LET'S TALK: USING FUNGICIDES ON CORN AND SOYBEANS AND HOW TO MAXIMIZE ROI

Damon Smith[1/]

Fungicide use on corn and soybeans has increased dramatically since the turn of the 21st century. This is partially due to the increased labeling of fungicides for use on those crops, along with significant epidemics of yield-reducing diseases in recent years, combined with physiological influences that some of these products have on agronomic crops in the absence of disease. The decision to apply a fungicide to corn and soybeans can be a complicated one. Farmers and practitioners must balance the impending risk a disease might pose to a crop, the possibility of fungicide resistance development in a particular pathogen if using a fungicide, the efficacy of a particular product on a particular pathogen, and the return on investment (ROI) potential for a particular program.

In field corn, the best time to apply a fungicide is between the VT (tasseling) and R1 (white silks outside the husk) corn growth stages. One should use the past history for disease in a field, along with scouting, and weather information to make the decision to apply a fungicide or not. For diseases such as gray leaf spot, northern corn leaf blight, and tar spot, scout the lower canopy prior to the VT growth stage. If symptoms of these diseases are present on the lower leaves on 50% or more plants, there is a history of these diseases in the field, and weather is warm, wet/humid, then a fungicide might be warranted to protect the upper leaves. Other factors to consider are the susceptibility of the hybrid being grown, the presence of previous-crop corn residue, and supplemental irrigation.

In soybean, fungicides should be applied between R1 (one open flower on the mainstem) and R4 (3/4 inch long pod at one of the four uppermost nodes on the mainstem with a fully developed leaf) growth stages based primarily on the risk for white mold and foliar disease such as frogeye leaf spot. Use past history to gauge the risk of white mold and foliar disease. You can also use the Sporecaster smartphone app to make the decision to apply fungicides for targeting white mold. Scout during bloom (R1-R3 growth stages) to make a decision to apply fungicide for foliar disease control. Make the decision to spray for foliar diseases if symptoms are present and weather is warm, wet/humid.

This presentation will cover research-based information supporting the recommendations detailed above. In addition, we will take a look at return on investment probability for several examples. Finally, we will talk about the latest field data from fungicide testing during the 2020 season for corn and soybeans.

1/ Associate Professor, Department of Plant Pathology, 1630 Linden Drive, University of Wisconsin-Madison, Madison, WI, 53706