# CEREAL RUST BULLETIN

**Report No. 3**
April 29, 2015

*Issued by:*

**Cereal Disease Laboratory**
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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*)

- Wheat leaf rust has been found from Texas to Kansas.
- Wheat stripe rust was found in southeastern and central Kansas, southern Nebraska and western Tennessee.
- Moderate levels of barley leaf rust were found in a nursery at Davis, California.

*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.*

Much needed rain fell across much of Oklahoma, Kansas, Nebraska and Arkansas the last few weeks, while some areas of Texas received excess amounts of precipitation. The NOAA 6-10 day outlook has a 40-60% probability for above normal precipitation in the Great Plains.

Twenty eight percent of the U.S. winter wheat crop was headed by April 26, four points ahead of the 5-year average. Forty two percent of the winter wheat crop was rated in good to excellent condition, 9 points better than the same time last year. The spring wheat crop was 55% seeded, more than 2 weeks ahead of the 5-year average. Nine percent of the spring wheat crop was emerged, equal to the 5-year average.

The U.S. oat crop was 71% seeded and 43% emerged by April 26, 11 and 7 points ahead of the 5-year average, respectively. The barley crop was 56% seeded, approximately 2 weeks ahead of the 5-year average. Eighteen percent of the barley crop was emerged, 9 points ahead of the 5-year average.

**Wheat stem rust.** Despite ample moisture there was little wheat stem rust found in South Texas in late April. Cool temperatures have likely limited stem rust development. Additionally, fungicides have been applied in many areas of eastern, central and northern Texas. To date, the only reports of wheat stem rust in the U.S. have been from South Texas (see CRS).

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

**Wheat leaf rust.**

While leaf rust has been found from Texas to Kansas, the recent cool temperatures, however, have been more conducive for stripe rust development. As the temperatures increase conditions will likely favor leaf rust development and spread.

*Texas* – There have been no new wheat leaf rust reports from the state since the first bulletin when wheat leaf rust was reported in nurseries in South Texas and fields in the Texas High Plains and Texas Rolling Plains (see CRS).

*Oklahoma* – Leaf rust has increased in north central and in far southwestern Oklahoma, but stripe rust has increased more due to cooler temperatures and recent rains.

*Kansas* – Trace amounts of leaf rust were found in many areas of southeastern and central Kansas the fourth week of April. Fuller (*Lr17, 39/Lr41*) and WB4458 (*Lr39/41*), known susceptible cultivars, had trace levels of leaf rust. Cool temperatures, however, have been more conducive for stripe rust development and spread. Previously, wheat leaf rust was reported in nurseries in northeastern Kansas as well as in south central Kansas (see CRS).

*Louisiana* – Leaf rust was increasing in the state in late April, however, the crop was maturing rapidly and minimal impact was anticipated. Previously, leaf rust was reported in nurseries in southern and northeastern Louisiana.

*Arizona* – Leaf rust at low incidence and severity was easily found in nurseries south of Yuma in southwestern Arizona the second week of April. This was the first time rusts have been found in the nurseries since they were established in 2010.

**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.**

Recent rain events and cooler temperatures have created conditions conducive for stripe rust development and spread in areas from Texas to Nebraska. Stripe rust continues to be a concern in areas of western Oregon and Washington. To date, stripe rust has been observed in Texas, Oklahoma, Kansas, Nebraska, Louisiana, Mississippi, Arkansas, Arizona, California, Oregon and Montana.

*Oregon* – There have been no new reports of stripe rust in the state since the last bulletin when stripe rust was reported and a concern in the Willamette Valley of western Oregon (see CRS).

*Washington* – There have been no new reports of stripe rust in the state since the last bulletin when stripe rust was reported as developing rapidly in nurseries in in southeastern Washington while it was not found in commercial fields in the area. Stripe was also observed at Mount Vernon in northwestern Washington (see CRS).

*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).

*Arizona* – Stripe rust at low incidence and severity was easily found in nurseries south of Yuma in southwestern Arizona the second week of April. Severities and incidences were higher in durum wheat. This was the first time rusts have been found in the nurseries since they were established in 2010.

*Montana* – There have been no new stripe rust reports from the state since it was reported in northwestern and north central Montana in early April (see CRS).

*Louisiana* – There have been no new stripe rust reports from the state since the last bulletin when 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 had increased in nurseries at Winnsboro (northeastern LA) the first week of April.

*Arkansas* – While foliar diseases are generally at low levels throughout the state stripe rust was severe in late April on susceptible cultivars not treated with fungicides. Adult plant resistance and fungicide applications have been effective in mitigating the effects of stripe rust. In January and February stripe rust was widespread across the state.

*Tennessee* – Stripe rust at very low levels was found on the tips of lower leaves in a field in Haywood County in western Tennessee the second week of April. On subsequent visits to the field stripe was harder to find. It does not appear the stripe rust is developing to any extent.

*Texas* – Fungicides were applied in many areas of eastern, central and northern Texas to control stripe rust. Stripe rust was previously reported in west central Texas fields and nurseries in South Texas (see CRB #1).

*Oklahoma* – Stripe was active and increasing in north central and southwestern Oklahoma the fourth week of April. Recent cool temperatures and rains have been conducive for further stripe rust development and spread in the state.

*Kansas* – Stripe rust was found at low levels in several fields in southeastern and central Kansas the fourth week of April. The stripe rust was most often found in the lower to mid-canopy, but found in the upper canopy in a few fields in the southeastern and south central areas of the state. Stripe rust was found on the cultivars Everest, Armour, Garrison and Ruby Lee suggesting a similar rust population as in 2012. Cultivars with *Yr17* (Fuller, WB4458) only had trace levels of stripe rust.

*Nebraska* – Stripe rust was widespread in the southernmost tier of counties in the state on April 28. Incidences ranged from 15% to > 80% with severities at trace to low levels in some fields. A few leaves were found with severities greater than 50%. Wheat was mostly at Feekes 6, but ranged from Feekes 6 to 10.

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

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***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 first bulletin (see CRB #1) when oat stem rust was reported in nurseries in southern Louisiana and southern Texas. Race TGN was identified from Marvelous oat collection made in a nursery at Weslaco in extreme southern Texas.

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

**Oat crown rust.** There have been no new reports of oat crown rust since the last bulletin. Previously, oat crown rust was reported in South Texas and southern Louisiana (see CRS).

**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 first bulletin when a few stem rust pustules were reported on hooded barley, used in watermelon windbreaks, in the Lower Rio Grande Valley of Texas (see CRS).

**Barley leaf rust.** Barley leaf rust at 50% incidence and 40% severity was found in a regional barley nursery at Davis, California on April 24. Previously, barley leaf rust was reported in a field in in the southern area of the San Juan Valley of California and in watermelon windbreaks in the Lower Rio Grande Valley of Texas (see CRS).

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