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Fungicide 101

It's July so that means it is time for the planes to start flying and for us to apply our fungicides. But what are our fungicides really doing for us? Why do we recommend fungicides at this time? In order to better answer these questions, one needs to understand how a fungicide works and how this translates into yield. Finally, we need to know what options we have for fungicides today.

How Fungicides Work

Before you start reading the rest of this section just know that I will not be going very far in depth into what each fungicide does. Rather I would like to give you just some basic knowledge that might help us communicate effectively in the future. So first off, what is a fungicide? In broad terms, a fungicide is a substance that kills fungi or their spores. So, this means a fungicide won't stop any disease that is either bacterial or viral in nature. Why is it

important for us to stop these diseases? Our crop leaves are like mini solar panels and like a solar panel, the more area your panel covers, the more energy you produce. Lesions from fungal pathogens represent a break in those panels and a lost opportunity to produce the energy needed to translate into yield. Like our herbicides, there are fungicides that prevent the pest from growing and ones that attack pests that are already there. This is what we are talking about when we say a fungicide is either preventative or curative. That last term is a little misleading as once a disease has killed plant tissue, it won't heal like we do when we are injured. One other way to describe fungicide is how far it moves in the plant. Again, like our herbicides, fungicides are either contact or systemic in nature. Unlike our herbicides, fungicides that are systemic do not move very far and will not move into new growth within the plant. This is why coverage is always essential when we are applying fungicides. Taking things a step further, we get into how our fungicides attack a disease. This is where our fungicide sites of action come into play and if you were to pick up a jug of pesticide, whether it's a herbicide, insecticide, or fungicide, you will usually notice a number at the top. These numbers describe what process our pesticides inhibit to cause that pest to die and the numbers mean something different for each class of pesticide. For corn and soybeans, the main foliar fungicide groups we use are the group 3, 7, and 11 fungicides.

- **Group 3:** Often times referred to as the Triazole's after the most numerous family of chemicals in the group, this group of fungicides is what we lean on for curative work.
- **Group 7:** Group 7 or SDH inhibitor fungicides are the newest group of fungicides to be added to our current arsenal of fungicide groups. They provide plants with fungicide which has the potential in some instances to move locally in the plant and provide residual activity on diseases. Like group 3 fungicides, SDHI fungicides can work both curatively and preventatively against diseases.
- **Group 11:** Strobilarium or "Strobi" fungicides are our workhorse group for preventing the onset of diseases. This group of fungicide tends to have a long residual life and because of its years of usage, has the most cases of diseases forming a resistance to its effects. This is the reason why many premixed fungicides being released have Group 7 fungicides in the mix to prevent resistance from forming. Strobi fungicides also have another beneficial effect besides disease prevention. In addition to its ability to prevent diseases from taking over, strobi fungicides provide a green up effect of plants. This is caused by the chemicals ability to influence stress hormones in the plant as well as enhance the plants ability to process nitrogen. This means strobe fungicides provide a grower with a yield benefit outside of disease suppression. So even in the absents of serious disease pressure, a field that has had a strobi fungicide applied to it can see a yield benefit.

Fungicides

Knowing how a fungicide works is great, but it isn't very helpful if you don't have any fungicide names to choose from.

Priaxor: With a label for both pre tassel corn and soybeans, Priaxor provides a grower with a fungicide that provides the curative power of a group 7 fungicide and the plant health benefits and long-lasting preventative benefits of a group 11 fungicide.

Headline Amp: The most frequently used fungicide for tasseled corn, Headline Amp provides a grower with a fungicide to take care of any late season diseases their corn may face and provide the plant health benefits of the same group 11 fungicide as Priaxor.

Trivapro: One of the first fungicides on the scene to feature a group 7 fungicide as well as the traditional group 3 and 11 fungicides. Traivapro both stops and prevents a wide range of diseases in both corn and soybeans. Having the combination of all 3 fungicides reduces the risk of diseases forming resistance to our fungicides and because it also contains a group 11 fungicide, provides a plant health benefit to your corn and soybean crops.

Lucento: Our newest fungicide for this year, Lucento provides both a group 3 and 7 fungicide with excellent mobility within a plant and long-lasting residual. Due to the fact that it lacks a group 11 fungicide, Lucento will not lead to the higher moisture or green stems that other fungicides might lead too. This means even later planted fields can utilize Lucento for protection against diseases in both corn and soybeans.

Final Thoughts

Regardless of what you decide to do this season remember that even if there is not very much disease pressure in your field, the right fungicide can bring the plant health benefits you need to push your yield to the next level. Time and time again we see this occur even in a dry year. While you are making that pass, be sure to consider adding an insecticide or foliar nutrient to help your crops even more. Like always, my job is to give you the best advice possible, what you do with it is up to you.