Stripe rust of wheat has been creeping northward this spring. Reports are coming in of stripe rust in the southwestern and west central parts of Kansas. This is cause for concern but not panic for us in Colorado.

The weather over the past weekend may have helped in the spread and infection of rust spores. Ned Tisserat, CSU's Extension wheat pathologist, recommends scouting fields along the Kansas border for stripe rust. In previous years, stripe rust has caused significant losses in irrigated wheat and occasionally in dryland wheat fields.

Symptoms and signs of stripe rust appear as orange-colored pustules that cluster together in long, narrow bands (stripes) on the leaves. Infections by the stripe rust fungus can occur when leaves are wet and when temperatures are between 32-77 F.

If the weather continues to be warm and dry, the threat of stripe rust is minimized. Scouting wheat fields for this disease is important, and most foliar fungicides available will provide adequate protection against infections by the stripe rust fungus.

Stripe rust often starts in small "hot spots" in fields. Therefore, it may not always be possible to determine if you have stripe rust by walking in a few feet and taking a peek at only one spot in the field.

Some Colorado wheat varieties are partially resistant to stripe rust: Hatcher, Bill Brown, Snowmass, Thunder CL, Winterhawk, Brawl CL and Byrd. However, many varieties are very susceptible to newer strains of rust.

The following criteria can help in deciding on fungicide applications for stripe rust:

—Presence and severity of stripe rust in neighboring states.

—Maturity of winter wheat crop at infection (earlier infection leads to greater yield loss).

—Susceptibility of varieties grown.

—Current and 30-day weather forecasts for late-April to early-June (wet, cool weather favors stripe rust).

—Irrigated or dryland wheat (irrigated more at risk).

—Note when rust is first detected on lower leaves (early rust increases risk).

—Potential yield of crop should be at least 45 bushels/acre dryland and 75 bushels/acre irrigated to justify a fungicide spray. This is an estimate and will depend on expected value of crop and price of application.

The goal of a spray program is to keep the flag and flag-1 leaves free of infection since they contribute significantly to yield, but stripe rust early in the season (tillering stage) will lead to yield loss.

Tisserat said, “In my opinion, don’t apply a fungicide in wheat fields unless there is an active disease (rust, Septoria, powdery mildew) in the field. CSU’s wheat fungicide research trials have not shown any benefit of these early treatments in the absence of disease. Remember, every time you make a fungicide application, you are potentially selecting for pathogens that are insensitive to that fungicide.

“The risk of shifting the pathogen population to one that is insensitive to the fungicide is small, but real. We now have fungal pathogens resistant to one fungicide class in many crops in the US and elsewhere. Once that shift occurs, it appears to be permanent. Let’s save these fungicides for when we really need them.”

Finally, some fields are showing Fusarium root rot (also called dryland foot rot). This pathogen usually attacks drought-stressed plants and may occur in patches in the field. Plants are stunted and will have very few roots. Those remaining roots will be off color.

Contact Bruce Bosley for additional information on this or other cropping systems topics at 970-768-6449 or bruce.bosley@colostate.edu.

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