

Post Rock Extension District Column

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When is the best time for a fungicide application to your wheat crop?

As I was driving around our Post Rock Extension District, it is so nice to see the “green” wheat fields that we haven’t had for the last couple of years!!! The potential for our wheat crop is good for right now, so you might be wondering about if you should be thinking about your wheat disease management program. Stay tuned and I will share information about planning your disease management program.

Research at K-State continues to demonstrate that it is often possible to achieve high levels of foliar disease control with a single fungicide applied between flag leaf emergence and heading growth stages. The yield response to this later fungicide application is influenced by the level of disease risk (amount of disease and predicted weather conditions), variety resistance to the most threatening fungal diseases, crop yield potential, foliar fungicide efficacy, and other factors.

Fungicides can also be applied as an early application made between “spring green-up” and jointing, according to Dr. Kelsey Andersen Onofre, K-State Research and Extension Plant Pathologist. This application may provide some yield benefits in some fields and years. Early fungicide applications may result in small yield advantages due to a reduction in **early** disease establishment in the lower canopy. This may be particularly true for “leaf spot diseases” such as tan spot or Septoria leaf blotch that survive in wheat residue and can establish early in the year. Onofre stresses that yield benefits are most likely in wheat fields planted back into wheat stubble and when weather conditions are wet enough to favor fungal disease development.

If you decide to make an early application, it is very important to include that into the full-season fungicide program. Many active ingredients have use restrictions, where a limited amount of an active ingredient can be applied during a single season. It is critical to ensure that early fungicides do not limit options for fungicide applications at flag leaf (which have the potential for higher yield protection in conducive disease years).

The *advantages* of early-season fungicide application include:

- **Low cost.** There is no additional cost for application if the fungicide is tank mixed with other products, such as liquid nitrogen fertilizer or herbicide. However, the optimal timing for an early fungicide application is not until after the wheat has jointed – with one or two joints present.
- **Provides suppression of early-season disease** caused by tan spot, powdery mildew, and septoria leaf blotch that overwinter locally in Kansas.

The *limitations* of early-season fungicide application include:

- **Leaves not present at the time of application will NOT be well protected.** Therefore, these applications will not control leaf rust or stripe rust epidemics that come in from the south at later stages of growth or protect the flag leaf. The early applications are most effective when combined with a second, later fungicide application.
- **Additional product costs may not pay off under some conditions.** Remember, the second application does the heavy lifting in the dual-application approach. If capital resources are limited because of low prices, investing your money where you are likely to see the largest yield response may be best.

For more information on **wheat disease management guidelines**, contact me at any Post Rock Extension District Office in Beloit, Lincoln, Mankato, Osborne or Smith Center.

Post Rock Extension District of K-State Research and Extension serves Jewell, Lincoln, Mitchell, Osborne, and Smith counties. Sandra may be contacted at swick@ksu.edu or by calling Smith Center, 282-6823, Beloit 738-3597, Lincoln 524-4432, Mankato 378-3174, or Osborne 346-2521. Join us on Facebook at "Post Rock Extension" at www.postrock.ksu.edu, our weekly Ag News Roundup every Friday and my twitter account is @PRDcrops.