



Issued by:

Cereal Disease Laboratory

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- Wheat stem rust was found in nurseries in southeastern Texas and southwestern Louisiana.
- Wheat leaf rust increased rapidly in plots in south Texas and southeastern Louisiana.
- Dry conditions in early April limited rust development in areas from Oklahoma into Nebraska, recent rains however are conducive for further development.
- Wheat stripe is widespread across the U.S. and overwintered in many areas.
- Oat stem rust spread rapidly in nurseries in south Texas and southeastern Louisiana.
- Oat crown rust was severe in plots in south Texas and southeastern Louisiana.
- Barley leaf rust was severe in nurseries in south Texas.

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.

A slow moving storm in the Northwest reached the Plains by the end of last week. The storm provided rain and snow showers across the northern half of the western U.S. Heavy showers and locally severe storms occurred across parts of the Plains with totals of 2-4 inches in a few locations, improving winter wheat conditions there. Rain, however, bypassed a few areas including the High Plains of Texas. Rains ended early last week across the Ohio Valley allowing increased fieldwork in the Midwest. Heavy rains occurred locally in the lower Mississippi Valley.

Nationally, 57% of the winter wheat crop was reported in good to excellent condition, 15 percentage points ahead of last year at this time. Twelve percent of the winter wheat crop was heading by April 16. Twenty seven percent of the spring wheat crop was seeded by April 16, eight percentage points ahead of the 5 year average. Fifty six percent of the oat crop was seeded by April 16, six percentage points ahead of the 5-year average. By April 16, 33% of the barley crop was planted, seven percentage points ahead of the 5-year average.

Wheat stem rust. Wheat stem rust was at high levels and widespread in nurseries at Crowley in southwestern Louisiana on April 15. The plots ranged from mature to just past soft dough growth stage. Wheat stem rust was found in a soft red winter wheat nursery near Wharton in southeastern Texas. Previously, low levels of wheat stem rust were found in sentinel plots at Weslaco and on barley used in watermelon windbreaks in extreme southern Texas and at moderate levels in barley plots at Castroville in south Texas and Corpus Christ in southeastern Texas (see [CRB #1](#)).

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

Wheat leaf rust. Wheat leaf rust increased rapidly in plots at Castroville in south Texas and Baton Rouge in southeastern Louisiana. Dry conditions from Oklahoma into Nebraska likely limited leaf rust development there, but recent rains will be conducive for new development.



Texas – Wheat leaf rust had spread uniformly in nurseries at Castroville in south Texas by April 8. Virulence to *Lr39/41* spread rapidly reaching 70S-90s on TAM 112 (*Lr41*) and Jackpot (*Lr41*) while Jagalene (*Lr24*) was around 40S and 70S-90S on Bentley. The border and spreader rows have a high diversity of genotypes and they were at about 90S in the mid to higher canopy. Previously it was reported that wheat leaf rust had reached 85S with 100% incidence in sentinel plots in extreme southern Texas by early March. By March 10, leaf rust was found throughout much of Texas from the Oklahoma border to the Gulf Coast, the exception being the Texas High Plains where no rust had been reported.

Oklahoma – Wheat leaf rust was observed on lower leaves around Stillwater in north central Oklahoma the second week of April. By April 16, scattered leaf rust pustules were observed on lower leaves around Stillwater. The dry conditions were not conducive for further spread and development, however, recent rains could allow leaf rust to develop in the upper canopy. Previously it was reported that leaf rust likely overwintered in the state and was active, but had not increased significantly limited by the dry conditions in the state.

Kansas – Leaf rust was found at multiple locations in central Kansas the second week of April. The rust was found on the lower leaves at trace levels in most plots. Incidences approaching 90% on lower leaves were observed in a few fields and plots in Reno and McPherson Counties in central Kansas. The severity was still low at <10% in most cases. The continued dry conditions in the state likely slowed the spread of rust, with recent rains additional development is anticipated. Previously it was reported that wheat leaf rust likely overwintered in the state and was found at low levels in western and northwestern Kansas fields and nurseries in northeastern Kansas by March 18.

Nebraska – Wheat leaf rust was found in Banner County in the Panhandle area the third week of April. No leaf rust was found in a survey of the southernmost tier of counties from southeast to west central Nebraska. Trace levels of wheat leaf rust were found at Mead mostly on the lower leaves. Dry weather in early April has likely limited leaf rust development. Recent rains will be conducive for new development. Wheat in the state ranged from Feekes 5 to Feekes 7. Previously, trace levels of wheat leaf rust were reported in wheat fields in south central Nebraska on March 30. The rust was found in every field surveyed.

Louisiana – Wheat leaf rust was spreading rapidly in the nursery at Baton Rouge in southeastern Louisiana by April 7. Conditions were favorable for increased leaf rust development. At Crowley in southwestern Louisiana, wheat leaf rust was at moderate levels on April 15. The plots ranged from mature to just past soft dough growth stage. Previously wheat leaf rust at less than 1% incidence, but high severity was reported in plots at Alexandria in central Louisiana on March 1.

Mississippi – There have been no new reports from the state since the last bulletin when wheat leaf rust was reported throughout the wheat production areas of the state. Conditions were very conducive for further rust development with continued rainfall and warm temperatures.

Tennessee – Wheat leaf rust was found 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 last bulletin when leaf rust was reported in Desha and Jefferson Counties in southeastern Arkansas in early March.

South Carolina – Wheat leaf rust was found in fields of Pioneer 26R10 in Lee and Dillon Counties in northeastern South Carolina the second week of April. Wheat leaf rust was also observed on multiple cultivars in plots at Blackville in southwestern South Carolina.



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

Delaware – There have been no new reports from the state since the last bulletin when leaf rust was reported in the state 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. and appears to have overwintered in many areas in the Great Plains as well as Oregon, Idaho and central South Dakota. Dry conditions limited stripe rust development in areas from Oklahoma north into Nebraska, however recent rains are conducive for new development in some areas.

Oregon – Stripe rust was uniformly spread and heavy (20-40% severity) in a field of the cultivar Whetstone in Umatilla County in northeastern Oregon on April 7. At Hermiston, in the same county, stripe rust was easily found in nurseries with a susceptible check reaching 100% prevalence and 60% severity. 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 – Stripe rust was found in a nursery at Lind in southeastern Washington on April 6. No rust was found in this nursery in early and late March, but was found in commercial fields in the area in late March. Stripe rust was found on one leaf in a commercial field near Palouse in southeastern Washington on April 12. Near Pullman, stripe rust was at low prevalence in a nursery, but was not found in two later planted areas around Pullman. The appearance of stripe rust in the Palouse region is similar to last year, but a month earlier than average. Previously, stripe rust was reported in a nursery and commercial fields in eastern Washington and in plots at Mount Vernon in western Washington (see CRS, CRB #1).

Idaho – Stripe rust was found on two leaves and was just starting to sporulate in a commercial field at Viola in northwestern Idaho on April 12. Previously, stripe rust was reported on the soft white winter wheat cultivar Brundage in a commercial field in eastern Idaho and in south central Idaho (see CRB #1).

Louisiana – Stripe rust was still active in plots at Baton Rouge in southeastern Louisiana, but not at high incidences in most plots on April 7. 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 – There have been no new reports from the state since the last bulletin when 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 last 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 – Stripe rust was observed 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. A dozen pustules or so of wheat leaf rust were found on some cultivars.

Kentucky – Stripe rust was confirmed in Lyon County in western Kentucky the second week of April.

Indiana – 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 last 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 – Stripe rust was observed at Suffolk in southeastern Virginia and in Northampton County in the Eastern Shore the third week of April. Previously, it was reported that a plot in eastern Virginia was found heavily infected with stripe rust the last week of March.

Maryland – Stripe, at low incidence and severity, was confirmed in a commercial field at Hurlock in southeastern Maryland on April 18. Wheat was at Feekes 7-8.

Texas – Wheat stripe rust had spread uniformly in the lower canopy in plots at Castroville by April 8, but the rust development had slowed or stopped due to warming temperatures. The stripe rust was mostly confined to the lower canopy of susceptible cultivars but was found on flag leaves of very susceptible cultivars such as Redhawk. Stripe rust development in central and south Texas had slowed or stopped the second week of April. Stripe rust pressure has been limited in southeastern Texas, but was significant in Dawson County in western Texas. With recent rains in the state the stripe rust may begin developing again, particularly in the northern and western areas of the state. Previously, stripe rust was reported in nurseries at Uvalde, College Station and at Weslaco (see CRB #1).

Oklahoma – 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. By April 16, stripe rust development was still limited, but with more rain and cooler temperatures stripe rust development may increase. Wheat around Stillwater was at various stages of head emergence and mostly flowering in south central Oklahoma.

Kansas – Stripe rust continued to develop in central Kansas the second week of April. The rust was mostly limited to the lower leaves and occasionally mid canopy at trace levels. The incidence on the lower leaves of susceptible cultivars ranged from 1-30%. Wheat in southern and central Kansas was at flag emergence; wheat in the west central and northwestern part of the state was mid to late jointing. The dry conditions in the state were slowing the spread of rust, but with the recent rain the conditions will be more conducive for rust development. Previously, stripe rust was reported at generally low levels in southern Kansas by March 18 and was most active in the southeastern part of the state and by April 1 and was reported in many counties in central and southeastern part of the state (see CRB #1).

Colorado – Stripe rust was still present in areas it was initially reported, Mesa County in western Colorado and Prospect Valley northeast of Denver, but dry conditions the second week of April prevented the rust from spreading. Stripe rust at low levels was also reported near Stratton in eastern Colorado. Recent rains were more conducive for stripe rust development. Previously, it was reported that wheat stripe rust likely overwintered in Mesa County in western Colorado and was also reported on the highly susceptible cultivar Ripper in the Prospect Valley northeast of Denver the fourth week of March.



Nebraska – Trace amounts of stripe rust were found in a winter wheat field in Nuckolls County in south central Nebraska on April 8. Stripe rust was confirmed in several wheat fields in Banner County in the southern Panhandle. No rust was found in the southernmost tier of counties in the state when surveyed on April 12 and 13. A few stripe rust hot spots were found in plots near Mead in eastern Nebraska. Wheat in the stage ranged from Feekes 5 -6 in most fields. Dry conditions over the past two weeks had stopped rust development, but with recent rains rust development will likely resume.

South Dakota – Stripe rust was found in Hand County in central South Dakota on April 6. The rust was found on old, lower leaves and appears to have overwintered. Cool, rainy conditions were conducive for development and spread. On April 12, several winter wheat fields in central South Dakota were surveyed, but stripe rust was only found in the field reported on April 6. Some of the leaves had telia present.

Minnesota – Wheat stripe rust was found in a winter wheat nursery at Lamberton in southwestern Minnesota on April 14. On the same day, stripe rust at trace prevalence and trace severity was found in winter wheat nurseries at St. Paul. The source of the stripe at St. Paul was not likely local as the above ground part of the winter wheat was killed in the winter during several periods without snow cover. The wheat was at tillering stage

Please send wheat and barley stripe rust collections as soon as possible after collection to:

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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 widespread and susceptible lines had high severities in plots at Baton Rouge in southeastern Louisiana on April 7. Oat stem rust had spread rapidly through the nursery at Castroville by April 8. Previously, low levels of oat stem rust were observed 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 at high incidence and high severity was found 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 plots at Baton Rouge in southeastern Louisiana. Susceptible cultivars and lines will realize 100% yield loss. Oats there were generally a week past heading. Oat crown rust had spread rapidly through the nursery at Castroville by April 8. Previously, Oat crown rust was reported at fairly high incidence, but low severity in susceptible spreader in southeastern Louisiana on March 4 while oat crown rust was reported up to 80S and 100% incidence was found on Marvelous oat in sentinel plots at Weslaco in extreme southern Texas on March 4.



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

Barley leaf rust. Barley leaf rust had spread rapidly through the nursery at Castroville, Texas by April 8 and caused very severe damage to susceptible barleys. In plots in Burleson County, Texas barley leaf rust was at high levels by April 15 while last year there was virtually no leaf rust on the barley and moderate levels in 2014. Previously, in extreme southern Texas, barley leaf rust was reported as severe in hooded barley windbreaks in watermelon fields the second week of March while severities ranged from light to heavy in plots at Weslaco. Barley leaf rust was also reported in plots and Castroville and College Station.

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

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

