

PLANT DISEASE AND INSECT ADVISORY



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Wheat Disease Update **Bob Hunger, Extension Plant Pathologist**

During the last couple of weeks, I've had several inquiries about how to tell the difference between stripe rust and leaf rust. As the saying goes, "One picture is worth a thousand words." The differences are easily viewed in the photographs (Figure 1A & B). Stripe rust (also called yellow rust) produces yellow-gold-orange spores in small pustules that run in stripes. Leaf rust (also called brown rust) produces reddish-brown spores in larger pustules that are not delimited by the leaf veins.

Here are some observations made during the last 10 days or so – both in the field and from samples brought into the Diagnostic Lab.

- Bob Woods (Area Extension Agronomist in eastern OK) reported (April 11) severe stripe rust in a soft wheat in eastern OK, and that pustules of leaf rust were starting to appear in fields of Jagalene and 2174.
- My observations in the field and reports still coming in indicate that stripe rust is widely spread across Oklahoma. In southern and central OK a high level of necrosis is associated with the stripes. In northern Oklahoma there still seems to be abundant sporulation as indicated by a sample of Ok 102 foliage brought to the lab on April 19.
- My observations and reports both indicate increases in leaf rust across all of OK. A sample of Jagalene brought to me this past week from northern OK was showing a 40-60 MS/S reaction on nearly all of the upper leaves. Gary Strickland (county educator, southwestern OK) told me today that similar or greater severities are being seen on 2174 and Jagger in southwestern OK. Further, rain fell across much of southwestern OK yesterday (April 20), which could trigger greater increases of leaf rust.
- Rick Kochenower (Area Research & Extension Specialist – Panhandle) has been reporting heavy rust infestations in the OK panhandle. Brett Carver (OSU wheat breeder) confirmed this to be primarily stripe rust (April 17), and found it to be occurring in both dryland and irrigated wheat.

Below are some reports from other states:

- Texas (April 20): Yesterday at Castroville--Stripe rust is almost gone--leaf rust is very heavy--oat crown rust is heavy--oat stem rust is very light. No wheat stem rust seen (Rex W. Herrington, Research Associate Texas A&M).
- Kansas (April 15): On a tour across southwest and south-central Kansas, the wheat was found to be at late joint in most locations. Less than a 1% incidence of stripe rust and about a 1% incidence of leaf rust was observed on this tour. (Jon Appel, Plant pathologist, Kansas Dept. of Ag.)
- Arkansas (April 18): Severe (>98% of foliage affected by sporulating pustules in some entries) stripe rust in the southwest corner of the state. There was no obvious indication of new races. Leaf rust had all but disappeared, which was surprising. In east-central Arkansas, stripe rust was severe in hot spots, and was just beginning to show beyond these spots; just a trace of leaf rust observed. Also observed BYDV in the southwest corner of the state, septoria at both locations at trace levels, and

powdery mildew half-way up the canopy in the southwest (Gene Milus, Professor/wheat pathologist, U. of A.).

- Louisiana (approx. April 20): Wheat leaf rust and oat crown rust continue to spread. Numerous oat variety trial entries have reached 100% crown rust. Light infestations of Hessian fly were identified at Baton Rouge and Winnsboro, LA over the past weekend. (Stephen Harrison, Professor/small grains breeder, L.S.U.).
- Pacific Northwest (April 21): Stripe rust is developing rapidly in the Pacific Northwest. This year, stripe rust started showing up much earlier than last year and also earlier than normal because of the warmer weather during the winter. (Xianming Chen, Research Scientist, USDA-ARS, Pullman, WA).

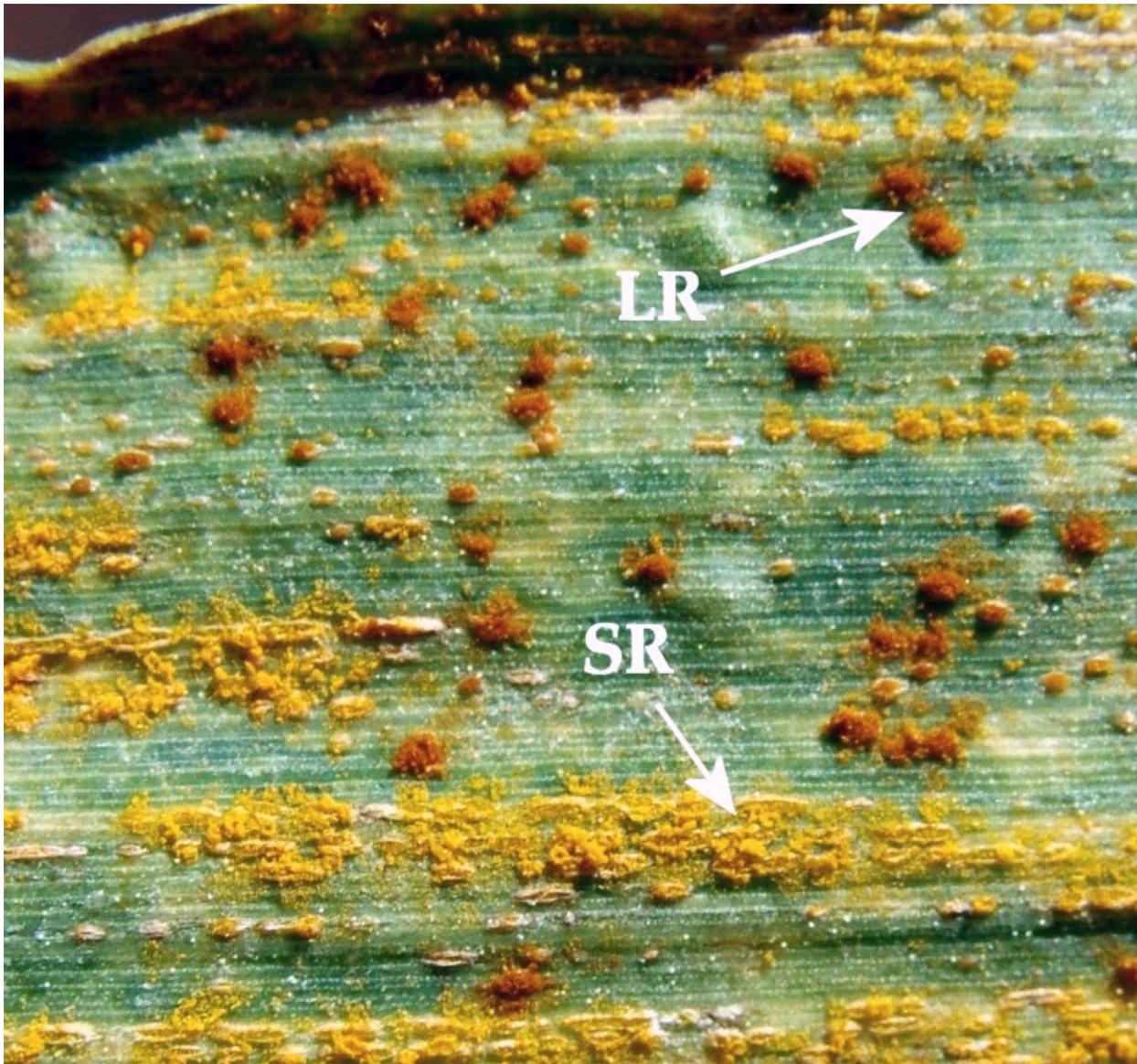


Fig 1A. Wheat leaf showing both leaf rust (LR) and stripe rust (SR). Photo courtesy Stephen Harrison, Professor/small grains breeder, Louisiana State University.



Fig 1B. Wheat leaf showing both leaf rust (LR) and stripe rust (SR).

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