

Time To Scout Wheat For Diseases



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It's time to start scouting your wheat for diseases if you haven't already! The wet, humid weather we've had in Tennessee can promote disease development and as wheat approaches the flag leaf to boot growth stages (Feekes 9-10), scouting for disease is critical to determine if a fungicide application is necessary to protect yield. The last leaf (flag leaf) to emerge from the whorl is very significant because it makes up approximately 75 percent of the effective leaf area that contributes to grain fill. Hence, a diseased flag leaf = yield loss. To identify the flag leaf split the stem above the highest node. If no additional leaves and the head are found inside than the flag leaf is confirmed. To protect the flag leaf from disease timing is critical because if a fungicide application is made too early, the flag leaf will not be protected and if too late, disease may develop to the point that a fungicide application would not be effective. Some good articles on the importance of identifying wheat growth stages can be found on Mississippi-crops.com (Identifying Wheat Growth Stages using the Feekes Scale).

The decision to apply a fungicide to wheat should be based upon multiple factors including: 1) disease presence, 2) fertility and yield potential, 3) weather conditions and 4) cropping history. For example, a fungicide application would be warranted if:

- Disease is present
- Nitrogen has been applied and the wheat has good yield potential
- Weather conditions favor disease development (dependent on the disease, but most are favored by wet, humid conditions like we have had recently in Tennessee)
- Wheat has been planted in the field in the past year or two

Disease scouting in wheat should be continued through the beginning of flowering because even if a fungicide at the flag leaf growth stage is not recommended, a fungicide application during a boot growth stage (Feekes 10.0-10.5.1) may be warranted to protect the flag leaf and the head from disease. A detailed foliar fungicide point system can be found at UTCrops.com

(Wheat Foliar Fungicide Point System) that can be used as a guide to determine the need for a fungicide application.

Another critical time for fungicide application is at mid-bloom (Feekes 10.5.1) which would protect wheat from Fusarium Head Blight/Scab/Head Scab. Head Scab can be more severe in wheat planted behind corn that has high nitrogen levels, which fits the description of a lot of wheat fields in Tennessee. For scab to occur rain events during flowering are necessary and while we don't regularly experience a lot of Head Scab the risk varies from year to year. A forecasting tool is available at www.wheatscab.psu.edu, which will have commentary for Tennessee as the wheat gets closer to flowering.

There are multiple fungicides labeled for wheat and for the control of different diseases. The North Central Regional Committee on Management of Small Grain Diseases (NCERA-184) has developed information on fungicide efficacy for control of certain wheat diseases. This information can be found at UTCrops.com (Wheat Fungicide Table – NCERA 184). Application coverage is also important and applications should be made in at least 5 gallons of water per acre by airplane or at least 15 gallons of water per acre by ground application. Common foliar wheat diseases in Tennessee include: Glume (Stagonospora) Blotch, Septoria Blotch, Leaf Rust, Stripe Rust; and less common include: Powdery Mildew and Fusarium Head Blight (Scab).

While there has been little to talk about regarding wheat diseases in Tennessee this season that is not the case in our neighboring states. Both Mississippi and Arkansas have reports of stripe rust, with severe levels in some fields. To my knowledge there has only been one report in Tennessee of stripe rust in Haywood county, on a single leaf, but with the wet, cool weather we have had and the presence of the disease in our neighboring states there is an increased risk, so please be on the lookout. If you have you have any fields you suspect have stripe rust or other diseases and would like assistance please contact your local county extension office or myself (youngkelly@utk.edu 731-425-4713). Δ

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