



CEREAL RUST BULLETIN

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. To subscribe, please visit:

<http://www.ars.usda.gov/Main/docs.htm?docid=9970>

Or, send an email to: oluseyi.fajolu@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>)

For original, detailed reports from our cooperators and CDL staff,

- Wheat stem rust was observed in Texas.
- High levels of wheat leaf rust were reported in Texas.
- Wheat stripe rust is widespread in Georgia.
- Oat crown rust was observed in Texas, Louisiana, and Georgia.
- Oat stem rust was found in Texas, Louisiana, and Florida.
- Barley stripe rust was reported in Washington.
- *2023 wheat leaf rust race survey results are available.*
- *Request for cereal rust observations and samples in 2024.*

please visit the [Cereal Rust Situation \(CRS\)](#) reports page on the [CDL website](#).

Weather conditions. According to the “USDA Weekly Weather and Crop Bulletin” and the “U.S. Agricultural Weather Highlights” released on April 9, severe weather, including several dozen tornadoes and heavy snow, covered most parts of the Northeast, Southwest, and lower Midwest. It resulted in above-normal amount of precipitation and cooler temperatures. Middle Mississippi Valley to the Atlantic states received an average of three inches of rainfall or more, leading to pockets of flooding and delays in pre-planting fieldwork. In contrast, the Southeast experienced only spotty showers, while mostly dry weather prevailed for several days in the Plains. Late-week snow fell across part of the northern Plains, while the southern Plains experienced high winds. Temperatures averaged at least 5° F above normal in scattered locations across the High Plains and portions of the nation’s southeastern quadrant.

Crop conditions. According to the April 9 report, six percent of winter wheat has headed nationwide, one percentage point below last year but one percentage point above the five-year average. Fifty-six percent of the 2024 winter wheat crop was rated in good to excellent condition, 29% above last year. Three percent of the nation’s spring wheat was seeded, two percentage points ahead of the previous year but the same as the average. By April 7, oat producers had seeded 34% of the 2024 acreage, seven and six percentage points above last year and the five-year average, respectively. Twenty-six percent of the oat acreage had emerged, one percentage point above last year and three points above average. Five percent of the nation’s barley crop was planted by April 7, four percentage points ahead of the previous year but the same as the five-year average.



Wheat stem rust. Wheat stem rust was observed on susceptible wheat lines and variety in the Texas A & M AgriLife wheat nursery at McGregor, McLennan County, on April 1st. In the second week of April, wheat stem rust was readily observed on susceptible lines in the Castroville nursery, Medina County.

Wheat leaf rust. Wheat leaf rust was observed at the McGregor Nursey, TX, on February 23 and was the predominant rust on the field. By March 7, the disease had progressed; on April 6, leaf rust had increased to 80% severity on flag leaves. Leaf rust and stripe rust were progressing on wheat lines in the Texas A & M AgriLife wheat nursery at Castroville, when visited on March 8. About 5-10% of the wheat lines were rated, and 80S was recorded on both diseases. The wheat crop was at the stem elongation growth stage. During a follow-up visit on March 29, leaf rust and stripe rust at the Castroville nursery have increased significantly in severity and incidence across the field.

Wheat cultivar *Lr* gene postulation database.

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

2023 wheat leaf rust survey summary and results are available.

Please visit: [Wheat leaf rust race survey results](#)

Wheat stripe rust. Wheat stripe rust ranged from low to high severity and incidence in the Pacific Northwest, Texas, and Louisiana but was widespread in Georgia.

Texas – Wheat stripe rust was first detected in the Texas A & M AgriLife wheat nursery at Chillicothe, Hardeman County, on January 31. The disease was active and progressing on varieties Siouland and Lockett during the third week of February. Wheat growth stages ranged from Feekes 4 to 6 at that time. By March 8, stripe rust had spread uniformly across the nursery. On February 23, stripe rust was observed on a single leaf in the wheat nursery at McGregor. By March 7, stripe rust had progressed significantly and became the predominant rust in the nursery. Disease ratings were up to 60% severity on susceptible varieties. Low levels of stripe rust were observed at the College Station nursery. By April 1, stripe rust had developed significantly across all the nurseries.

Louisiana – Low levels of stripe rust were found in a block of Delta Grow 1800 at the Louisiana State University wheat nursery in Baton Rouge. Delta Grow 1800 was previously known to be resistant to *Puccinia striiformis* as it was confirmed to carry *Yr17* and *Yr4BL* in 2018 and 2019 by the Eastern Wheat Genotyping Lab.

Georgia – The weather conditions in Georgia were ideal for wheat stripe rust infection and development. Stripe rust ranging from early infection to high incidence was reported in many commercial wheat fields in southwest and central GA, especially in Bleckley, Burke, Bullock, Ben Hill Colquitt, Grady, Laurence, Macon, Mitchel, Tift, Treutlen, and Wayne counties. Many growers applied fungicides to control the disease.

Washington – Low levels of stripe rust on the low leaves were found at the Walla Walla winter wheat nurseries in Walla Walla County on April 2. Disease incidence and severity increased rapidly, and by April 13, actively sporulating pustules were on the upper canopy, and several stripe rust hotspots were found in the nurseries. In the first week of April, one spot of stripe rust was found in the susceptible spreader rows at the Lind Dryland Research Station in Adams County. On April 9, stripe rust was observed in the spreader rows at the experimental plots on the Palouse Conservation Field Station farm and Spillman Farm in Whitman County. This is the earliest stripe rust observation in the Palouse region since 2011 when the disease was found in February and developed into one of the most severe epidemics that year. Wheat stripe rust was higher than usual at this time of the year in the winter nurseries at Mount Vernon, Skagit County. The disease was up to 100% incidence and 70% severity on susceptible varieties on April 11. Stripe rust was found in the experimental plots and breeders' nurseries at Central Ferry, Garfield County. Growers' fields scouted in the Benton County and Walla Walla Counties were free of stripe rust.

Oregon – On April 12, stripe rust was observed in the winter wheat and triticale plots at the Oregon Station University Hermiston Agricultural Research and Extension Center, Umatilla County.

Please send wheat and barley stripe rust collections as soon as possible after collection to: Dr. Xianming Chen, USDA-ARS (Washington State University; see details in attached rust collection guide).

Oat crown rust.

Texas – Oat crown and oat stem rust were observed on the lower to mid-canopy at the Castroville nursery on March 30. By April 4, both diseases had progressed to the flag leaves and were uniformly distributed in susceptible varieties.

Louisiana – Severe oat crown rust was reported in the oat nursery at Baton Rouge.

Georgia – Oat crown rust was observed in Colquitt and Macon counties and reported to be active in late winter and early spring in other southern counties of Georgia.

Oat stem rust.

Texas – See oat crown rust.

Louisiana – Severe oat stem rust was observed in the oat nursery at Baton Rouge.

Florida – Oat stem rust was reported in Florida.

Barley stripe rust. A low level of stripe rust was observed in the winter nurseries at Mount Vernon.

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). If you are able, please collect rust samples and send them to us. We sincerely thank all those who have assisted us in the past and hope the assistance continues this year and in the future.

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: Dr. Oluseyi Fajolu (oluseyi.fajolu@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 the following:

- 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

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, 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 2–3 days 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 this address:

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

**** Stripe rust collections should be sent by FedEx or UPS to:**

Dr. Xianming Chen USDA-ARS
Washington State University 410 SE Dairy RD, 114B - 101 Pullman, WA 99164

By regular mail: Dr. Xianming Chen 361 Johnson Hall
P.O. Box 646430 Washington State University Pullman, WA 99164-6430

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.

If you have any questions regarding stripe rust samples, contact Dr. Xianming Chen, Phone 509-335-8086; e-mail: xianming@wsu.edu or xianming.chen@ars.usda.gov

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 Dr. Oluseyi Fajolu (oluseyi.fajolu@usda.gov).

All messages sent to the list are archived on the CDL website: <http://www.ars.usda.gov/Main/docs.htm?docid=9757>

*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.