



April 20, 2012

STRIPE RUST WIDESPREAD

The spray window for producers to decide if they are going to use a fungicide to prevent disease development on wheat flag leaves is occurring right now in April instead of May. Dr. Stephen Baenziger, the wheat breeder at UNL, has never seen wheat development this early before in his records. We will see wheat heading out in April this year.

On Wednesday, Dr. Stephen Wegulo, extension plant pathologist, and I surveyed quite a few wheat fields in Saline County and Wegulo traveled onto south central counties. He confirmed that stripe rust is widespread in this region. We found some degree of stripe rust in every field we looked at in Saline County. Wegulo went on to survey fields in seven counties (Saline, Jefferson, Thayer, Nuckolls, Webster, Adams, and Clay). Stripe rust was found in all counties and in nearly all fields surveyed. Rust spores blow in from prevailing southerly winds when disease is present south of Nebraska.

Incidence (percentage of diseased plants) ranged from a trace to about 50%. Severity (percentage of leaf area diseased) ranged from low to high. The high yielding variety McGill is highly susceptible to stripe rust and a field of McGill along Highway 74 east of Tobias was at higher severity in the lower canopy working upward on Wednesday. Most of the time we were seeing yellowing on lower leaves or “hot spots” in the field and low severity was observed on upper leaves including the leaf immediately below the flag leaf.

Stripe rust, caused by *P. striiformis*, normally occurs in Nebraska during cool periods in early June. This is not good news to see this in Nebraska in April. Pustules are light yellow and occur on leaves in distinct, straight-sided stripes about 1/16 inch wide and of irregular length. Pustules also may develop on the heads.

Stripe rust develops at slightly cooler temperatures (55-75°F) than does leaf or stem rust. Once temperatures exceed 75°F, stripe rust develops very slowly. Cool temperatures and moisture during the last seven days to two weeks have been and continue to be conducive to stripe rust development. Stripe rust can develop and spread rapidly under these conditions. Fields should be scouted regularly for stripe rust and other diseases now.

The decision to apply a fungicide should be based on the amount of disease in the field, the yield potential, and susceptibility of the variety planted. For the Tobias field this week we observed high yield potential, a susceptible hybrid and early onset of disease at high levels in lower canopy. The decision to spray appeared to be a no-brainer. But even then an “expert” cannot say with certainty it will pay to spray. Producers find out at harvest if it really paid off or broke even or lost some money to spray. Fungicides are most effective if applied when disease levels are still low and flag leaves are out and still clean.

With stripe rust already present in many fields, it is important to note that you need a fungicide with both preventive and curative activity. Most of the grain fill period will occur in May this year instead of in June. High wheat yields are possible if adequate moisture and mild weather



occurs during grain fill, the same weather that favors stripe rust. If adequate moisture occurs, doubling cropping opportunities will exist with an expanded growing season window that we normally don't see.

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