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The time is now for much of the April planted corn and much of the soybean crop to make plant health applications for the maximum benefit to be realized. As is the case every year, I am now getting a lot of phone calls and E-mails asking my opinion as to what the benefit will be this year.

First we need to recognize that the application of a fungicide is very different than the application of a postemergence herbicide or insecticide. With herbicide and insecticide applications we can scout the field, determine the pests present as well as the size and density of the pests, and then determine if the numbers justify treatment. With fungicides, in order to effectively control diseases, we need to treat before we fully understand the consequences of the disease in a given season.

What we do know about 2010 to this point is that we have had adequate moisture as well as heat and humidity which favor many of the foliar disease organisms in corn and soybeans. Current weather forecasts predict warm humid conditions for the next 10 days and a chance of rain / thunderstorms several of those days. So, environmental conditions look favorable for disease development in the short term. Many of the common yield robbing diseases we deal with in corn and soybeans are favored by warm humid conditions including Gray Leaf Spot, Northern Corn Leaf Blight, Corn Rust, Septoria Brown Spot and Frogeye Leaf Spot. Environmental conditions which favor heavy dew in the morning are very favorable for disease development as many of these require free moisture on the leaf surface in order for infection to occur. Some concerns from fields that I have walked recently and reports from others are:

CORN:

- **Gray Leaf Spot** – I have been able to find Gray Leaf Spot lesions below the ear leaf in several corn fields. Hybrids vary greatly in their susceptibility / resistance to Gray Leaf Spot, so check the seed guide.
- **Rust** – I have observed rust in several corn fields, and once again hybrids vary greatly in their susceptibility / resistance. The University of Kentucky (Kentucky Pest News, #1236, June 29, 2010) is reporting rust is widespread there. Rust is a disease that does not overwinter here, so we do not have consistent problems with this disease but problems when this disease moves in from the south. Looks like 2010 may be one of those years.

SOYBEANS:

- **Septoria Brown Spot** – We deal with this disease every year, especially early in the season. The leaves become infected producing irregular brown spots; the infected leaflets turn yellow and fall off the plant prematurely. In recent years this disease has been more aggressive affecting more than the bottom few trifoliates which is clearly the case this year. It was concerning to me to see a number of soybean fields 16-20” tall where enough leaf loss had occurred that plants this size were not shading the ground. This should be a concern this season, especially in fields with beans back to beans.



- **Frogeye Leafspot** – This is a disease where many of our Group II & III soybeans have good host plant resistance. However, occasionally a variety sneaks through that does not possess good host plant resistance. In the absence of host plant resistance this disease can dramatically reduce yields. I would pay careful attention to this disease especially in Roundup Ready 2 Yield[®] soybeans as we have a lot of new varieties out there.

Beyond disease control, strobilurin fungicides (such as Headline[®] and Quadris[®]) as well as premix fungicides which contain strobilurin fungicides (such as Headline AMP[™], Quilt[®] and Stratego[®]) provide physiological effects on the plant which can help the plant overcome stress and better utilize moisture and nutrients. While there are many good looking corn and soybean fields out there, we can not deny that the prior weather conditions this season has exerted some stress on the plants (reduced root systems), and our NutriSolutions[®] data would suggest that the nutrient profile of many of these fields is less than perfect.

Timing is very important to achieve maximum effectiveness with these products. In corn, the window is from full tassel emergence (VT) until the brown silk stage (R2). With some of the uneven corn, a decision may need to be made as to if adjuvants can be used. Corn needs to be fully tasseled to use a nonionic surfactant or oil adjuvant with the fungicide, and there may be some areas of the field not fully tasseled at the time of application. In soybeans, this window will vary slightly depending on the product chosen, however R3 (a pod 3/16" long at one of the uppermost 4 nodes) fits all products.

The addition of InterLock[®] at 2 ozs /A will improve the deposition of the fungicide treatment. By creating uniform size spray droplets and increasing the velocity of the spray droplet we achieve better penetration of the crop canopy where InterLock[®] is used. For ground applications, PowerLock[®] (a 50/50 premix of Preference[®] and InterLock[®]) can be used at 5-6 ozs/A as the complete surfactant system for a plant health application. Best results with ground applications are achieved with XR Flat Fan (or similar nozzle operated at 40-59 psi to produce 250-400 micron size spray droplets). PowerLock[®] should not be used in aerial applications as the ratio of ingredients results in too much surfactant.

The plant health market remains a relatively new market and there is still a lot to learn and thus we do not have all the answers. We will likely never be completely accurate in predicting disease pressure in advance since the environment is such a critical piece of the plant disease triangle. What we do know is that environmental conditions to this point in the season have been favorable for disease development.

I hope that you find the above information helpful. As always, contact your Sunrise Agronomy Consultant with questions.

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