



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

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

- Scattered pustules of wheat leaf rust were found in northern Oklahoma.
- Wheat stripe rust is a concern in areas of Oregon and Washington.
- Oat stem rust and oat crown rust were increasing and spreading in nurseries at Baton Rouge, Louisiana.
- Trace levels of barley leaf rust were found in southern San Joaquin Valley of California.
- *Request for cereal rust observations and samples in 2015.*

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.

Forty two percent of the national winter wheat crop was rated in good to excellent condition on April 12. Winter wheat conditions in the northern Great Plains have deteriorated since March 1. Dry conditions persist in much of the Great Plains and drought conditions worsened in parts of Oklahoma. Six percent of the winter wheat crop was headed by April 12, just slightly behind the 5-year average. Seventeen percent of the spring wheat crop was planted, six percent ahead of the 5-year average.

Forty three percent of the oat crop was seeded and 28% emerged by April 12, slightly behind the 5-year average. Twenty seven percent of the national barley crop was planted, 12% ahead of the 5-year average. Barley planting was well ahead of average in the Pacific Northwest with Idaho and Washington 33% and 28% ahead of the 5-year average, respectively.

Wheat stem rust. There have been no new reports of wheat stem rust since the last bulletin. Previously, wheat stem rust was reported in nurseries in extreme southern and south Texas (see [CRB #1](#)).

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

Wheat leaf rust.

Texas – There have been no wheat leaf rust reports from the state since the last bulletin. Previously, wheat leaf rust was reported in nurseries in South Texas (increasing there, reaching 100S on Baldwin and TAM 110 (*Lr37*)) and fields in the Texas High Plains and Texas Rolling Plains (see [CRS](#)).

Oklahoma – Scattered pustules of leaf rust were found near Stillwater and Marshall in northern Oklahoma the first week of April. No real hot spots were observed. Much of the state is dealing with very dry conditions.

Kansas – There have been no new reports of wheat leaf rust in the state since the last bulletin. Dry conditions persist in much of the state. Previously, wheat leaf rust was reported in nurseries in northeastern Kansas as well as in south central Kansas (see [CRS](#)).



Louisiana – Leaf rust was present and developing on susceptible cultivars in nurseries at Baton Rouge (southern LA) and Winnsboro (northeastern LA) the first week of April. Cultivars are heading at Baton Rouge and were expected to head at Winnsboro the second week of April. Recent warm temperatures and a few good dew periods were conducive for further development.

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](#)

2014 wheat leaf rust survey summary and results. Please visit: [Wheat leaf rust race survey results](#).

Wheat stripe rust.

Stripe rust continues to be a concern in areas of western Oregon and Washington. To date, stripe rust has been observed in Louisiana, Arkansas, Texas, Mississippi, California, Oklahoma and Montana.

Oregon – Based on ratings from unsprayed plots in the southern Willamette Valley taken on April 8, stripe rust continues to be a concern in western Oregon. Stripe rust hot spots were found in plots of Rosalyn. Traces to higher levels of stripe rust were observed in Rosalyn plots and one commercial field in northern Willamette Valley. Rosalyn had shown excellent stripe rust resistance in the past (see [CRS](#)). Stripe rust was not found in fields or in nurseries at Pendelton and Hermiston in Umatilla County when surveyed on April 9. Previously, stripe rust was reported much earlier than average in southern Willamette Valley (see [CRB #1](#)).

Washington – No stripe rust was found in commercial fields surveyed in seven counties in southeastern Washington on April 9. However, stripe rust hot spots were rapidly developing in nurseries in Garfield and Walla Walla Counties in southeastern Washington. The rust was found from lower to upper leaves and had severities up to 90%. Conditions in recent weeks have been conducive for further stripe rust development (see [CRS](#)). At Mount Vernon in northwestern Washington, stripe rust severities had increased up to 50% on susceptible checks and border rows.

California – There have been no new reports of stripe rust from the state since it was reported in nurseries in both the Sacramento and San Joaquin Valleys in mid to late March (see [CRS](#)).

Montana – Stripe rust was found in border plots of the hard red winter wheat Decade at Kalispell in northwestern Montana on April 3. Stripe rust was also found in a field of an unknown Clearfield cultivar south of Fort Benton in north central Montana on April 6. The wheat crop is dense due to an extended fall, warm winter and adequate moisture.

Louisiana – Stripe rust was still active in nurseries in Baton Rouge (southern LA), but development was slowing due to increased temperatures in late March and early April. Stripe rust severity continued to increase in nurseries at Winnsboro (northeastern LA) the first week of April. The temperatures there were a bit cooler and rainfall had been more frequent.

Arkansas – There have been no reports from the state since wheat stripe rust hot spots were reported in eastern Arkansas in early February (see [CRS](#)).



Texas – There have been no new reports from the state since stripe rust was reported in west central Texas fields and nurseries in South Texas (see [CRB #1](#)).

Oklahoma – Scattered pustules of stripe rust were found near Stillwater and Marshall in northern Oklahoma the first week of April. No real hot spots were observed. A few stripe rust infections were found in a survey of Custer County in western Oklahoma on April 6. Generally, conditions were dry, but some wheat fields look good. Wheat ranged from Feekes 7 to 8 stage. A few spots of stripe rust were found near Frederick and south of Apache in south central Oklahoma on April 7. No rust was found at other survey stops in the general area. Some fields in Tillman County looked good, but others were very dry. One field looked very good and had been timely sprayed with fungicides, but a 20 foot strip was not sprayed. Stripe rust was severe on leaves below the flag leaf in the unsprayed strip while the sprayed areas were completely green. Wheat ranged from Feekes 9-10 stage. Previously, stripe rust was reported at Stillwater on March 21.

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

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 was actively increasing and spreading in the nurseries at Baton Rouge, Louisiana the second week of April. Most lines were in early grain filling stages. Previously, oat stem rust was reported in nurseries in South Texas and at Baton Rouge in March (see [CRB #1](#)).

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

Oat crown rust. Oat crown rust at light prevalence and moderate severity was observed in nurseries at Uvalde in South Texas in late March. Crown rust was increasing and spreading rapidly in nurseries at Baton Rouge (southern LA) the first and second weeks of April. Severities had reached 70% on the susceptible spreader Brooks. Further development was expected with the recent dew periods on a few nights. Most lines were in early grain filling stages the second week of April. Previously, oat crown rust was reported in South Texas and at Baton Rouge, Louisiana in March (see [CRB #1](#)).

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

Barley stem rust. There have been no new reports since the last bulletin when a few stem rust pustules were reported on hooded barley, used in watermelon windbreaks, in the Lower Rio Grande Valley of Texas.



Barley leaf rust. Trace levels of barley leaf rust were found on barley at a farm in Shandon in the southern area of the San Juan Valley of California on April 1. The barley was at mid-dough. Previously, barley leaf rust was reported in watermelon windbreaks in the Lower Rio Grande Valley of Texas.

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



Request for cereal rust observations and samples

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:

CEREAL-RUST-SURVEY@LISTS.UMN.EDU *

Or, to: Mark Hughes (Mark.Hughes@ars.usda.gov)

*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 of the above grass species can be found on the USDA Natural Resources Conservation Service's **PLANTS Database** website*



Cereal Disease Laboratory (www.ars.usda.gov/mwa/cdl)

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!

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>

Or, if you prefer, simply send a subscription request to Mark Hughes (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>



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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

*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.

