



Effectiveness of Foliar Fungicides by Timing on Foliar Diseases on Hybrid Corn

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Foliar fungicides remain an input on hybrid corn that many farmers consider. New fungicides for use on corn are registered annually. The goal of this project is to provide data to help farmers determine the need for foliar fungicides in their production. The objectives of this project were to assess the effect of timing of application of fungicides on foliar disease, evaluate the yield response of hybrid corn to foliar fungicide application, and discern differences, if any, between fungicide products.

Materials and Methods

The corn hybrid Pioneer P0421Q, with a resistance rating of four for grey leaf spot (GLS) and five for Northern corn leaf blight (NCLB) (1-9 scale, 9 =outstanding), was planted following soybeans in a minimum tillage system April 24. A randomized complete block design with six replications was used. Each plot was four rows wide (30-in. row spacing) by 41 ft. long. All plots were bordered by two rows on either side. Fungicides were applied at either V12 (July 8 and 12) or at R1 (July 16) (Table 1). A CO₂ pressurized 10 ft. hand boom was used to spray the plots, fitted with Tee Jet flat fan sprayer nozzles (XR11003VS), spaced 20 in. apart and delivering 20 gal./acre at 24 psi. On September 7 (3/4 milk line), disease severity in the lower canopy above ear leaf of each plot was assessed. Disease severity was assessed on a plot basis as an estimate of percent leaf area diseased. On October 4, all four rows of each plot were harvested with a John Deere 9450 combine fitted with an Avery Weigh-Tronix weigh scale and Shivvers 5010 moisture meter. All data were subjected to analysis of variance, and means were compared at the 0.1 significance level using Fisher's protected least significant difference (LSD) test.

Results and Discussion

No disease was observed in the non-sprayed control plots, likely due to below normal precipitation throughout the growing season. Mean yield of the non-sprayed control plots was 172.4 bushels/acre. Yields of the plots with fungicide treatments ranged from 176.4 to 181.7. No effect of fungicide on yield was detected (P=0.7952).

Table 1. Effect of fungicide and timing of fungicide applications on yield of corn.

Fungicide rate/ac., application timing ^z	Yield (bu./ac.) ^y
1. Non-treated Control 1	174.7
2. Headline AMP (Standard Product), 10 fl oz	179.0
3. Veltyma, 7 fl. oz.	178.1
4. Trivapro, 13.7 fl. oz.	179.5
5. Delaro Complete, 8 fl. oz.	176.4
6. Lucento, 5 fl. oz.	177.7
7. Miravis Neo, 13.7 fl. oz.	179.0
8. Topguard EQ, 5 fl. oz.	179.4
9. Non-treated Control 2	170.1
10. Headline AMP (Standard Product), 10 fl. oz.	178.6
11. Veltyma, 7 fl. oz.	181.7
12. Trivapro, 13.7 fl. oz.	180.9
13. Delaro Complete, 8 fl. oz.	180.9
14. Lucento, 5 fl. oz.	176.4
15. Miravis Neo, 13.7 fl. oz.	179.3
16. Topguard EQ, 5 fl. oz.	176.6
P-value	0.7952

^zV12=12-leaf stage, R1=silking.

^yCorrected to 15.0% moisture content.