

Foliar Fungicides For Gray Leaf Spot (GLS) Control In Corn

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Tests at the Research and Education Center at Milan (RECM), Tennessee have shown a high degree of control of gray leaf spot (*Cercospora zeae-madis*) with two strobilurin fungicides (Headline and Quadris). Each fungicide was used at 6 oz/a with Penetrator Plus as an adjuvant. Yield increases from the last two years (2006 & 2007) ranged from an average of 27 bu/a on a GLS susceptible hybrid, 19 bu/a increase on a moderately susceptible hybrid and 13 bu/a increase on a tolerant hybrid.

Eight row plots replicated four times on 30" centers were planted no-till with three Pioneer corn hybrids with varying levels of resistance to GLS. They were: susceptible P 32T22, moderately susceptible P 33R76 and P 33V14 for the tolerant hybrid.

Each plot was split into two 4-row plots, so that there was a treated and untreated side-by-side for each of the two foliar fungicides for all three hybrids. This irrigated plot area has been in no-till corn production for the past four years with a high level of GLS each year. Each fungicide was sprayed once at the VT (tassel stage) with a Co2 tractor mounted sprayed using 20 gallons of water per acre. Yields were determined by harvesting with a Almaco SPC 40 plot combine. GLS ratings were taken on Aug. 6 in 2007 and July 7 in 2006 after the susceptible

hybrid had reached its highest rating for the unsprayed.

The GLS rating scale ranged from "0" to "10" where 0 = no disease spots present and 10 = the most disease possible. The two year average GLS ratings for the susceptible hybrid was much higher than for the other two hybrids ranging from 5 for the sprayed to 8 on the unsprayed. The two average GLS rating for the moderately susceptible ranged from 2.75 for the sprayed to 4.75 for the unsprayed. The two year average for the tolerant hybrid ranged from 1.25 to 2.0 for the unsprayed. There were higher GLS ratings for the test in 2007 than in 2006 but there was a higher level of control of GLS in 2007.

Yields were higher in 2007 across all plots even though there were more leaf spots. The two year average yield improvement for Quadris was 28 bu/a for the susceptible hybrid, 27 bu/a for the moderately susceptible and 17bu/a for the tolerant hybrid. Headline's two year average yield increase was 26 bu/a for the susceptible hybrid, 11 bu/a for the moderately susceptible and 9 bu/a for the tolerant hybrid.

Both fungicides significantly controlled GLS and increased yields but neither was significantly greater than the other.

Three of the most important points to consider when spraying fungicides for disease control are: 1. resistance to GLS, 2. over all weather conditions especially after tassel, and 3. crop rotation (corn after corn). Δ