



The fungicide trial comprises 4 reps of 6 treatment combinations of Folicur (Fungicide) and NitroFix (Inoculum). The Folicur was applied at three different application events. The "SC Serenade" seed variety (SeedCo) was planted in 3x5m plots with a ~5cm seed spacing. Each plot contained 4 rows with a 75cm row spacing. SC Serenade was treated with NitroFix prior to planting.

OVERVIEW

6 Randomized Treatment Groups

3 Fungicide Applications

Germination Rate
>86%



Weather Conditions

	Minimum Temp. (°C)	Maximum Temp. (°C)	Rainfall (mm)
January	17.5	24.8	210.5
February	17.7	23.5	136.1
March	17.3	24.7	16.9
April	16.1	24.6	12.4
May	12.7	25.1	0.3
June	10.0	22.1	0.3

☹️ = left to right:
Minimum and Maximum Average Temperature



BACKGROUND: PRODUCTS

Product					Application	
Identifier	Name	Source	Active Ingredient	Amount	Growth Stage	Rate (per ha)
Fo1	Folicur (1st Application)	Bayer	Tebuconazole	250g/L	R1	750mL / 300L H2O
Fo2	Folicur (2nd Application)				R3	
Fo3	Folicur (3rd Application)				R5	
Ni1	Nitrofix	-	See Label	See Label	-	See Label
SC1	SC Serenade	SeedCo	-	-	-	320,000 seeds

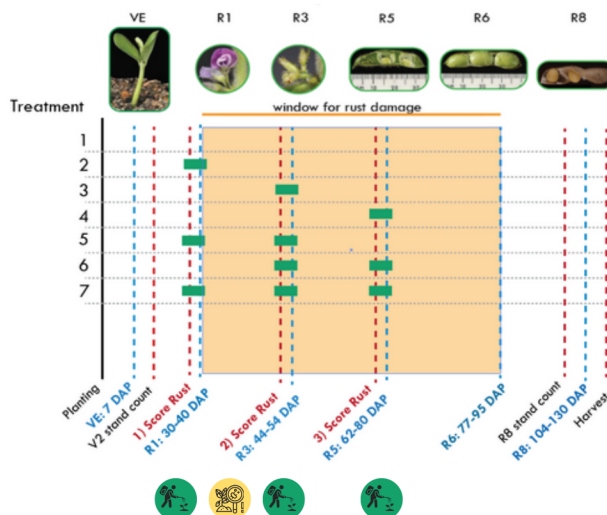
BACKGROUND: TREATMENTS

Treatment Groups					
1	2	3	4	5	6
-	-	-	1.125 / 0.45L	1.125 / 0.45L	1.125 / 0.45L
-	1.125 / 0.45L	1.125 / 0.45L	-	1.125 / 0.45L	1.125 / 0.45L
-	-	1.125 / 0.45L	-	-	1.125 / 0.45L
See Label	See Label	See Label	See Label	See Label	See Label
480	480	480	480	480	480
Control	Fo2	Fo2+Fo3	Fo1	Fo1+Fo2	Fo1+Fo2+Fo3

IN-SEASON

Calendar

- Germination Test
23-Dec-21
- Planting Date:
2-Jan-22
- Fungicide Application Dates:
1st 28-Feb-22
2nd 11-Mar-22
3rd 31-Mar-22
- Rust first observed approximately: **05-Mar-23**
- Harvest Date:
17-May-22



--- soybean developmental stage
- - - data collection
█ fungicide application



COST ASSUMPTIONS

Item	\$USD
Input Costs per Hectare	
Folicur	97.65
Folicur (single application)	14.65
Certified SC Serenade Seed	61
NitroFix	4.46
Labor Costs	
Land preparation, planting, harvesting, bagging, etc.	221.21
Soybean Selling Price	
Grain Price (\$USD/kg of seed)	0.67
Grain Price (\$USD/MT of seed)	670.00

DISCUSSION

Key Takeaways

1. Planting early allowed the plants to establish and be more effective to fend off rust.
2. Soybean rust was first observed in the beginning of March, after the first fungicide application. Soybean rust damages soybean plants most between the R1 and R5 developmental stages when flowers, pods, and seeds are still growing.
3. Due to rust pressure later in soybean development, grain yields in treatments without fungicide application were still above 3.0 MT/ha.
4. The treatment group Fo1 performed the highest in terms of yield (3.873 MT/ha) and gross margin (USD \$2,132.82) output.

RESULTS

Agronomic Results

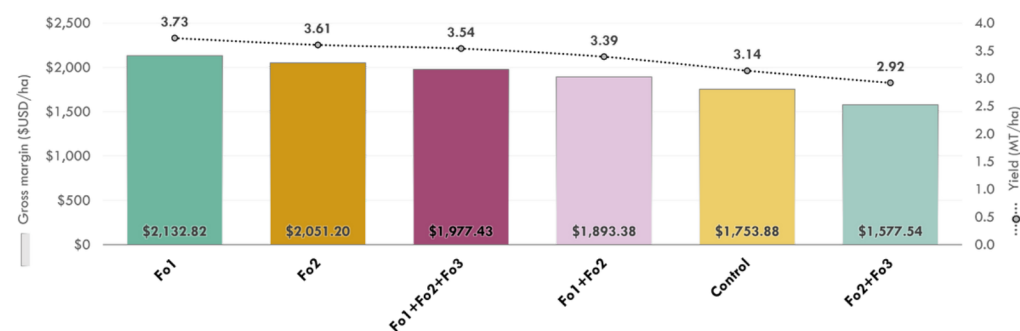
Sorted by Yield (MT/ha)

TRT ID	Fo1	Fo2	Fo1+Fo2+Fo3	Fo1+Fo2	Control	Fo2+Fo3	AVG	CV (%)	p-Value
V2 Stand Count	226.75	228.50	224.00	237.75	222.25	225.25	227.42	2.42	0.88
Rust Score: 1st Fungicide Application	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	-
Rust Score: 2nd Fungicide Application	3.00	3.00	3.00	3.00	3.00	3.00	3.00	0.00	-
Rust Score: 3rd Fungicide Application	2.00	2.00	2.00	2.25	2.00	2.00	2.04	5.00	0.45
R8 Stand Count	222.00	213.75	214.75	226.75	217.00	221.00	219.21	2.26	0.85
Seed Moisture	9.18	8.10	10.40	10.65	9.40	4.55	8.71	25.66	0.02
Yield (MT/ha)	3.73	3.61	3.54	3.39	3.14	2.92	3.39	9.01	0.31



Cross Analysis: Yield & Gross Margin

Sorted by Gross Margin (\$USD)



CONCLUSION

Treatment group Fo1 had the highest average yield and gross margin at 3.73 MT/ha and \$2,132.82 USD/ha, respectively. Despite soybean rust occurring after the first application of fungicide, treatments including Fo1 or with one application of fungicide generated the highest yields and gross margin in the trial. The treatment group, Fo2+Fe3, was treated with fungicide after rust was first sighted, and performed the lowest for both yield (2.92 MT/ha) and gross margin (USD\$1,577.54). This suggests that fungicide applications, before it is first observed, help protect soybean plants from further fungal infections, by generating an average yield and gross margin increases of 0.30MT/ha and USD\$172.59 USD/ha, respectively, compared to the control. At the cost of USD\$14.65 per fungicide application, fungicides can be a cost-effective way to maintain soybean yields even when rust is not present.