



# Impact of Fungicide on Soybean Yield

## Trial Objective

- This study was conducted to evaluate if soybean products respond differently to a fungicide application and to determine the impact of a fungicide application on soybean yield, regardless of the level of disease pressure.

## Research Site Details

Location	Soil Type	Previous Crop	Tillage Type	Planting Date	Harvest Date	Potential Yield (bu/acre)	Seeding Rate (seeds/acre)
Gothenburg, NE	Hord silt loam	Corn	Strip-till	05/17/18	10/03/18	85	160K

- The study was set up as a split plot with three replications. Fungicide was the whole plot and soybean product was the subplot.
- Eighteen soybean products were evaluated ranging in maturity from a 2.0 to 3.5.
- Delaro® 325 SC fungicide was applied at 10 fl oz/acre at the R3 growth stage.
- Plots were sprinkler irrigated and weeds were controlled as needed.
- Some soybean diseases (septoria brown spot, phomopsis pod and stem blight, and anthracnose) were observed at low levels but no soybean disease was prevalent at an economic threshold.

## Understanding the Results

- There was no significant interaction between soybean product and fungicide application even though there were some large differences in yield between the treated and untreated yields for a few products as seen in Table 1. However, there was an overall significant benefit for the application of a fungicide as reported in Figure 1.

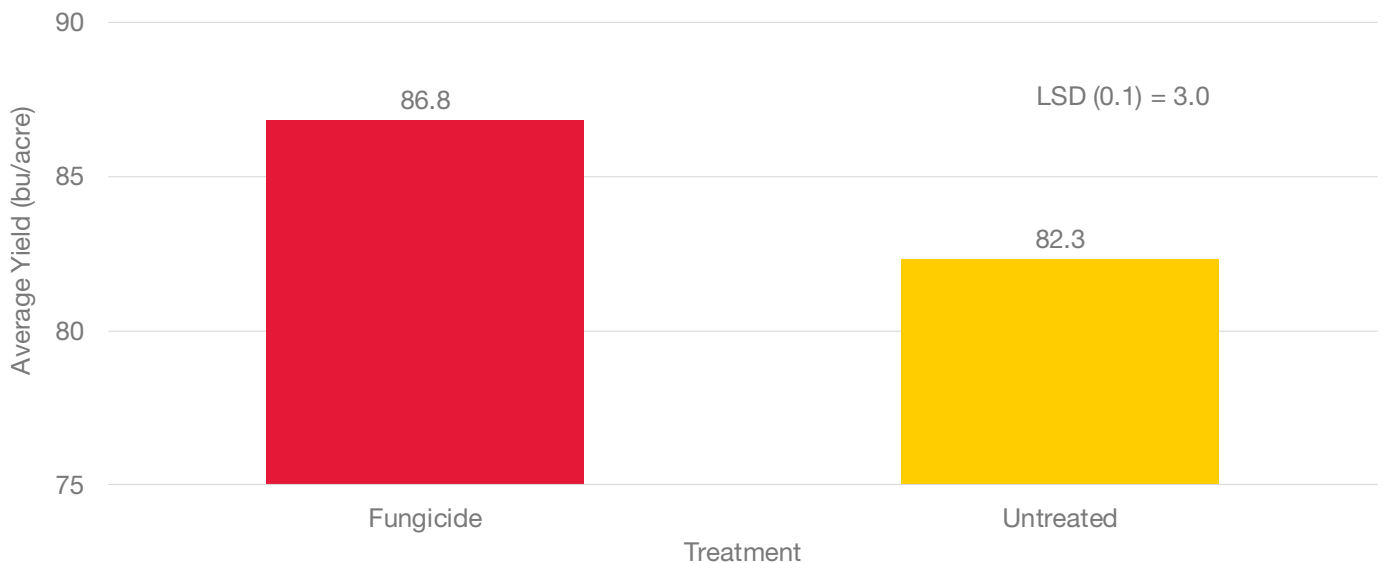


Figure 1. Soybean yield as influenced by fungicide application.

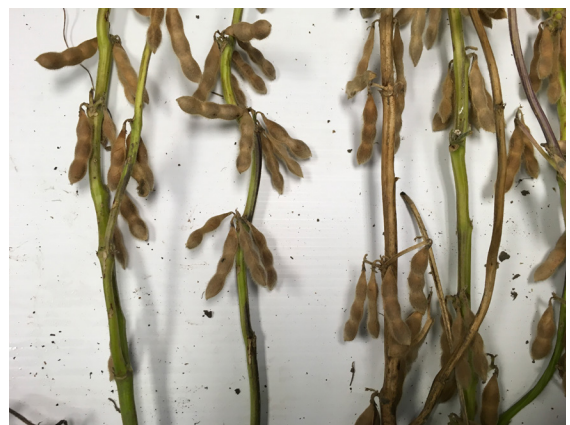


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- The fungicide application provided a positive \$2.95 return per acre.
- Test weight and harvest moisture were unaffected by the fungicide application.
- For some soybean products, a noticeable difference was observed with more late-season growth from green stems with a fungicide compared to no fungicide (Figure 2).
- Soybean product did impact yields significantly. Producers should work with their local seed sales team to identify how their branded soybean product performed in this study as detailed in Table 1.



**Figure 2. More late-season growth from green stems was observed with a fungicide treatment (left) compared to no fungicide (right).**



**Figure 3. Soybean stems showing symptoms of phomopsis pod and stem blight and anthracnose in the plot with no fungicide (left) vs. fewer disease symptoms and greener stems from the plot where fungicide was applied at the R3 growth stage (right).**

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*Table 1. Average yield for each soybean product when treated or not treated with a fungicide along with the average yield for the product across those two treatments.*

Maturity Group	Fungicide Application	Yield	Average Yield
			bu/acre
2.4 A	Yes	79.8	76.7
	No	73.5	
2.7 A	Yes	92.9	89.6
	No	86.2	
2.6 A	Yes	90.8	87.8
	No	84.8	
2.5 A	Yes	85.3	84.8
	No	84.3	
2.8 A	Yes	80.8	81.1
	No	81.4	
2.9 A	Yes	86.6	86.8
	No	86.9	
2.2 A	Yes	93.7	90.2
	No	86.6	
2.4 B	Yes	91.1	87.9
	No	84.6	
2.5 B	Yes	85.3	83.4
	No	81.4	
2.7 B	Yes	91.7	86.5
	No	81.3	
2.9 B	Yes	88.6	84.5
	No	80.5	
3.3 A	Yes	88.0	86.7
	No	85.5	
2.0 A	Yes	81.2	80.0
	No	78.8	
2.4 C	Yes	86.9	83.2
	No	79.5	
2.4 D	Yes	86.3	85.3
	No	84.2	
2.6 B	Yes	84.2	77.8
	No	71.4	
3.3 B	Yes	84.0	84.2
	No	84.5	
3.5 A	Yes	85.4	85.8
	No	86.2	
LSD (0.1)		NS	5.0

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## What Does This Mean for Your Farm?

- A fungicide application may provide increased value even in years when soybean diseases are prevalent at low to moderate levels.

## Legal Statements

The information discussed in this report is from a single site, replicated demonstration. This information piece is designed to report the results of this demonstration and is not intended to infer any confirmed trends. Please use this information accordingly.

### **ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS.**

**Performance may vary**, from location to location and from year to year, as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible and should consider the impacts of these conditions on the grower's fields.

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