The greater the disease pressures, the greater the fungicide efficacy

R3 growth stage the ideal fungicide application window, research shows

Jeff Caldwell
Agriculture Online Multimedia Editor

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Pest pressures, application timing key

The results of a six-year fungicide study indicate treatments are more effective in control and ultimately increasing yields when applied under heavier disease pressures.

Iowa State University (ISU) plant pathologists X. B. Yang, S. S. Navi and John Shriver recently released the numbers showing the link between pest pressures and fungicide applications.

"Our results clearly showed that use of fungicide as a preventative measure can increase yields in a season when disease pressure is moderate or high. In such a season, many fungicide treatments yielded better and a few treatments increased yield over 10 bushels," the pathologists write in a recent university report.

The study, which furthered research that began 15 years ago, monitored performance of different fungicide compounds, as well as dosage amounts and application timing. The latter variable ended up playing a large role in terms of the chemical's efficacy, though the difference was noted more under heavier pest pressures, Yang adds.

"Keep in mind that treatments in our experiments were to find effective compounds and their optimum spray time in comparison to standard treatments. Therefore, many fungicide treatments did not increase yields," he says. "In seasons with a low disease pressure, only a few treatments with better efficacy, made with fungicide spray applications and at the optimum stage of growth, consistently produced higher yields."

Specifically, the researchers found that fungicide application at R1 growth...
The greater the disease pressures, the greater the fungicide efficacy stage provided little or no results, versus application at R3, when they "consistently produced highest yields." In addition, the study results show that a single R3 application produced the same results as a two applications at other times during the growing season.

"Correct assessment of potential disease pressure is a key for a good decision. When disease is prevalent and severe in a season, application of fungicide is likely to increase yields," the researchers say.

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