



## 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 Wyffels 2236, with a resistance rating of 6 for grey leaf spot (GLS), 6 for northern corn leaf blight, and 7 for stay green (1-9 scale, 1 = low, 9 = high expression of a trait), was planted following soybean in a minimum tillage system on April 23. A randomized complete block design with six replications was used. Each plot was four rows wide (30 in. row spacing) by 55 ft. long. All plots were bordered by two rows on either side. All plots received 150 lb. per ac. NH<sub>3</sub> on April 1. Fungicides were applied at either V12 (July 8) or at R1 (July 20) (Table 1). A CO<sub>2</sub> 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. per ac. at 24 psi. On August 23 (1/2 milk line), disease severity on the ear leaf of five plants in each plot was assessed. Disease severity was assessed on a plot basis as an estimate of percent leaf area diseased. On October 20, 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

Below normal precipitation occurred throughout the growing season and no foliar disease developed in the trial. Mean yield of the two control plots was 206.0 bushels per acre. Yields of the fungicide treatments ranged from 192.6 to 217.7. No effect of fungicide on yield was detected (P=0.6807).

**Table 1: Effect of fungicide and timing of fungicide applications on northern leaf blight and yield of corn at Sutherland, Iowa.**

Fungicide, rate/ac, application timing	Yield (bu/ac) <sup>x</sup>
Non-treated Control 1	209.1
Headline AMP, 10 fl oz./ac., V12	200.5
Veltyrna, 7 fl oz./ac., V12	192.6
Trivapro, 13.7 oz./ac., V12	201.0
Delaro Complete, 8 oz./ac., V12	195.3
Lucento, 5 oz./ac., V12	203.3
Miravis Neo, 13.7 oz./ac., V12	204.5
Topguard EQ, 5 oz./ac., V12	197.9
Non-treated Control 2	203.0
Headline AMP, 10 oz./ac., R1	217.7
Veltyrna, 7 oz./ac., R1	213.6
Trivapro, 13.7 oz./ac., R1	206.0
Delaro Complete, 8 oz./ac., R1	201.7
Lucento, 5 oz./ac., R1	201.5
Miravis Neo, 13.7 oz./ac., R1	203.5
Topguard EQ, 5 oz./ac., R1	210.0
P-value	0.6807

V12 = 12-leaf stage, R1 = silking. <sup>x</sup>Corrected to 15.0% moisture content.