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Looking Ahead to Fungicide Applications

Mid-summer kicks off fungicide application season for many corn/soybean growers. If the confirmation this week of Tar Spot in NEK (https://eupdate.agronomy.ksu.edu/article/low-levels-of-tar-spot-have-been-confirmed-in-kansas-646-1) caused you to think refocus/reconsider applications, you might also be wondering how to maximize their value.

Start by understanding the disease in general. Plant Pathologists often reference the 'disease triangle' consisting of host, pathogen, and environment. The host is already planted. In the case of Tar Spot, the pathogen has been confirmed in our area, but other diseases (Southern Rust, Gray Leaf Spot, etc…) may also be of interest even if we haven't seen or heard about them yet. An understanding about what we are up against now or in the future is key. Take soybean diseases for example. There are fungal diseases in soybeans, but they tend to be yield limiting less often than diseases in corn. Understanding disease potential can help us make fungicide application decisions that are economical and environmentally sensible.

Next, figure out what fungicide best fits the disease(s) of concern. Not all fungicides are created equal against all diseases. University Plant Pathologists regularly update fungicide efficacy ratings for various crops. For Tar Spot, 26 products are listed. Only three are rated Very Good. Eight are listed as good to very good. Nine are either not labeled or efficacy is unknown. For Gray Leaf Spot, 15 products are rated Very Good to Excellent. Selection of the right product needs to begin with a hard look at what we expect that product to control.

Timing is key. Dr. Onofre outlines guidelines directly related to Tar Spot with some variability based on when you find the disease, crop growth stage, etc… Scouting is an important aspect of determining when to apply, not only for knowing what disease(s) might be present, but also to determine crop growth stage. Most fungicide products have a period of activity extending from 14-21 days after application. Apply too early, and there may not be enough active ingredients remaining in the plant to combat disease. Apply too late and there will be some diseases the product may not be able to get ahead of.

Pay attention to the small details. Product rates vary, often according to what we're trying to control. Mix order can be important products. Nozzles can make a difference. Environmental conditions are important – small droplets can evaporate after leaving the spray nozzle if humidity is less than 50 percent and temperatures are more than 92 degrees after application.

When a fungicide doesn't work as expected, we often look back at one or a combination of these factors to find the culprit. Planning on the front end might keep us from have to look back at all – because the result was what we hoped for all along. For a list of corn fungicide product ratings, visit https://cropprotectionnetwork.org/publications/fungicide-efficacy-for-control-of-corn-diseases or request a copy via any District Office or dhallaue@ksu.edu .