

News Column

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Susceptible wheat varieties showing some stripe rust

This will not come as a surprise to anyone that our wheat crop in Ellis County will not be very good this year, due to some winter kill and by far the lack of spring precipitation. However with the recent moisture we have received in areas scattered around the county some of the summer fallow wheat is decent. The reason I mention this is because along with the recent rains, cool weather and humidity I am seeing stripe rust on some of the more susceptible varieties.

Weather is a major factor in how rust progresses. Mild weather (50 to 75 degrees Fahrenheit) with some humidity is favorable for increasing stripe rust, but hot, windy conditions impede its development. Warmer weather (65 to 80 degrees Fahrenheit) with humidity promotes leaf rust development.

In looking at the county wheat plot TAM 112 has by far the most stripe rust on the flag leaf about 30 to 40 percent of the flag leaves have 4 to 15 percent of flag leaf area covered in stripe rust. Once stripe rust is on the flag leaf a decision has to be made very quickly as to whether you should spray. Also this wheat is flowering which is the latest growth stage that a fungicide can be applied.

The yield response of wheat to foliar fungicides is highly variable. This yield response is influenced by many factors, including a variety's genetic resistance to disease, the amount of disease present in each individual field, yield potential of the crop, and weather conditions. In the case of TAM 112 it is rated as susceptible to stripe rust.

I am not trying to pick on this particular variety, just telling you what I have seen late this week in looking at 15 different varieties side by side in the county wheat plot. To see the full list of wheat varieties susceptibility to stripe rust, fungicide efficacy ratings, and a must read "Evaluating the Need for Wheat Foliar Fungicides" go to our web site at www.ellis.ksu.edu click onto Ellis County Agriculture or Crops and Livestock page and look under Hot Topics.

Stripe rust

I was on a conference call Friday morning with other extension agents and extension agronomist scattered around the state and stripe rust is being observed throughout the state probably at low levels thus far.

When should a fungicide be applied relative to crop growth? Between full emergence of the flag leaf and anthesis (flowering) or pollen shed. Fungicide applications made before flag leaf emergence generally result in less disease control on the upper leaves during grain development and smaller yield

responses. Always check and follow product label recommendations to ensure full compliance with growth-stage limitations and pre-harvest intervals.

Are there important differences in how well various fungicide products work? Nearly all fungicide products labeled and widely marketed for use on wheat in Kansas contain active ingredients belonging to triazole and strobilurin classes of fungicide or mixtures of these classes. Both fungicide classes are effective at controlling common leaf diseases in Kansas.

What is the typical yield response of wheat to foliar fungicides? In experiments designed to evaluate the benefits of fungicide when susceptible varieties are grown in environments extremely favorable for disease development. A summary of experiments conducted between 1991 and 2011 indicates that a single fungicide application between flag leaf emergence and anthesis often results in a yield increase between 4 and 14 percent, with an average yield increase of 10 percent. These figures can be combined with yield response in bushels per acre.

Research continues to demonstrate that wheat varieties that are susceptible to the most common leaf diseases are more likely to experience severe disease and disease-related yield loss than varieties with resistance to these same diseases. Information about the disease resistance of a wheat variety is often available well before fungicide decisions need to be made. In fact, for most varieties this information is available before purchase of the seed. Selecting a variety with resistance to the most common leaf diseases in Kansas reduces the risk of severe disease and the need for fungicide applications to protect yield.

If you need further information contact your local K-State Research & Extension Office. I can be reached Monday through Friday at 785-628-9430.