

# Evaluation of Foliar Fungicides for Plant Health in Field Corn

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## Objective

The objective of this study was to evaluate the yield benefit of applying two different foliar fungicides to field corn based on promoting better plant health as opposed to making a fungicide application based on disease pressure and economic threshold.

## Background

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Crop Year:	2008	180 lb/A nitrogen sidedressed as 28% UAN (June 9)
Cooperator:	Farm Focus/Marsh Foundation	
County/Town:	Van Wert/Van Wert	Herbicide:
Drainage:	Non-systematic tile	PRE (May 20) Sure Start at 1.75 pt/A
Soil Type:	Hoytville clay, Hoytville silty clay loam, Haskins loam	POST (June 9) Durango DMA at 1.5 pt/A + AMS at 17 lb/100 gal
Previous Crop:	Corn	Insecticide: Poncho 250 on seed
Tillage:	Fall disk/ripper; spring field cultivate (2x)	Variety: Select Seeds RR308 VT3
Soil Test (2005):	pH 6.4, P 39 ppm, K 201 ppm	Row width: 30 inches
Fertilizer:	145 lb/A 14-14-14 2x2 banded at planting	Planting Rate: 32,000 seeds/A
		Planting Date: May 7, 2008
		Harvest Date: October 13-14, 2008

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## Methods

This study was set up as three treatments with four replications of each treatment in a randomized complete block design. Plot size was 45 feet wide by 1090 feet long. The treatments tested in this study were:

- 1) Nontreated check
- 2) Headline at 6.0 ounces per acre + nonionic surfactant (NIS) at 0.25% v/v
- 3) Stratego at 10.0 ounces per acre + nonionic surfactant (NIS) at 0.125% v/v

Both the Headline and Stratego foliar fungicide treatments were applied on August 8 with corn at growth stage R2-blister. Fungicide applications were made with a high clearance ground sprayer at 15 gallons per acre spray volume at 40 psi, using TeeJet XR11004 flat fan nozzles on 15 inch spacing.

Harvest populations were estimated on October 9-10 by counting the number of plants with harvestable ears on each side of a 17 feet 5 inch measured distance at 3 different locations in each plot. The average number of plants counted per 17 feet 5 inches was converted to plants per acre. The plots were harvested with a John Deere 6620 combine equipped with a calibrated AgLeader PF3000 yield monitor. Grain weights from the full plot were measured with a weigh wagon. Moistures were taken from the yield monitor average moisture value for each plot. All yields were adjusted to 15% moisture.

## Results

Table 1. Harvest population, moisture, and yield means for each treatment.

Treatment	Harvest Population (plants/A)	Moisture (%)	Yield (bu/A)
Nontreated Check	23,400	15.5	118.2
Headline @ 6.0 oz./A + 0.25% NIS	23,400	15.3	123.9
Stratego @ 10.0 oz./A + 0.125% NIS	23,000	14.8	125.5
LSD (P=0.05)	NS	NS	NS
CV (%)	5.6	4.2	5.9

NS= not significant

## Summary

Data from this one-year trial indicate there were no statistically significant differences among the treatments for harvest populations, moisture, or yield for field corn. Variability between the yield means was most likely caused by other outside influences and cannot be attributed to the fungicide treatments based on the statistical analysis. Visual inspection during the growing season did not show any significant disease pressures in any of the plots.

In season product costs for either of these fungicide treatments was around \$14.00/A plus the cost of application (\$6/A) for a total of right at \$20.00/A. This would require an additional 5.7 bushel/A yield increase at the current market price of \$3.50/bushel for corn to break even.

## Acknowledgements

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