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# The Effect of Headline AMP Fungicide on Varied Corn Populations

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**Abstract**
Research trials and field experience has shown that foliar fungicides have increased corn grain yields in northwest Iowa. Yield responses to fungicide use have not always been consistent. Corn yield response has been affected by hybrid selection and application timing. Corn grain yield response to fungicide may be greater with higher levels of management.

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**RFR-A1051**

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## Introduction

Research trials and field experience has shown that foliar fungicides have increased corn grain yields in northwest Iowa. Yield responses to fungicide use have not always been consistent. Corn yield response has been affected by hybrid selection and application timing. Corn grain yield response to fungicide may be greater with higher levels of management.

This study was conducted to evaluate the effects of fungicide on different corn plant populations. Corn grain yields may respond more to fungicide at a higher plant population than at a lower plant population. This study was initiated to study the effects of the foliar fungicide Headline AMP at different corn plant populations.

## Materials and Methods

Corn hybrid Agrigold 6325VT3 was planted on April 22, 2010. Fall fertilizer application was 36 lb/acre nitrogen (N), 92 lb/acre P2O5 and 60 lb/acre of K20. Spring N was 150 lb/acre applied as 28 percent UAN on May 24. Herbicide treatment was Outlook and Atrazine applied April 27 and Roundup WeatherMax plus Callisto applied on June 7. Headline AMP was applied on July 20 at 10.0 oz/acre. The growth stage was VT/R1. Application was made at 13.1 GPA at 30 PSI.

## Results and Discussion

Corn grain yields did not respond to increased plant population (Table 1). The 37,700 planting rate yielded greater than the other plant populations but this yield response was not significant ($P \leq 10\%$).

Fungicide application increased yields at the 27,700 planting rate only (Table 2). The grain yields were numerically greater for the remaining fungicide treatments, but were not significant ($P \leq 10\%$). There was stand loss in all plots due to a brittle snap event caused by high winds in late summer that increased the variability in the statistical analyses of this experiment.

This study indicates a trend of increased yields with fungicide use. However, increased plant population did not increase yields in this study. Additionally, this study did not show a greater fungicide yield response at higher plant populations than lower plant populations.

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**Table 1. Yield response of corn to plant population.**

| Seeding rate | Yield (bu/acre) | Yield response |
|---|---|---|
| 27,700 | 214.4 | - |
| 32,000 | 214.9 | + 0.5 |
| 37,700 | 223.3 | + 8.9 |
| 43,600 | 212.4 | - 2.0 |

All yields adjusted to 15.5% moisture.
No significant differences between any treatments.

**Table 2. Yield impact of fungicide treatments at varying corn populations.**

| Seeding rate | Fungicide | Yield (bu/acre) | Yield response | |
|---|---|---|---|---|
| 27,700 | No | 206.7 | - | |
| | Yes | 222.0 | + 15.3 | ** |
| 32,000 | No | 211.0 | - | |
| | Yes | 218.8 | + 7.8 | NS |
| 37,700 | No | 216.5 | - | |
| | Yes | 230.5 | + 14.0 | NS |
| 43,600 | No | 206.2 | - | |
| | Yes | 218.6 | + 12.4 | NS |

All yields adjusted to 15.5% moisture.
LSD (Least Significant Difference) = 14.2 bu/acre at $P \leq 0.10$.
** = statistical difference between treatments at $P \leq 0.10$.
NS = no statistical difference between treatments at $P \leq 0.10$.