



Issued by:

Cereal Disease Laboratory

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- Wheat stem rust was found in a field in northwestern Louisiana and a field in north central Texas.
- High levels of wheat leaf rust were found in nurseries in eastern Virginia.
- Wheat stripe is still a concern in Kansas.
- Oat crown rust was reported in southwestern Alabama, southwestern Mississippi and central North Carolina.
- High levels of barley leaf rust were found in a nursery in eastern Virginia.

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.

Several storms moved slowly across the U.S. last week impacting much of the country. The heaviest rains (2-4 inches) occurred from the eastern Plains into Louisiana and Arkansas. Western and southern Texas and the southern Atlantic areas did not receive much if any rain.

Nationally, 61% of the winter wheat crop was reported in good to excellent condition, 18 percentage points ahead of last year at this time. Forty two percent of the winter wheat crop was heading by May 1. Fifty four percent of the spring wheat crop was seeded by May 1, 15% ahead of the 5-year average. By May 1, 78% of the oat crop was seeded, 13 % ahead of the 5-year average. Fifty seven percent of the barley crop was planted by May 1, 10% ahead of the 5-year average. Twenty nine percent of the barley crop had emerged, 11% of the 5-year average.

Wheat stem rust. Wheat stem rust was found in a field of Progeny 870 in Red River Parish in northwestern Louisiana in late April. The stem rust incidence ranged from 20-80% with severities from 1-20%. Wheat stem rust was found at trace to low levels at Uvalde in southern Texas the fourth week of April. Stem rust was found in a commercial field of the soft read winter wheat TV8861 in Hill County in north central Texas on May 1. The rust was not at high levels, the wheat ranged from soft to hard dough stages. There had been more rain than average in the area. A single stem infected with wheat stem rust was found on a susceptible cultivar in central Mississippi in late April. Previously, wheat stem rust was reported in nurseries in southeastern Texas and southwestern Louisiana; watermelon windbreaks in the lower Rio Grande valley (extreme southern Texas); and in barley plots in south and southeastern Texas (see [CRB #1](#), [2](#) and [CRS](#)). Stem rust samples collected from sentinel plots and cereal windbreaks in the Rio Grande valley were all identified as QFCSC, a common race found in U.S. east of Rocky Mountains in the past decade.

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

Wheat leaf rust. Wheat leaf rust is widespread from the southern and central Great Plains to as far north as Virginia on the east coast (see [wheat leaf rust map](#)). High levels of leaf rust were found in nurseries in eastern Virginia. Recent conditions in the Great Plains are conducive for further increase and develop of wheat leaf rust there.



Texas – By March 10, leaf rust was found throughout much of Texas from the Oklahoma border to the Gulf Coast. Plots at Castroville had heavy to moderate levels of leaf rust in mid April.

Oklahoma – Rain the fourth week of April was very beneficial to the winter wheat crop, but with it came extended periods of dew conducive for rust development. Stripe rust was still active in the state, but it is expected wheat leaf rust will increase as the temperatures rise.

Kansas – Low levels of wheat leaf rust were reported in central Kansas by the last week of April. Recent rains had improved conditions for leaf rust development in the state. Previously, leaf rust was reported in many areas of the state and had reached high incidences in a few fields and plots in central Kansas (see [CRB #1](#), [2](#), [CRS](#)).

Nebraska – There have been no new reports of wheat leaf rust from the state since the last bulletin. Very little disease was found in a survey in the southeast and south central counties of the state on April 27-28. Previously, wheat leaf rust was reported in the Panhandle, south central and eastern Nebraska, but no leaf rust was found in a survey of the southernmost tier of counties from southeast to west central Nebraska the third week of April (see [CRB #2](#), [CRS](#)).

Louisiana – There have been no new reports from the state since the last bulletin when it was reported that wheat leaf rust was spreading rapidly in the nursery at Baton Rouge in southeastern Louisiana by April 7 and was at moderate levels on April 15 at Crowley in southwestern Louisiana. Conditions were favorable for increased leaf rust development.

Mississippi – Wheat leaf rust was found at high incidence and light severity in Warren and Adams Counties in western Mississippi the fourth week of April. By early May wheat leaf rust was the predominant rust found on wheat in the state. Conditions in the state had been very favorable for rust increase.

Tennessee – There have been no new reports from the state since the last bulletin when wheat leaf rust was reported at very low incidence and severity in plots at Jackson in western Tennessee the fourth week of April.

Arkansas – There have been no new reports from the state since the first bulletin when leaf rust was reported in Desha and Jefferson Counties in southeastern Arkansas in early March.

South Carolina – There have been no new reports from the state since the last bulletin when wheat leaf rust was reported in fields of Pioneer 26R10 in northeastern South Carolina the second week of April and was also reported on multiple cultivars in plots at Blackville in southwestern South Carolina.

North Carolina – There have been no new reports from the state since the first bulletin when leaf rust was widespread, unusually early and at heavy levels across the Coastal Plain of North Carolina due to the warm winter.

Virginia – Some headrows in the nursery at Mt. Holly in eastern Virginia were heavily infected with wheat leaf rust from the bottom leaves to the flag leaves on May 2. At Warsaw, also in eastern Virginia, the lower leaves of susceptible cultivars were heavily infected. It is likely the infections at Mt. Holly and Warsaw occurred early in the season.

Delaware – There have been no new reports of leaf rust in the state since the first bulletin when leaf rust was reported as developing on wheat at pre-jointing stage in early February.

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](#)

2015 wheat leaf rust survey summary and results. Please visit: [Wheat leaf rust race survey results](#).

Wheat stripe rust. Stripe rust is widespread across the U.S. With warmer temperatures in southern areas stripe rust development there has slowed or stopped. Stripe rust is still a concern in Kansas where recent rains are conducive for new development.

Oregon – Stripe rust was found in many locations in eastern Oregon the last week of April. Locations not treated with fungicides had moderate to high levels of infection on susceptible cultivars. There were considerable differences in stripe rust levels between the Hermiston and Pendleton-Ruggs nurseries (both in northeastern Oregon) likely related to the high-temperature plant (HTAP) resistance expressed in cultivars at Hermiston where plants had headed and started to flower compared to Pendleton-Ruggs where the flag leaves were just emerging. Previously, stripe was reported in commercial fields of Rosalyn in the northern Willamette Valley the first week of February and was found in an irrigated commercial field near Hermiston in eastern Oregon (see [CRB #1](#)).

Washington – There have been no new reports from the state since the last bulletin when stripe rust was found in a nursery and some fields in southeastern Washington. The appearance of stripe rust in the Palouse region was similar to last year, but a month earlier than average. Stripe rust was also reported in a nursery at Mount Vernon in western Washington (see [CRS](#), [CRB #1](#)).

Idaho – Stripe was continuing to develop and spread in the state, particularly on the soft white winter wheat cultivar Brundage in late April. Stripe rust was also found on the winter wheat cultivars Garland, Yellowstone, Eltan, Kelvin, Warhorse, Juniper, Judee, Northern and Bearpaw in dryland trials. Recent weather has been very conducive for additional stripe rust development

Louisiana – There have been no new reports from the state since the last bulletin when stripe rust was still active in plots in southeastern Louisiana, but not at high incidences in most plots on April 7. With warming temperatures stripe rust development has likely slowed considerably. Previously, stripe rust was found at low incidence, but high severity in nurseries in central Louisiana and was also found in nurseries in northeastern Louisiana. (see [CRB #1](#)).

Mississippi – By early May stripe rust development in the state had slowed considerably due to warmer temperatures. Telia were forming on old stripe rust infections. Previously, several large stripe rust hot spots were found in nurseries and a severe stripe rust infection was found in a field in western Mississippi while other fields in the area had small stripe rust hot spots. Stripe rust was also reported on the soft red winter wheat cultivar Georgia Gore in a nursery at Canton in central Mississippi (see [CRB #1](#)).

Arkansas – There have been no new reports from the state since the first bulletin when stripe rust was found in Desha, Jefferson and Woodruff Counties in southeastern and eastern Arkansas, respectively. Low incidences with a few hot spots were observed in Desha and Jefferson Counties.

Tennessee – There have been no new reports from the state since the last bulletin when stripe rust was reported in a field in Madison County in western Tennessee the last week of March. By April 19 stripe rust was the predominant rust in nurseries at Jackson in Madison County.



Kentucky – There have been no new reports from the state since the last bulletin when stripe rust was confirmed in Lyon County in western Kentucky the second week of April.

Indiana – There have been no new reports from the state since the last bulletin when stripe rust, at low incidence and severity, was confirmed in a commercial field in Posey County in southwestern Indiana the third week of April.

North Carolina – There have been no new reports from the state since the first bulletin when low to medium levels of stripe were reported in a few fields in northeastern North Carolina and in the central Coastal Plain (see [CRB #1](#)).

Virginia – Wheat stripe rust at trace levels was found in one headrow in a nursery at Mt. Holly in eastern Virginia on May 2. Stripe rust was widespread and at high levels of infection in some field tests at Warsaw in eastern Virginia. Previously, stripe rust was observed in southeastern Virginia and the Eastern Shore the third week of April. A plot in eastern Virginia was found heavily infected with stripe rust the last week of March.

Maryland, Delaware – Stripe rust continued to be found along the eastern shore of Maryland and was found in nurseries at Harbeson in southeastern Delaware on April 25. Incidence and severity was extremely low in all cases, however, with predictions for rain and cool weather conditions will be favorable for additional development. Wheat was generally at flag leaf emergence or just past flag leaf emergence. Previously, stripe rust at low incidence and severity, was confirmed in a commercial field in southeastern Maryland on April 18.

Texas – There have been no new reports from the state since the last bulletin when it was reported that stripe rust development in central and south Texas had slowed or stopped the second week of April. Stripe rust pressure was limited in southeastern Texas, but was significant in western Texas. With increasing temperatures leaf rust development is favored over stripe rust development in the state.

Oklahoma – Rain the fourth week of April was very beneficial to the winter wheat crop, but with it came extended dew periods conducive for rust development. Stripe rust was still active in the state, but it is expected wheat leaf rust will increase as the temperatures rise. By April 29, stripe rust in southern Oklahoma was mostly in the telia (overwintering) stage and uredinial development had mostly stopped. In central Oklahoma and around Stillwater more active stripe rust could be found. Stripe rust had yellowed or killed the leaves of susceptible cultivars not treated with fungicides in all areas. Fungicide treated wheat had mostly green leaves. Wheat ranged from full kernel watery to full kernel milky stage. Previously, it was reported that stripe rust was still active and the most prevalent disease in the state the second week of April, but dry conditions had limited additional spread.

Kansas – Stripe rust continues to be a concern in Kansas. With recent rains stripe rust that was restricted to the lower canopy has now rapidly moved to the upper leaves on susceptible cultivars in central and eastern Kansas. Additionally, stripe rust has appeared in the northwestern and western part of the state at low levels. Many growers are applying fungicides to control the disease.

Colorado – Stripe rust was still present in areas it was initially reported, Mesa County in western Colorado and Prospect Valley northeast of Denver, but still remains at low levels despite the cool wet weather. Cool wet weather will likely continue for a while and stripe rust development may increase. Stripe rust, at low levels was reported near Roggen and Stratton in northeastern Colorado. Wheat was between Feekes 6 and 7 in the northeastern part of the state and near Feekes 8 as you move south.



Nebraska – Very little disease was found in commercial fields in eight counties in southeastern and south central Nebraska when surveyed April 27-28. Wheat ranged from Feekes 7 to Feekes 10. Significant levels of stripe rust were however found in nurseries at Lincoln, near Mead and near Clay Center in southeastern Nebraska. The highest levels were found in the nurseries near Clay Center where hot spots were scattered through the nurseries and 50% severities were found on some leaves. Recent conditions have been favorable for development and spread of stripe rust.

South Dakota – There have been no new reports from the state since the last bulletin when stripe rust was reported in central South Dakota on April 6 (see [CRB #2](#), [CRS](#)).

Minnesota – Stripe was found on lower leaves of winter wheat in a commercial field in Norman County in northwestern Minnesota in late April. The area of the field with the stripe rust infection was protected by a tree row and likely had additional snow cover to allow the rust to overwinter. No active sporulation was noted when the infection was found. Previously, wheat stripe rust was reported in nurseries in southwestern and southeastern Minnesota on April 14 (see [CRB #2](#), [CRS](#)).

Michigan – A single wheat stripe rust infection was found on the nursery line MI14W0813 (TEMPLE / D6234) at East Lansing in early May. No other stripe rust foci were found at the location. Forecasted rain and cool weather are conducive for stripe rust development.

Alberta, Canada – Wheat stripe rust was found in winter wheat fields in Lethbridge and Olds in southern Alberta in late April.

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. There have been no new reports of oat stem rust since the last bulletin when oat stem rust was reported as widespread and at high severities on susceptible lines in plots in southeastern Louisiana on April 7. Oat stem rust had spread rapidly through the nursery at Castroville, Texas by April 8. Low levels of oat stem rust were reported on *Avena strigosa* (black oats) that was used as a green manure crop in Rio Grande Valley, Texas while a few pustules of oat stem rust were reported in a plot in southeastern Louisiana on March 4.

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

Oat crown rust. Oat crown rust has now been found in southwestern Alabama, southwestern Mississippi and central North Carolina. The crown rust in Mississippi reached 100% prevalence and 35% severity in Adams County by late April.



Crown rust was still active in the state by early May. Previously, oat crown rust was reported at high incidence and high severity in winter oat plots at Corpus Christi in south Texas on March 30. Oat crown rust developed rapidly in late March and early April in southeastern Louisiana and south Texas (see [CRB #2](#)).

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

Barley leaf rust. High levels of barley leaf rust were found on the winter barley Thoroughbred in a nursery at Mt. Holly in eastern Virginia on May 2. Previously, barley leaf rust was reported at high levels in nurseries in south Texas (see [CRB #2](#)).

Barley stem rust. *See wheat stem rust section.*

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

