

**Arkansas** – Wheat stripe rust was observed on an unknown cultivar in at least four hot spots in a field in northern Lonoke County on December 19, 2012 (see [CRS](#)). This is about one month earlier than the earliest stripe rust observation record that was set last year. It was believed that hot spots were likely developing throughout Arkansas and perhaps surrounding states. Two of eleven fields surveyed in eastern Arkansas the third week of March had multiple hot spots that had already begun to spread while the other fields showed no sign of stripe rust. At Rowher in southeastern Arkansas, stripe rust was widespread in a field of Ricochet. In plots at Rowher, stripe was prevalent on Ricochet, Beretta, Progeny 185, and Arcadia and also found on Coker 9553, Harrison, Progeny 308, Terral 8661, and 26R20.

**Please send wheat and barley stripe rust collections 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@wsu.edu](mailto:xianming@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.

**Wheat stripe rust map.** Please visit: (<http://www.ars.usda.gov/Main/docs.htm?docid=9757>).

**Oat stem rust.** Oat stem rust (50% severity, 40% prevalence) was first found on an oat line (heading stage) in a nursery at College Station in southern Texas on 2/25/13.

**Oat crown rust.** Oat crown rust was heavy in plots at Marianna and easy to find in plots at Qunicy in the Florida panhandle in early February. Some cultivars showed good resistance at the current growth stage (not yet jointed). The oat crown was very earlier and more severe than in many years. Light levels of oat crown rust were found in the Baton Rouge, Louisiana nursery in early March. In late March oat crown rust was found in one field in Jackson County in southeastern Mississippi.

**Oat crown rust map.** Please visit: (<http://www.ars.usda.gov/Main/docs.htm?docid=9757>).

**Barley stem rust.** Not yet reported in the U.S. this year.

**Barley leaf rust.** Barley leaf rust was found in plots at Warsaw, Virginia on January 10.

**Barley leaf rust map.** Please visit: (<http://www.ars.usda.gov/Main/docs.htm?docid=9757>).



**Barley stripe rust.** Not yet reported this year in the U.S.

**Rye stem rust.** Not yet reported this year in the U.S.

**Rye leaf rust.** Not yet reported this year in the U.S.

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### **Request for cereal rust observations and samples in 2013**

Cereal Disease Laboratory, USDA-ARS, St. Paul, MN

*(Please save this for future reference)*

#### **Cooperators' assistance is critical to our work**

We depend on the assistance of our cooperators for cereal rust observations and samples (as well as other significant small grain disease observations). Without this assistance our job would be much more difficult. We sincerely thank all those who have assisted us in the past and hope the assistance continues this year and in future years.

#### **Observations**

If you have information on the cereal rust situation in your area that you would be willing to share with the group, please email your observations to:

Mark Hughes ([Mark.Hughes@ars.usda.gov](mailto:Mark.Hughes@ars.usda.gov))

Or, to: [CEREAL-RUST-SURVEY@LISTS.UMN.EDU](mailto:CEREAL-RUST-SURVEY@LISTS.UMN.EDU) \*

*We would like to include your name and email address so others can contact you. **If, however, you prefer not having your name or email address appear with the information, please let us know when submitting your observations.***

#### ***Information of most importance***

We welcome any information you can provide, but are particularly interested in:

- Location (state, county, city)
- Rust (leaf rust, stem rust, stripe rust, crown rust)
- Host (wheat, barley, oat, grasses, etc.)
- Cultivar or line name if known
- Grain class if known
- Severity and prevalence
- Growth stage: when the rust likely arrived, when infection was first noted and current growth stage
- Where rust is found on the plants, e.g., lower leaves, flag leaf, etc.

#### **Guidelines for making cereal rust uredinial collections\*\***

Reports on the distribution of races of cereal rust fungi are an important part of our annual cereal rust surveys. We routinely collect and test isolates of stem rust (wheat, oat, and barley), wheat leaf rust, oat crown rust and barley leaf rust. We are most interested in small grain collections (wheat, barley, oat and rye), but are also interested in stem rust, leaf rust, and stripe rust collections from grasses, e.g.:

Jointed goatgrass (*Aegilops cylindrica*)

Ryegrasses (*Elymus* spp.)



Wheatgrasses (*Elytrigia* spp.)

Wild barleys (*Hordeum* spp.)

Wild oat (*Avena fatua*)

Common grasses, e.g., *Agropyron*, *Agrostis*, *Festuca*, *Leymus*, *Lolium*, *Phleum*, and *Psathyrostachys* spp.

*Images and descriptions for the above grass species can be found on the USDA Natural Resources Conservation Service's **PLANTS Database** website*

1. Rust pustules should be fresh and fully developed, except when this may not be possible, i.e., the first uredinial collections found early in the season.
2. When rusted small grain or grass plants are encountered, please cut 5 to 10 sections of plant stem (if possible, avoid including plant nodes as they do not readily air dry) or leaf, 4 inches long with large and small pustules and place in a regular paper mail envelope (**Please Do Not use plastic or waterproof envelopes**). Do not staple or tape the envelope, instead fold the flap shut.
3. Important information should be recorded for each collection, e.g., date, county, state, cultivar or line, crop stage, whether collection is from a nursery or commercial field, etc. Please use our data collection form ([standard pdf](#) or [fillable pdf](#)) if possible. If the grass genus or species is unknown to the collector, please send a head in a separate bag or envelope if possible, indicating which collection it is associated with to aid in identification.
4. Please avoid exposing samples to direct sunlight or unusual heat of any kind, e.g. car dashboard, outside mailboxes, etc. Samples should be kept at room temperature for 24 hours to allow the plant material to dry. Afterwards the samples should be placed in a cooler or refrigerator before they are mailed. Please do not keep samples in a freezer. The samples should be sent to us as soon as possible after the samples have dried.
5. Please promptly mail the envelope(s) with the appropriate collection form inside each envelope to:

Cereal Disease Laboratory, USDA-ARS  
1551 Lindig Street  
University of Minnesota  
St. Paul, Minnesota 55108

**\*\* Stripe rust collections should be sent to:**

Dr. Xianming Chen  
USDA-ARS  
361 Johnson Hall  
Washington State University  
Pullman, WA 99164-6430

**Thank you in advance for your assistance!**

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**Current cereal rust situation**

For the latest cereal rust situation reports, please subscribe to the cereal rust survey listserv list\*. Instructions can be found at:

<http://www.lsoft.com/scripts/wl.exe?SL1=CEREAL-RUST-SURVEY&H=LISTS.UMN.EDU>



Cereal Disease Laboratory ([www.ars.usda.gov/mwa/cdl](http://www.ars.usda.gov/mwa/cdl))

Or, if you prefer, simply send a subscription request to Mark Hughes ([Mark.Hughes@ars.usda.gov](mailto:Mark.Hughes@ars.usda.gov)).

All messages sent to the list are archived on the CDL website:

<http://www.ars.usda.gov/Main/docs.htm?docid=9757>

**Identifying rust diseases of wheat and barley**

A [guide](#) developed by the multi-state extension and research committees for small grain diseases, NCERA-184 & WERA-97, is available at:

[http://www.ars.usda.gov/SP2UserFiles/ad\\_hoc/36400500Publications/Rust\\_Diseases\\_National.pdf](http://www.ars.usda.gov/SP2UserFiles/ad_hoc/36400500Publications/Rust_Diseases_National.pdf)

\*The sole purpose of the Cereal Rust Survey listserv list is to provide a format for cereal researchers and extension personnel to share observations of cereal rusts and other cereal diseases. We make no warranty about any information shared on this listserv or its utility or applicability. Mention of any product, brand, or trademark does not imply endorsement or recommendation of that product, brand, or trademark by USDA-ARS, or any of the participants on this listserv. By enrolling on this listserv list, participants understand and agree to abide by these conditions.

