Soybean Product Response to Delaro® 325 SC Fungicide

Trial Objective

- The objectives of this trial were to:
  - Evaluate if soybean products respond differently when given a fungicide application vs. no application.
  - Determine the impact of a fungicide application on soybean yield.

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 tillage	5/16/19	10/16/19	90	160K

Research Site Details

- The study was set up as a split plot with four replications where fungicide was the whole plot
- and soybean product was the subplot.
- Twenty-four soybean products, ranging in maturity from 2.0 to 3.5, were evaluated.
- Fungicide treatments included:
  - Untreated
  - Delaro® 325 SC fungicide applied at 10 fl oz/acre at the R3 growth stage
  - Two Delaro® 325 SC fungicide applications applied at 10 fl oz/acre at the R1 and R3 growth stage
- Plots were sprinkler irrigated and weeds were controlled chemically as needed.
- Some soybean diseases (Septoria brown spot, Phomopsis pod and stem blight, and Anthracnose) were observed at low levels but no soybean diseases were prevalent at an economic threshold.

Understanding the Results

- There was an interaction between soybean product and fungicide as detailed in Table 1. Some of the soybean products showed a large benefit to a Delaro® 325 SC fungicide application or two applications while other products showed no response.
  - A positive response to fungicide was observed 67% of the time with the single application of Delaro® 325 SC fungicide at the R3 growth stage and 79% of the time with the dual application at the R1 and R3 growth stage in a low disease pressure environment.
  - Ten of the soybean products had 4 bu/acre or more response to either the single or dual application as compared to the untreated soybean products.
  - The inconsistency in the yield response is similar to that observed in other studies when foliar diseases are below economic levels.[1] Soybean response to a fungicide is often higher when disease pressure is high.

DISEASES

Soybean Product Response to Delaro® 325 SC Fungicide

Table 1. Soybean Product Response to Delaro® 325 SC Fungicide			
	Yield Advantage/Disadvantage over Untreated (bu/acre)		
Soybean Products	**Delaro® 325 SC Fungicide at R3**	**Delaro® 325 SC Fungicide at R1 & R3**	**+4 bu/acre Response**
2.4MG-A	0.7	4.2	
2.6MG-A	4	3.6	
2.7MG-A	3.4	4.5	
2.9MG-A	-1	2.7	
2.9MG-B	1.8	-0.2	
3.0MG	7.7	4.5	
3.1MG	-1.9	1.6	
2.2MG	1.5	4.1	
2.4MG-B	6	4.7	
2.5MG-A	5.3	6.3	
2.7MG-B	1.8	3.2	
2.8MG-A	1.4	2.2	
2.8MG-B	-2.2	-4.1	
2.9MG-C	2.7	9.8	
3.3MG	-0.8	0.5	
2.0MG-A	2.4	3	
2.0MG-B	7.1	10.2	
2.4MG-C	-2.3	-1.2	
2.5MG-B	-1.3	-3.4	
2.6MG-B	1.9	5.2	
2.6MG-C	0.8	0.4	
2.7MG-C	-1.6	-0.5	
2.9MG-D	5.8	3.1	
3.5MG	-2.7	4.3	
Key	+4 bu/acre response to one of the Delaro 325 SC treatments	No +4 bu/acre response to one of the Delaro 325 SC treatments	

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Figure 1. A 3.0 MG soybean product untreated. Image taken in September 2019.

Figure 2. A 3.0 MG soybean product treated with Delaro® 325 SC fungicide at R3. Image taken in September 2019.

Figure 3. A 3.0 MG soybean product treated with Delaro® 325 SC fungicide at R1 and R3. Image taken in September 2019.

Key Learnings

- Soybean products tended to have different responses to an application or applications of Delaro® 325 SC fungicide compared to no fungicide applied.
- This is research from only one site and one year, but it does provide some insight into how a soybean product may respond to a fungicide application on a broader scale or in different geographies, climate or an increase/ decrease in fungicidal pressure.
- Producers should consult with their local seed sales team to understand how their branded soybean product performed in this study and develop a plan on how to best manage it.

References

[1]Giesler, L.J. 2008. Deciding when to apply soybean fungicides. University of Nebraska. Institute of Agriculture and Natural Resources. https://cropwatch.unl.edu/deciding-when-apply-soybean-fungicides

Legal Statements

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