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# Effectiveness of Foliar Fungicides by Timing on Hybrid Corn

Alison E. Robertson

*Iowa State University*, [alisonr@iastate.edu](mailto:alisonr@iastate.edu)

John M. Shriver

*Iowa State University*, [jshriver@iastate.edu](mailto:jshriver@iastate.edu)

Kirk A. Schwarte

*Iowa State University*

Bernard J. Havlovic

*Iowa State University*, [bhavlovi@iastate.edu](mailto:bhavlovi@iastate.edu)

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# Effectiveness of Foliar Fungicides by Timing on Hybrid Corn

## **Abstract**

Fungicide use on hybrid corn has increased considerably in the past several growing seasons, primarily due to reports of increased yields, even in the absence of disease and higher corn prices. A number of fungicides are registered for use on corn. The objectives of this project were to 1) assess the effect of timing of application of fungicides on standability, 2) evaluate the yield response of hybrid corn to foliar fungicide application, and 3) to discern differences, if any, between fungicide products.

## **Keywords**

RFR A1282, Plant Pathology and Microbiology

## **Disciplines**

Agricultural Science | Agriculture | Plant Pathology

# Effectiveness of Foliar Fungicides by Timing on Hybrid Corn

## RFR-A1282

Alison Robertson, assistant professor  
John Shriver, research associate  
Department of Plant Pathology and  
Microbiology  
Kirk Schwarte, former ag specialist  
Bernie Havlovic, farm superintendent

### Introduction

Fungicide use on hybrid corn has increased considerably in the past several growing seasons, primarily due to reports of increased yields, even in the absence of disease and higher corn prices. A number of fungicides are registered for use on corn. The objectives of this project were to 1) assess the effect of timing of application of fungicides on standability, 2) evaluate the yield response of hybrid corn to foliar fungicide application, and 3) to discern differences, if any, between fungicide products.

### Materials and Methods

Headline (6 oz/A), Headline AMP (10 oz/A), Quadris (6 oz), Quilt Xcel(14 oz/A), Domark (4 oz/A), Priaxor (4 oz/A), Evito (2 oz/A), Evito-T (5 oz/A), Proline (5 oz/A), and Stratego YLD (4 oz/A) were each applied to hybrid corn NK 61-69 at either one of three growth stages: V6, R1, and R2 (blister) or at V6 followed by a second application at R1. The experimental design was a randomized plot design. Each plot was 4 rows wide (30-in. row spacing) by 40 ft long. Corn was planted April 25 with a 7000 series John Deere 8 row planter calibrated to plant 34,000 seeds/acre on corn following soybeans. Fungicides were applied with a 10 ft hand boom at 20 gpa at V6 on June 1, R1 on July 3, and R2 on July

13. Immediately prior to harvest, ear rot severity (percent of moldy kernels) on five plants/plot, and lodging, as determined by the push test, on 20 plants/plot, were assessed (September 6). All four rows of each plot were harvested with a John Deere 9450 combine on September 6.

### Results and Discussion

A severe drought occurred across the state during the 2012-growing season. Foliar disease development in the trial was limited. Some Goss's wilt was recorded but the incidence (number of plants infected) and severity (percent leaf tissue blighted) was low.

Ear rot severity was low in the trial and ranged from 1.5 percent to zero percent (Table 1). Standability was fair with between four and nine plants lodged per treatment (Table 1). There was no evidence of a fungicide effect on either ear rot severity or standability.

Yields ranged from 136.7 to 122.7 bushels/acre, but no differences were detected among treatments ( $P < 0.1$ ; Table 1). The highest yielding treatment was the unsprayed check. Moisture levels ranged from 15.07 percent (Quilt Xcel 14 oz R1) to 15.83 percent (Stratego YLD 4 oz R2). There was no evidence of an effect of fungicide on yield or grain moisture.

Studies on the efficacy of foliar fungicide timing for disease management and yield response are expected to continue in 2013.

### Acknowledgements

Thanks to Bernie Havlovic and the farm staff.

**Table 1. Effect of fungicide and timing of fungicide applications on stalk rot severity, yield, and harvest moisture of corn.**

Treatments	Mean % Ear Rot <sup>a</sup>	Lodging <sup>b</sup>	Yield <sup>c</sup>	Harvest Moisture <sup>d</sup>
Check 1	0.00 d	5.75	136.7	15.1
Headline 6 oz V6	1.15 ab	4.75	122.8	15.1
Headline AMP 10 oz R1	0.00 d	7.5	129.2	15.6
Headline 6 oz V6 + Headline AMP 10 oz R1	0.50 bcd	4.75	134.0	15.4
Headline AMP 10 oz R2	0.30 cd	5.75	129.8	15.6
Stratego YLD 4 oz V6	0.00 d	5.75	127.9	15.4
Stratego YLD 4 oz R1	0.00 d	6	131.5	15.3
Stratego YLD 4 oz V6 + Stratego YLD 4 oz R1	0.00 d	7.75	127.5	15.3
Stratego YLD 4 oz R2	0.05 d	4.5	135.6	15.8
Quadris 6 oz V6	0.45 bcd	8.75	126.1	15.2
Quilt Xcel 14 oz R1	0.50 bcd	8.5	131.2	15.1
Quadris 6 oz V6+ Quilt Xcel 14 oz R1	0.15d	7.25	132.8	15.2
Quilt Xcel 14 oz R2	0.15 d	7.5	128.4	15.1
Domark 4 oz R1	0.00 d	5.5	130.2	15.4
Domark 4 oz R2	0.00 d	8.75	125.8	14.9
Priaxor 4 oz V6	1.55 a	7.5	130.0	15.5
Priaxor 4 oz V6 + Headline AMP 10 oz R1	1.00 abc	6.75	130.9	15.3
Proline 5 oz R1	0.30 cd	8.25	131.1	15.5
LSD <sub>0.10</sub>	0.72	NS	NS	NS
C.V. (%)	178.6	41.8	5.7	2.9

<sup>a</sup>Percent of moldy kernels N = 5 ears/plot.

<sup>b</sup>Lodging was determined using the Push Test = number of plants lodged out of 20 when pushed to the 2 o'clock position.

<sup>c</sup>Bushels/acre at 15.5 percent moisture.

<sup>d</sup>Percent moisture at harvest.