D's Notes 05-09-16

Latest information on wheat stripe rust

Wheat stripe rust continues to emerge as a serious problem in many areas of Kansas. Key developments this week include the detection of stripe rust on the upper leaves of the wheat crop in many counties in central Kansas (Figure 1). Stripe rust has been present in the central corridor of Kansas for the last several weeks, and has recently increased in incidence and severity due to optimal conditions for its development (cool temperatures and available moisture). Fields planted to susceptible varieties that have not been sprayed with a foliar fungicide may now be showing severe stripe rust infection on the flag leaves, which can result in yield losses of 40% or more. This is important because these upper leaves are critical for production of the grain, as the flag leaf and flag leaf-1 can produce as much as 90% of the photosynthates used for grain fill. We also have received reports of low levels of the disease in the western regions of the state. The weather forecast suggests continued cool temperatures and above normal rainfall for the next few weeks. These conditions will favor continued development of stripe rust.

Wheat varieties that are known to be susceptible to stripe rust should be a top priority for scouting and protecting with fungicides. The evidence to date suggests that the stripe rust reaction of our wheat varieties this year is very similar to last year. The list of susceptible varieties includes Armour, Byrd, Denali, Everest, KanMark, RedHawk, Ruby Lee, TAM 111, TAM 112, and Winterhawk. These varieties represent some of the most widely planted varieties in the state. Varieties that are looking more resistant include Oakley CL, SY-Monument, T158, WB4458, and WB-Grainfield. These resistant varieties will often have some low levels of disease, but the rust develops more slowly and often remains less severe during the critical stages of grain development.

Q&A on current wheat fungicide use issues

As stripe rust continues to be a serious concern for many wheat producers. The threat of yield losses to stripe rust has many growers looking into fungicide options. Here are some common questions that others are asking about wheat fungicides and their use.

Q: Are generic fungicides as effective as the more expensive products?
A: In tests conducted by universities throughout the Central Plains and Midwest in recent years, researchers have found no significant differences in the efficacy of products with identical active ingredients. In other words, the generic fungicides are equally effective when used at the same rates as other products with the same active ingredient. We provide an efficacy rating of fungicide products in *Foliar Fungicide Efficacy Ratings for Wheat Disease Management 2016*, K-State Research and Extension publication EP-130: http://www.bookstore.ksre.ksu.edu/pubs/EP130.pdf
In this publication, you can compare the efficacy ratings of many different products (including products that contain more than one mode of action) for stripe rust and many common wheat diseases. In general, wheat growers have many very good or excellent product options. In my experience, correctly identifying when a fungicide is needed and timeliness of the application are more important than which product is being used in most cases. Control of Fusarium head blight (scab) is the exception. For Fusarium head blight control, triazole fungicides are the best option. This includes products such as Prosaro, Caramba, and Folicur (or generic tebuconazole). See the fungicide efficacy publication mentioned above for more information.

Q: Are there other issues to consider when selecting a product?
A: Yes. There is a growing concern about fungicide resistance in some parts of the country. For a long time, those of us growing field crops didn't really have to worry much about this issue, but that is no longer the case. The development of fungicide resistance can be slowed by alternating modes of action between years, by using a product that contains multiple modes of action, or tank-mixing different

modes of action. Products containing only strobilurin fungicides are most at risk for fungicide resistance.

Another factor to consider is the maximum amount of any one active ingredient that can be used per season. If an early application of tebuconazole is made, for example, you will not be able to apply the full rate of a product now if that product would put you over the limit for tebuconazole for the season. This is one of the potential downside risks of making an early-season application of a fungicide.

Q: What is the difference between a "curative" and "preventive" fungicide?
A: Honestly, I don't really like to use these terms to describe fungicides because I think they can lead people down a confusing path. All fungicides are best applied before the disease becomes established or very early in the development of disease within crop. So from this perspective, all fungicides work best in preventive mode. The triazole fungicides are generally considered to have some limited curative activity but they cannot restore leaf tissue already damaged by the disease. It would be a mistake to think that a fungicide with curative activity does not provide any preventive activity. The different fungicides just stop the infection at slightly different times in the infection process.

Q: Is it best to use a product that combines a multiple modes of action?
A: Growers have a lot of product options with very good or excellent efficacy on stripe rust and other leaf diseases. I suggest that growers consider efficacy ratings, cost, and availability when selecting products to use on their farm. As mentioned previously, using a fungicide with a mixed mode of action can help reduce the risk of fungicide resistance. However, there are other ways to achieve similar results with respect to resistance.

Q: Which fungicides can be applied latest in the season on wheat?
A: Always consult the label on this since any label violations could have unwelcome consequences. In general, the triazole fungicides can be applied the latest. Tebuconazole products (Folicur and generic products), Caramba, and Prosaro can be applied through the flowering stage. But these products have a 30-day preharvest interval as well, so producers have to keep that in mind and make sure they're not applying it so late that they will have to delay harvest to meet the preharvest interval. Other fungicides have a growth stage cut off that prevents application during and after the flowering stages of growth.

When Will Harvest Be?
I am getting this question from several producers. Generally, harvest begins 5-6 weeks after the wheat heads. This can vary depending on moisture, wind and temperature.

Horticulture

Sweet Corn Primer

As the field corn is being planted now, it is a good time to plant your sweet corn in your garden. Here is a guide put together by Ward Upham to help you decide which cultivar to plant.

It used to be simple to decide which sweet corn to plant. You simply chose a cultivar and planted when the soil temperature reached 55 degrees. Now it has become more complicated due to genetic advances in sweet corn. Breeders have found certain genes that improve "standard" sweet corn. Below is an overview of the types commonly available to homeowners.

Standard (su): This is our "normal" sweet corn and contains a "sugary gene" (su). Standard sweet corn should be isolated from field corn, popcorn, supersweets and ornamental corn. To isolate one type of corn from another, do not plant one type within 200 to 250 feet or be sure to have a difference of 12 to14 days in time to maturity. Plant when the soil temperature reaches at least 55 degrees. Recommended varieties include Honey and Cream, Silver Queen, Sterling Silver, Jubilee, or Merit.

Supersweet (sh2): Though supersweets have up to three times the sweetness of standard sweet corns and hold their sweetness longer after harvest due to the sh2 gene, they do have some drawbacks such as tougher kernels and a lack of some of that good "corn" flavor. They also need to be isolated from other sweet corn types and are very sensitive to cooler soils. Wait until the soil temperature reaches 65 degrees before planting. Try Candy Store, Florida Staysweet, Sugar Loaf, Sweet Time, or Sweetie.

Sugar Enhanced (se): These are probably the most popular type of sweet corn grown due to their tender kernels, good flavor and less sensitivity to cool soils (60 degree soil temperature for planting). They hold their post-harvest sweetness longer than standard types but will not hold sweetness as long as the supersweets. The sweetness from the sugar-enhanced types is due to the "se gene." If both parents were se types, the variety is known as an se+ or se se. If only one parent was an se type and the other an su type, then the variety will be listed as se. They do not need to be isolated other than from the supersweets. Suggested varieties include Bodacious, Ambrosia, Sweet Temptation, Delectable and Miracle.

Triplesweet (synergistic): The newest types of sweet corns blend the su, se and supersweet types with the goal of combining the best characteristics of each. We don't have firm recommendations yet but you may want to try Serendipity, Polka, Avalon or Frisky.

Mole Control

According to Ward Upham, though moles spend most of their time underground, the damage they cause above ground is all too visible. Meandering paths of upheaved soil are evidence of the small mammals foraging for food. Some tunnels may be abandoned soon after being built while others are travel lanes and used for a longer period of time. Even though moles do not feed on plant matter, they can still cause damage by disturbing roots and uprooting small plants.

Numerous home remedies have been concocted to control moles including chewing gum, noisemakers, broken glass, bleaches, windmills, and human hair. None have been found to provide consistent and reliable control. Poison baits also fail to work because moles feed on earthworms and grubs, not vegetable matter. Even grub control products are ineffective as they do not control earthworms, and earthworms are the primary food source for moles.

The best control method is the use of traps. There are three types of traps (harpoon, choker, and scissor-jawed) and each can be effective but may take some time to master. Try the following suggestions. We can get traps in the Hodgeman County Extension office.

Moles use some tunnels more than others. Use a broomstick or something similar to poke holes in a number of runs. Check a day later to see which runs have been "repaired.' These are the active runs and should be used for trap placement.

Place a trap in an active run by excavating soil, placing the trap and then replacing loose soil. Secure the trap so that the recoil will not lift the trap out of the ground. Make sure the triggering mechanism is in the center of the run.

Finally, push down two more holes, one on each side of the trap. Moles should be caught when they try to repair the tunnel. Move traps if no moles are caught within three days.

For more information as well as "How-to" videos, see http://www.wildlife.k-state.edu/species/moles/index.html