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# Foliar Fungicide Study on Soybean

Daren S. Mueller
*Iowa State University*, dsmuelle@iastate.edu

Kenneth T. Pecinovsky
*Iowa State University*, kennethp@iastate.edu

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**Abstract**
The study was designed to document the efficacy of fungicides in disease control and yield protection at various application timings and frequencies on soybeans.

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# Foliar Fungicide Study on Soybean

**RFR-A10101**

Daren Mueller, extension specialist
Department of Plant Pathology
Ken Pecinovsky, farm superintendant

## Introduction

The study was designed to document the efficacy of fungicides in disease control and yield protection at various application timings and frequencies on soybeans.

## Materials and Methods

Kruger 201 RR/SCN soybeans were planted at 188,000 seeds/acre in 30 in. rows on May 10, 2010. Three different fungicides were applied at R1, R3 and R5 growth stages on July 12, August 4, and August 17, respectively. Fungicides were applied once and at multiple times. Soybeans were harvested on October 1 and yields were adjusted to 13 percent moisture.

## Results and Discussion

All fungicide treatments reduced foliar disease symptoms (Table 1). Both Cercospora leaf blight and Septoria leaf blight (brown spot) were significantly controlled by the application of fungicides, regardless of timing or frequency.

Yields were protected by the use of fungicides in this trial. All treatments exceeded the untreated control (UTC) (67.5 bu/ac) even though three treatments (Headline at R1, Headline at R3, and Quadris at R3) were not significantly different from the control. Plots treated with BAS703 02F had the highest yields.

There were no differences between fungicides applied at different or multiple timings or frequencies. This means there was no economic advantage in spraying fungicides twice in a season.

These data show what can be expected in a season when foliar disease levels are high (brown spot > 10%). The hot and wet conditions were perfect for the fungal pathogens to thrive, especially in the lower canopy where the relative humidity was higher, and reduce yields. Foliar fungicides, in such conditions, can effectively protect yields from the losses that fungal foliar pathogens can cause.

## Acknowledgements

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**Table 1. The effect of fungicides on soybean yield and foliar disease control.**

| Treatment | Rate (oz/ac) | Timing | Cercospora leaf blight severity[a] | Brown spot severity[a] | Moisture | Yield |
|---|---|---|---|---|---|---|
| UTC[b] | … | … | 2.9 | 14.2 | 11.6 | 67.5 |
| Headline | 6 | R1 | 1.3 | 1.3 | 11.7 | 70.1 |
| Headline | 6 | R3 | 0.1 | 3.7 | 11.4 | 70.1 |
| BAS703 02F | 4.5 | R1 | 0.4 | 1.5 | 11.6 | 74.3 |
| BAS703 02F | 4.5 | R3 | 0.2 | 2.7 | 11.8 | 73.4 |
| Headline (2X) | 6 + 6 | R1 + R3 | 0.2 | 0.8 | 11.3 | 72.2 |
| Headline (2X) | 6 + 6 | R3 + R5 | 0.0 | 2.8 | 11.4 | 72.4 |
| BAS703 02F (2X) | 4.5 + 4.5 | R1 + R3 | 1.0 | 1.3 | 11.7 | 72.9 |
| BAS703 02F (2X) | 4.5 + 4.5 | R3 + R5 | 0.2 | 3.4 | 11.6 | 74.0 |
| Quadris | 6 | R3 | 0.4 | 7.9 | 11.6 | 70.4 |
| Quadris (2X) | 6 + 6 | R1 + R3 | 0.3 | 2.2 | 11.6 | 71.7 |
| LSD (0.05) | | | 1.0 | 3.5 | n.s. | 4.2 |

[a]Disease was assessed on 10 leaves in the lower and 10 leaves in the upper canopy.
[b]UTC = untreated control of no fungicide application.