

## Corn Fungicide Treatments?

Will I get a return on my investment for a foliar fungicide application in corn? There are several key factors that influence this question. Having more of these factors increases the likelihood of profitability with foliar fungicide applications. These factors are 1) Susceptible hybrid 2) Continuous corn 3) Late planting 4) High yield potential 5) Irrigation 6) Early disease activity 7) Field or location has a history of severe disease and 8) Weather is favorable for disease development.

The current price of corn has influenced the economics of spraying fungicides in corn. Most fungicides provide approximately 14-21 days of protection. During recent years, gray leaf spot and southern rust have been our most severe fungal foliar diseases and impacted yield in late July through August. Crop scout information is very important to time the application. Applying too early could have the protection run out before the yield damage period is over. Application should be made as late in the application window of tasseling to full brown silks as possible. Often times the August cooler nights and warm days allow the gray leaf spot to germinate and flourish in fields with risk factors. Treating before the gray leaf spot has killed a leaf below the earleaf on the bottom of the plant and is active in the earleaf zone or above may be premature.

Fungicides cost an average of \$15-\$20/acre, an increase of 2-3 bushels/acre in yield will be necessary to cover the cost of each fungicide application. According to the results from fungicide trials conducted across 12 states in 2007, at today's corn prices, a single fungicide application at tasseling would have led to a profitable yield increase at approximately 60 percent of the 168 locations. With the previous years prices, it was 39 percent of the time.

With corn that has been hailed on, many of the diseases favored by wounding are not controlled with foliar fungicides, such as those caused by bacteria, and common smut and stalk rots. There is no third party data to support the fact that foliar fungicides allow corn to stand up better (reduced stalk rot). Foliar diseases that can be managed with foliar fungicides, such as gray leaf spot and southern rust, do NOT require wounds for infection.

A study conducted in Illinois last year at a single location evaluated the effects of fungicide applications in simulated hail-injured corn on gray leaf spot severity and yield. In that study, fungicide applications did not statistically increase yield when applied on tasseling corn that was damaged the previous day to simulate hail injury. There is no strong consensus among plant pathologists regarding this topic due to the limited research data that are currently available, so additional research is needed to better determine the potential for foliar fungicides to protect hail-damaged corn.

The decision boils down to the factors listed above, the yield potential and how much foliage remains to protect.

Paul C Hay, Extension Educator

University of Nebraska-Lincoln Extension in Gage County • 1115 West Scott Street, Beatrice NE 68310  
(402) 223-1384 • FAX: (402) 223-1370 • email: phay1@unl.edu

