CEREAL RUST BULLETIN

Report No. 7
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Issued by:

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- Wheat stem rust has been found in nurseries in Kansas and Nebraska.
- Wheat stripe rust has been found in Wyoming, the Dakotas, Wisconsin and Michigan.
- Wheat leaf rust is widespread in Michigan.
- Barley stem rust found in a nursery in southeastern Nebraska.
- Oat stem rust found in a nursery in southeastern Nebraska.
- Oat crown rust found in nurseries in southeastern and eastern Nebraska.

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.

Tropical storm Bill resulted in significant rainfall from southern Texas north to Illinois and east to Pennsylvania. The heavy rains limited fieldwork in the impacted areas and created some concern with winter wheat quality issues. Dry and warm conditions in Oregon, Washington and Idaho have hastened crop development from one and a half to two weeks ahead of average.

By June 21, 19% of the U.S. winter wheat crop was harvested, 12% behind the 5-year average. Forty one percent of the winter wheat crop was rated in good to excellent condition, 11% better than the same time last year. Twenty three percent of the spring wheat crop was at or beyond heading by June 21, 8% ahead of the five-year average. Seventy one percent of the spring wheat crop was reported in good to excellent condition.

Sixty seven percent of the oat crop was at or beyond heading stage by June 21, 7% ahead of the 5-year average. Sixty seven percent of the oat crop was reported in good to excellent condition. Thirty eight percent of the barley crop was headed by June 21, 24% ahead of the 5-year average. Seventy six percent of the barley crop was reported in good to excellent condition, 9% ahead of last year at this time.

Winter wheat harvest has begun in areas of Indiana, Illinois, Ohio and Maryland while more than 50% of the crop has been harvested in California, Texas, Oklahoma, Mississippi, Louisiana, Arkansas, Alabama, Georgia, South Carolina, North Carolina and Virginia. Dry and warm conditions in Oregon, Washington and Idaho have hastened crop development from one and a half to two weeks ahead of average.

Wheat stem rust. Wheat stem rust was found on winter wheat in plots at Lincoln in southeastern Nebraska the third week of June. Lincoln had record rainfall in May and June. Stem rust was not believed to be widespread in eastern Nebraska. On June 19, wheat stem rust was found in a nursery at Hays in northwestern Kansas. These were the first reports of wheat stem rust since it was reported in nurseries in Texas and Louisiana in late April and early May, respectively. Race QFCSC, the most frequently found race in recent years, was identified from nursery collections made in South Texas and in central Louisiana.

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

Wheat leaf rust. Leaf rust appeared on winter wheat leaves not lost to stripe rust in areas of Nebraska and Colorado in early June. Leaf rust was widespread in Michigan by the second week of June and found in nurseries in southwestern and southeastern Minnesota and eastern Wisconsin. As the temperatures increase conditions will likely favor the increase and spread of leaf rust.

Nebraska – Leaf rust was appearing on plants that had not lost their leaves to stripe rust in winter wheat nurseries at Lincoln in southeastern Nebraska the second week of June. Leaf rust was also found in a nursery in Furnas County in south central part of the state and at Crete in southeastern Nebraska. As in Lincoln, the leaf rust was found on stripe resistant cultivars and lines that had not lost their leaves to stripe rust. Twenty percent of the winter wheat crop was mature by June 21.

Colorado – There have been no new reports from the state since wheat leaf rust was found on cultivars that had not lost their leaves to stripe rust.

Minnesota – Wheat leaf rust was found at low levels on both winter and spring wheat (lesser amounts) in nurseries at Lamberton in southwestern Minnesota the second week of June. Leaf rust had first appeared in the nurseries in late May. Stripe rust was found at somewhat higher levels. Winter wheat was at flowering and spring wheat was at boot to heading growth stages. Leaf rust, at low levels, was previously reported in plots at St. Paul in southeastern Minnesota in early June.

Michigan – Wheat leaf rust at trace incidence and trace to 10% severity was found in central and eastern Michigan on June 11 and it was believed to be widespread across Michigan.

Virginia – There have been no new reports from the state since the last bulletin when leaf rust was reported in nurseries in eastern and western Virginia (see CRS).

New York – There have been no new reports from the state since trace levels of wheat leaf rust were reported in a single field in Orleans County in western New York the fourth week of May.

Oregon – There have been no reports from the state since the last bulletin when wheat leaf rust was reported in plots and fields in several areas in both the southern and northern Willamette Valley in western Oregon in late May. Wheat leaf rust has rarely been found in Oregon the last 10-15 years.

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. Wheat stripe rust has been found in southeastern Wyoming, the Dakotas, south central and eastern Wisconsin, much of Michigan and south central Manitoba.

Oregon – There have been no new reports of stripe rust in the state since the second bulletin (see CRB #2) when stripe rust was reported and a concern in the Willamette Valley of western Oregon (see CRS). Winter wheat harvest is expected to begin this coming week in areas of the state.

Washington – Stripe was found in many fields of both winter and spring wheat in eastern Washington the second week of June, but at generally low levels. The low levels are likely due to the use of resistant cultivars, fungicide applications and dry, warm conditions. In contrast, susceptible cultivars in nurseries near Pullman developed to 100% incidence and 100% severity by June 11. At the Lind Dryland Station in Adams County stripe rust was found at low levels on susceptible winter wheat cultivars, but at higher levels on susceptible spring wheats (see CRS). Previously, as is usual, stripe rust was severe on winter and spring wheat in nurseries in northwestern Washington in late May.

Montana – Stripe rust was widespread across the state by June 4. The cultivar Yellowstone was holding up well in the golden triangle area of the state. Previously, stripe rust was reported in northwestern and north central Montana in early April (see CRS).

Idaho – There have been no new reports from the state since stripe rust was reported in both western and eastern Idaho where it was increasing (see CRS). Conditions recently have been warm and dry, not conducive for stripe rust development.

Nebraska – Stripe rust was found in the southwestern Panhandle near the Wyoming border the second week of June (see CRS). Stripe rust this season was the most severe in the state that Stephen Wegulo, Extension Plant Pathologist, has every seen. As reported earlier, some severely impacted fields may realize a 40-50% loss to stripe rust. By late June, stripe rust development in southern Nebraska had mostly stopped due to the lack of healthy tissue left to infect. While stripe rust may be active in the Panhandle, the stripe rust development will slow with the predicted warm temperatures.

Colorado – There have been no new reports from the state since the last bulletin. Previously, stripe rust was reported as widespread in eastern Colorado with severities up to 100% in many areas. This is the worst stripe rust year since its initial appearance in 2001. Leaf rust is appearing at trace levels on cultivars that have not lost their leaves to stripe rust. Cool, wet weather this spring has created conditions very favorable for stripe rust development.

Wyoming – Light levels of stripe rust were found in both irrigated and dryland nurseries near Lingle in southeastern Wyoming in early June.

South Dakota – Stripe rust was prevalent in winter wheat trials across the state by June 15. Previously, stripe rust was reported in south central and southeastern in late May and early June, respectively (see CRS).

North Dakota – There have been no new reports from the state since the last bulletin when stripe rust was reported from southeastern part of the state to the Canadian border (see CRS).

Minnesota – Wheat stripe rust was found at low levels on both winter and spring wheat (lesser amounts) in nurseries at Lamberton in southwestern Minnesota the second week of June. Leaf rust was found at somewhat lower levels. Winter wheat was at flowering and spring wheat was at boot to heading growth stages. Previously, stripe rust was reported in plots in southeastern Minnesota on June 7.

Illinois – There have been no new reports from the state since stripe was reported in east central and southern Illinois in mid-May (see CRS).

Indiana – There have been no new reports from the state since stripe rust was reported in southwestern Indiana the third week of May (see CRS).

Wisconsin – Stripe rust pustules were found on winter wheat in plots at Sharon in south central Wisconsin in early June. This was the first report of stripe rust in Wisconsin in 2015. On June 11, wheat stripe rust was found in winter wheat nurseries at Fond du Lac and Chilton in eastern Wisconsin. At Fond du Lac stripe rust was only found in a few plots, high severities were found on flag leaves of some plants. Stripe rust was more widespread in the Chilton nursery, but severity was at low to trace in all plots. Wheat was in full flower at both locations.

Michigan – Wheat stripe rust at trace incidence and trace to 10% severity was found in central and eastern Michigan on June 11 and it was believed to be widespread across Michigan.

Manitoba, Canada – The first report of stripe rust in Manitoba was from a field southwest of Killarney in south central Manitoba near the North Dakota border. The field was split between the winter wheat cultivars Emerson and CDC Falcon with more stripe rust found on CDL Falcon than Emerson. Winter wheat was at full flag leaf to early heading stage.

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. Oat stem rust was found in plots at Lincoln in southeastern Nebraska on June 17. This is the first report of oat stem rust since it was reported in nurseries in southern Louisiana and southern Texas (see CRB #1) in March. To date, race TGN has been 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. Oat crown rust was found in plots at Lincoln and Mead in southeastern Nebraska on June 17. Oat crown rust, at very low levels, was found in nurseries at Lamberton in southwestern Minnesota on June 18. The oats were at heading to flowering at Lamberton. These are the first reports of oat crown rust since it was reported in southern Mississippi in early May. Oat crown rust has also been reported in South Texas, southern Louisiana and northern Florida.

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

Barley stem rust. Barley stem rust was found in barley plots at Lincoln in southeastern Nebraska the third week of June. The barley stem rust was not believed to be widespread. This is the first barley stem rust report since it was reported in watermelon windbreaks, in the Lower Rio Grande Valley of Texas the second week of March (see CRS).

Barley leaf rust. There have been no new reports of barley leaf rust since the last bulletin. Previously, barley leaf rust was reported in fields in southern Texas, a field in southern area of the San Juan Valley of California and nurseries in south central and western Virginia and northwestern Washington

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

Barley stripe rust – There have been no new reports of barley leaf rust since the last bulletin. Previously, barley stripe rust was reported in a nursery in eastern and northwestern Washington (see CRS).

Rust on barberry. Light to moderate aecial infections were found on common barberry (*Berberis vulgaris)* in Manitowoc County in eastern Wisconsin on June 16. Common barberry is the alternate host for stem rust. Previously, light amounts of aecial infections were reported on common barberry in south central Wisconsin and southeastern Minnesota.