CEREAL RUST BULLETIN

Report No. 4
May 15, 2013

Issued by:

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For the latest cereal rust news from the field, subscribe to the cereal-rust-survey listserv list. To subscribe, please visit: http://www.ars.usda.gov/Main/docs.htm?docid=9970

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*)

- Stem rust found on Einkorn in a plot at Davis, California.
- Wheat leaf rust is at low levels in Oklahoma and has been found at only one location in Kansas.
- Wheat stripe rust was observed in Alabama, Nebraska, Tennessee, Kentucky, Illinois and Delaware.
- Oat crown rust virulent to the common cultivars was reported in Florida.
- Barley leaf rust was common in susceptible plots in western 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.

The U.S. winter wheat crop was 29% headed by May 12, 22% behind the 5-year average. Despite the overall delay due to record setting cold weather across the Great Plains and upper Midwest through April, winter wheat harvest began in some areas of southern Texas and Georgia this week. It has been estimated that just under half of the Kansas winter wheat crop did not experience freeze damage from the very cold weather in late April and early May. Considerable progress was made in the spring oat, barley and wheat seeding in the last week, but seeding remains well behind the 5-year average. The oat harvest has begun in Georgia.

Wheat stem rust. Stem rust was severe on *T. monoccum* (Einkorn) at Feekes 10.5 growth stage in a plot at Davis, California on May 6.

Wheat leaf rust.

Texas **–** There have been no new reports from the state since the last bulletin when high levels of leaf rust were observed in plots in southern Texas in mid-April.

Oklahoma – There appears to be very little wheat leaf rust in the state and there were no new reports of leaf rust in the state during the second week of May (see CRS). Previously, low levels of wheat leaf rust were found in south central Oklahoma the second week of April.

Kansas – A single wheat leaf rust pustule was found in Stafford County in south central Kansas the second week of May. This is the only report of wheat leaf rust in Kansas so far this year. Wheat in southwestern Kansas is suffering from drought and freeze damage while wheat in south central and central Kansas is in better condition due to recent rains. No rust has yet been found in these areas.

Mississippi – There have been no reports of leaf rust in the state since wheat leaf rust was confirmed in six counties scattered across the state by mid-April.

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.

2012 wheat leaf rust race survey results are now available.

Wheat stripe rust.

Oklahoma – Reports of stripe rust increased in the state the second week of May, but there was no indication of a widespread or severe outbreak anywhere in the state (see CRS).

***Kansas* –** Very low levels of stripe rust have been found in commercial fields in southeastern Kansas and due to rising temperatures the risk of significant development is unlikely (see CRS).

***Nebraska* –** Stripe rust was observed on wheat at the 3-4 leaf stage in plots at Mead in eastern Nebraska on May 7. The affected plots had incidence in excess of 70% and severity ranged from trace to moderate. Typically, stripe rust is not seen on plants at such an early growth stage in Nebraska. As with many areas east of the Rockies wheat development is very delayed, up to three weeks in Nebraska. This is the first report of stripe rust in Nebraska in 2013.

***Mississippi* –** There have been no new reports of stripe rust in the state since the last bulletin when it was reported that isolated stripe rust hot spots were found throughout Mississippi in mid-April and stripe rust was confirmed in 16 counties.

***Alabama* –** Stripe rust was observed in plots near Tallassee in east central Alabama the second week of May. Several cultivars had trace amounts of stripe rust while two cultivars had 10-50% severity on the upper two leaves.

***Georgia* –** There have been no new reports of stripe rust in the state since the last bulletin when it was reported stripe rust had been observed across much of the state (see CRB 3).

***Arkansas* –** Stripe rust was still active in the state the second week of May. Previously, it was reported that stripe rust was only serious in areas where it had overwintered and the cultivars lacked adult plant resistance or where no fungicide or late applications of fungicide were applied (see CRB 3). Most wheat in the state has flowered or is now flowering.

***Tennessee* –** Stripe rust was observed in Haywood and Hardin Counties in west Tennessee the second week of April. These were the first reports of stripe rust in the state in 2013. By early May stripe rust was reported in 9 counties in western Tennessee at varying levels of incidence and severity. Fungicides applications began in mid-April and continued into May.

Kentucky – Low levels of stripe rust were detected in a field in Christian County in southwestern Kentucky by early May.

Illinois – Stripe rust at low incidences was observed in two commercial fields in Champaign County in east central Illinois the second week of May. The wheat was at or near boot stage. Stripe rust at low incidence and severity was observed in White County in southeastern Illinois while no rust was found in Pope, Saline and Gallatin Counties when visited this week. Wheat in southeastern Illinois was flowering.

Delaware – Low levels of stripe rust were found in commercial winter wheat fields in eastern Kent County on May 14. The wheat in the area was flowering or near flowering. There were no reports of rust in Newcastle or Sussex County.

California – Stripe rust was established in plots in the Central Valley by early May even though the disease was late in developing in 2013. High stripe rust severities were observed on previously susceptible cultivars and lines and those that expressed resistance in 2012 have not yet been affected. Some commercial fields of the susceptible cultivar Joaquin had high stripe rust severities in Kings and Tulare Counties in the San Joaquin Valley, particularly when the fields were not treated with fungicides.

Oregon – Wheat stripe rust was easily found on winter wheat cultivars and lines in plots at Hermiston in northeastern Oregon in early May. Resistant to moderately resistant reactions were observed in triticale plots. Previously, it was reported that stripe rust was developing rapidly in plots in the South Willamette Valley on April 24.

Washington – Generally, low levels of wheat stripe rust were observed in commercial winter wheat fields in Franklin, Columbia, Garfield and Whitman counties in southeastern Washington in early May (see CRS). Susceptible winter wheat check plots in Walla Walla County had developed up to 60% severity and 80% incidence. Stripe rust developed up to 80% severity on susceptible winter wheat lines at Mt. Vernon in northwestern Washington while low levels of stripe rust with mostly resistant reactions were found in commercial fields in the area.

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

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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 in plots in southeastern Louisiana and in southern Texas.

Oat crown rust. Crown rust is particularly virulent this year in Florida with none of the currently released cultivars appearing to be resistant. Previously, **c**rown rust was confirmed in a field in southeastern Mississippi, several oat fields from southwestern to east central Georgia, plots in southeastern Texas, the Florida panhandle and in southeastern Louisiana.

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

Barley stem rust. Not yet reported in the U.S. this year.

Barley leaf rust. Barley leaf rust was common in the lower canopy of susceptible border rows in plots at Blacksburg in western Virginia on April 29. Barley leaf rust was also active in plots at Warsaw in eastern Virginia in early May; barley leaf rust was first noted in the plots on January 10.

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

Stripe rust on barley. Barley stripe rust severities up to 40% were observed in winter barley plots at Mt. Vernon in northwestern Washington in early May. Previously, stripe rust was reported on wild barley in Yolo County in late March.

Rye stem rust. Not yet reported this year in the U.S.

Rye leaf rust. Not yet reported this year in the U.S.

Rust on other grasses. Crown rust was found on Italian ryegrass at Crowder in Quitman County and Belzoni in Humphreys County in northwestern Mississippi in early May. In 2012, crown rust was widespread in the state on Italian ryegrass.