CEREAL RUST BULLETIN

Report No. 5
May 27, 2015

Issued by:

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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 Arizona to Nebraska east to North Carolina and western New York.
- Wheat stripe rust was severe in southern Nebraska and areas of south central Kansas.
- Wheat stripe rust found throughout Nebraska and eastern Washington, in eastern Colorado, south central South Dakota and southwestern Indiana.
- Moderate levels of barley leaf rust were found in a nursery in western Virginia.
- Crown rust aecia were found on buckthorn in New York, Michigan and southeastern Minnesota.

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.

An extremely active weather pattern has recently impacted much of the Great Plains. Areas of Texas and Oklahoma have received excessive amounts of rain. The drought conditions in many areas of Texas and Oklahoma have eased considerably. Some areas of Oregon and northern California received beneficial rain improving topsoil moisture, but having little impact on the long-term drought conditions.

Seventy seven percent of the U.S. winter wheat crop was headed by May 24, 10% ahead of the 5-year average. Forty five percent of the winter wheat crop was rated in good to excellent condition, 15% better than the same time last year. Wet conditions in Texas delayed the winter wheat harvest, with 4% harvested by May 24, 8% behind the 5-year average. Winter wheat lodging due to flooding and heavy rains was reported in areas of Texas. The spring wheat crop was 96% seeded, 17% ahead of the five-year average. Eighty percent of the spring wheat crop was emerged, 29% ahead of the five-year average. Sixty nine percent of the spring wheat crop was reported in good to excellent condition.

The U.S. oat crop was 91% emerged by May 24, 12% ahead of the five-year average. Twenty six percent of the oat crop was at or beyond heading stage. Seventy percent of the oat crop was reported in good to excellent condition. The barley crop was 86% emerged, 31% ahead of the five-year average. Seventy four percent of the barley crop was reported in good to excellent condition.

Wheat stem rust. There have been no new reports of wheat stem rust since the last bulletin. Previously, stem rust was reported in Texas and Louisiana (see CRB #4, CRS).

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

Wheat leaf rust. Wheat leaf rust has now been found from Arizona north to Nebraska east to North Carolina and in western New York. Recent cool temperatures in the Great Plains have limited leaf rust development while favoring stripe rust development. As the temperatures increase conditions will likely favor the increase and spread of leaf rust. Many areas have been treated with fungicides to control stripe rust and that will also inhibit leaf rust development.

Oklahoma – Wheat leaf rust development had increased rapidly around Stillwater in north central Oklahoma by May 15. Susceptible cultivars such as OK Bullet were at 80-90S. Stripe rust susceptible cultivars had lost their leaves, but wheat leaf rust was rapidly developing on cultivars that are stripe rust resistant and susceptibile to leaf rust, e.g. the cultivars Jackpot (*Lr39/41*) and Greer (*Lr39/41*). While stripe rust was prevalent in nurseries at Goodwell in the panhandle the fourth week of May, leaf rust was increasing. The wheat was at milk stage. Wheat in areas of south central Oklahoma was at or near maturity.

Kansas – Leaf rust had been found in eastern, south central, central and north central Kansas by early May. In south central Kansas in the fourth week of May the wheat leaf rust incidence was generally between 10-20% and severity was less than 1% on flag leaves. Leaf rust was heavier in nurseries near Hutchinson (south central Kansas) with severities approaching 10-15% on flag leaves of the susceptible cultivar Overley (*Lr39/41*).

Nebraska – Leaf rust (trace incidence, 5% severity) was found in the lower canopy of the cultivar Overley at Mead in eastern Nebraska on May 19. Conditions in the state continue to favor stripe rust development.

Mississippi – Wheat leaf rust was the most prevalent rust in the state this season and was observed from Hattiesburg in the southeast to Shelby in the northwest. Stripe rust was at very low levels when found in commercial fields. The wheat crop maturity is behind average due to the wetter than normal winter.

Virginia – Wheat leaf rust was just appearing in plots at Painter in eastern Virginia the third week of May. Levels were not sufficient for sampling. Wheat headed at least a week later than average due to the cool spring.

New York – Trace levels of wheat leaf rust were found in a single field in Orleans County in western New York the fourth week of May. No other rusts have yet been reported in New York this year. Wheat was from late jointing to boot stages.

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 active from Oklahoma to Colorado to Nebraska and has been found in south central South Dakota and is developing in Illinois and southern Indiana. Recent cool, wet weather has been conducive for stripe rust development. Stripe rust is widespread in eastern Washington.

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

Washington – Wheat stripe rust, at generally low incidence and severity, was widespread in eastern Washington on May 20. Stripe rust was found in approximately 20% of the 80 commercial winter wheat fields surveyed between Lamont and Colfax. Near Walla Walla, stripe rust, in small hot spots, was more easily found in commercial fields. Most infections were found on upper leaves, but occasionally on the lower leaves. Stripe was found at higher incidence and severity in nurseries at Walla Walla than in commercial fields. The relatively low levels found in commercial fields were mainly due to the use of resistant cultivars and applications of fungicides. Recent conditions in eastern Washington were conducive

for stripe rust development after the dry conditions in April. It is anticipated that conditions the next few weeks will likely be favorable for further stripe rust development.

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 – 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).

Idaho – There have been no new reports from the state since it was reported in both western and eastern Idaho where it was increasing (see CRS).

Utah – There have been no new reports from the state since stripe rust was reported on the soft white winter wheat Lewjain and hard red winter wheat Lucin CL in a nursery at Logan in north central Utah in late April.

Mississippi – Wheat stripe rust was found at very low levels in the few nurseries it was found in the state and at extremely low levels in commercial fields this season. Leaf rust has been the predominant rust in the state.

Tennessee – There have been no updates from the state since stripe rust at very low levels was reported in a field in Haywood County in western Tennessee the second week of April. It did not appear the stripe rust was developing to any extent.

Oklahoma – Stripe rust was prevalent in nurseries at Goodwell in the panhandle the fourth week of May, but leaf rust was increasing. The wheat was at milk stage. Wheat in areas of south central Oklahoma was at or near maturity. Previously, it was reported that stripe rust was widespread in the state by early May and was severe on some cultivars (see CRS). The weather from mid-April through May was cool and wet, favorable for stripe rust development.

Kansas – Stripe rust was very severe in areas of south central Kansas the fourth week of May, with incidence near 100% and severity ranging from 20-80%. Wheat was in early grain development stages. Some of the cultivars with the most stripe rust include Armour, Everest, Garrison, LCS Wizard, Ruby Lee, TAM 111 and WB Redhawk while cultivars with a Jagger pedigree, e.g. 1863, Danby, Fuller and WB 4458 (Yr17) appeared moderately resistant. Stripe rust had moved to the upper leaves in fields in central and western Kansas and there were a few reports of severe stripe rust on flag leaves. Recent conditions have been conducive for further stripe rust development in the state.

Nebraska – Stripe rust was widespread in southwestern, south central and southeastern areas of the state the fourth week of May. While unconfirmed it was likely also present in the Panhandle. By late May, wheat severity and incidence was very high in fields of susceptible cultivars not sprayed with fungicides in southern Nebraska. Many fields were extremely yellow due to stripe rust. Wheat in southern Nebraska ranged from flowering to the beginning of ripening. Conditions continue to be very conducive for development, i.e. cool, wet weather.

South Dakota – Stripe rust, at low incidence and severity, was observed in a winter wheat field near Winner in Tripp County in south central South Dakota the fourth week of May. No stripe rust, or other cereal rusts, were found in other winter wheat fields surveyed in central South Dakota. Recent cool, wet conditions have been conducive for stripe rust development. Winter wheat was at boot to heading growth stages.

Colorado – Stripe rust was observed near the Denver International Airport in mid April, early for eastern Colorado. Stripe rust was developing in many areas in eastern part of the state in mid-May. The cool, wet weather was conducive for development. Wheat was approaching heading stage.

Illinois – Stripe rust was found on three of the four cultivars in nurseries at Champaign and Urbana in east central Illinois the third week of May. The rust was found on AgriPro W1566, Dynagro 9441, Monier 844, but not on Pioneer 25R32. Wheat heads were just beginning to emerge in some cultivars. Stripe rust was also found in nurseries in Fayette County in south central Illinois. It is likely that stripe rust is widespread on susceptible wheat not treated with fungicides in the southern half of Illinois. Previously, stripe rust was reported in nursery in Pope County in southeastern Illinois in early May.

Indiana – Stripe rust was observed on P25R46 and Becks 113 near Evansville in southwestern Indiana the third week of May. Stripe rust was found in all fields of P25R46 surveyed, but severity was very low.

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

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Washington State University
Pullman, WA 99164-6430
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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 a 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 second 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 was found on a susceptible check in a nursery at Blackstone in south central Virginia the third week of May. There was not enough rust present to rate the plots. No rust was found at Holland in southeastern Virginia. Barley headed at least a week later than average due to the cool spring. In plots at Blacksburg in western Virginia barley leaf rust was observed at 50% incidence and 60% severity on May 15. Previously, barley leaf rust was

reported in nurseries at Davis and 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.

Barley stripe rust – Stripe rust was found on barley in a nursery near Walla Walla in eastern Washington on May 21.

Rust on barberry. Light amounts of rust aecia were appearing on common barberry (*Berberis vulgaris)* in Dane County in south central Wisconsin the third week of May. Common barberry is the alternate host for stem rust. On May 21, light amounts of pycnia were appearing on common barberry in southeastern Minnesota while early signs of aecial development were observed on some of the more mature leaves.

Rust on buckthorn. Crown rust aecia were prevalent on common buckthorn **(***Rhamnus cathartica)*, the alternate host for oat crown rust, in New York the fourth week of May. Crown rust infections were severe on common buckthorn in the Matt Moore Buckthorn Nursery at St. Paul in southeastern Minnesota by late May. Crown rust aecia were found on common buckthorn throughout Michigan in late May.