

Fungicide Applications on Corn Recommended when Significant Disease Pressure Exists

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The growth stage of corn varies widely across west central Missouri, due to the wide range in planting dates. Foliar disease pressure is slight to moderate in this region, with some reports of grey leaf spot and common rust lesions developing on the lower leaves. Some producers are seeking to control disease and potentially increase yield by applying a fungicide to their corn acreage. However, is this the correct management decision? To what degree do foliar diseases affect corn yield? University specialists note their primary concern is when disease lesions are present on the ear-leaf and the leaf immediately below the ear leaf. Generally, only when foliar diseases progress up to the ear leaf and infect a large percentage of that leaf's tissue do yield reductions occur.

When considering whether to apply a fungicide to corn during tasseling, producers should consider university research data investigating the practice. University of Missouri has evaluated strobiluron fungicides including Headline, Stratego, and Quadris along with Quilt, a combination of Quadris and Tilt. Whether examining the fungicides separately or grouping the data together, the conclusions reached were similar. Negative, zero, and positive yield responses occurred as a result of the fungicide application, with the average yield response being +2.7 bushels per acre.

Iowa State University has also conducted research, with 2007 research demonstrating an average yield increase of 3.3 bu/ac when a fungicide was applied at tasseling or silking compared to the untreated control. However, the ISU report noted that a fungicide application was profitable only 27% of the time. When investigated in 2008, ISU researchers found the average yield response in small plot trials was 3.5 bu/acre; similarly, the average yield response in replicated, strip on-farm trials was 3.5 bu/acre.

While a fungicide application is able to decrease foliar disease and stalk rot severity, it does not always equate to being a profitable management decision. When determining whether a fungicide application may be profitable on your corn acreage, producers should scout their fields near the tasseling stage and examine 100 leaves per field. The potential for a yield increase will be greatest when significant disease pressure is present. Examine the ear leaf and the leaves below to determine if foliar diseases are present. The current and predicted weather conditions, previous crop, hybrid susceptibility to disease, and cost of application are other factors that should be considered. [In the below image, common rust lesions can be seen developing on the corn leaf.]

