

Fungicides: Use Wisely

Fungicides Can Be Profitable, But Some Uses Have Downside

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A look at the 2007 data reveals that applying foliar fungicides to corn is sometimes helpful, and at other times it's not, according to Dr. Carl Bradley, plant pathologist at the University of Illinois.

"In 2007 we had about three to four million acres of corn sprayed with a foliar fungicide which was a record high," he recounted. "Pre-

bilurin fungicides, however, those other benefits tend to be inconsistent.

"What we really need to look at for these fungicides is using them as a fungicide primarily and in those hybrids that are more susceptible under particular situations," Bradley said.

Those situations would be where the risk for getting disease is greater, maybe in a corn-on-corn situation, or when the right weather for disease is present.



From the overall 2007 data set, Dr. Carl Bradley, Plant Pathologist at the University of Illinois, questioned whether it would have paid to use a foliar fungicide. Photo by John LaRosa, Jr.

vious to that we really didn't see much fungicide sprayed on regular production corn. An overview of the 2007 data helps us determine when fungicides might be appropriate and when you may not need a fungicide."

Bradley summarized a lot of data from the Midwest. From the overall data set he questioned whether it would have paid to use a foliar fungicide about 38 percent of the time.

"That is out of over 100 data points and this was based on looking at getting at least a six bushel increase over the untreated," Bradley said. He used \$20 per acre as a cost for the fungicide and a marketing price of around \$3.50 a bushel, while realizing these figures are increasing, nearing \$5 now. "Using those two numbers means you would need about a six bushel increase to be profitable with foliar fungicide applications. So when we look at all the data, it is about 38 percent of the time that the applications are beneficial."

He said, however, that when looking at hybrids that are more susceptible to gray leaf spot, which is probably one of the major foliar diseases of corn in the Midwest, then the times when applications are beneficial are about 52 percent of the time.

"There was an increase in profitability when we are looking at spraying those fungicides on varieties that are more susceptible," he said. "When we look at those that more resistant then the profitability drops down to somewhere around 37 percent. I think part of the equation is picking the right hybrids to spray and not only that – you really need disease pressure."

When disease pressure is not present, there are some other potential benefits from the stro-

"Spraying those fungicides at that point in time is when you are more likely to actually make money from using the fungicides," he said.

There are a lot of variables to consider, however if a farmer wants to be profitable he needs to consider them.

"Some people say, well, what is the risk of just spraying every field?" he asked. "There are risks associated with that. One risk is that you may be just throwing money away. These fungicides that we are spraying are either a solo strobilurin product, or they are a strobilurin chemistry combined with another type of chemistry."

Farmers need to consider whether the particular fungicide chemistry is classified as having a high risk for resistance developing to them, so the fungal pathogens that cause disease become resistant to this fungicide.

"This has happened in other systems, in potato and chick pea in the United States and there are some other examples as well," he said. "So using these fungicides when they are not needed are really putting a selection pressure on that fungus to change and especially when we are growing more corn-on-corn. If we are going to be spraying those same acres year after year we are putting more of an intense selection pressure on that, and eventually if we keep using these when they are not necessarily warranted then we could run into a resistance situation. So if we want to keep these products around for a long time because they are good tools, then we really need to use them when they are warranted and not just use them on every field." Δ