

# Soybean Double Inoculant Trial

**Trial ID: 2020-S2IN03 – R.M. of Louise**

**Objective:** Quantify the agronomic and economic impacts of seed applied inoculant (single inoculation) vs. seed applied plus in-furrow inoculant (double inoculation) in soybean fields. This trial requires a minimum field history of 2 previous soybean crops.

**Summary:** Nodulation ratings were very similar between treatments. There was no significant yield difference between single and double inoculated soybeans. Due to the lack of yield response, there was a decrease in profit/ac equivalent to the cost of the in-furrow inoculant application.

## Trial Information

<b>Treatment</b>	1x Optimize (liquid) 5 lbs/ac Cell-Tech (granular)
<b>Last Soybean Crop</b>	2017
<b>Soybean History</b>	3-year history
<b>Soil Texture</b>	Clay Loam
<b>Previous Crop</b>	Barley
<b>Tillage</b>	Zero Till
<b>Seeding Date</b>	May 29
<b>Variety</b>	S0009-M2
<b>Seeding Rate</b>	192 000 seeds/ac
<b>Row Spacing</b>	7.5"
<b>Plant Stand @ V2</b>	156 000 plants/ac
<b>Harvest Date</b>	September 24

## Precipitation (mm)

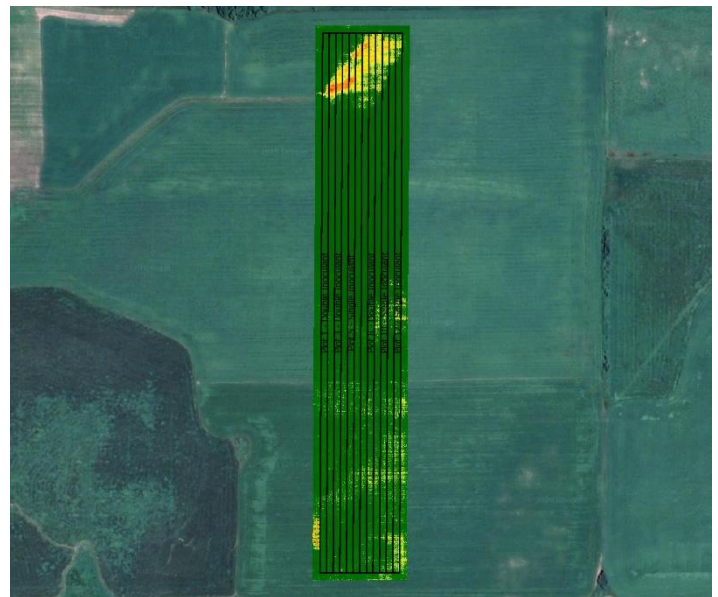
	May	June	July	August
<b>Normal</b>	61.1	89.8	68.3	72.3
<b>Rainfall</b>	46.4	107.9	102.8	30

## Nodulation†

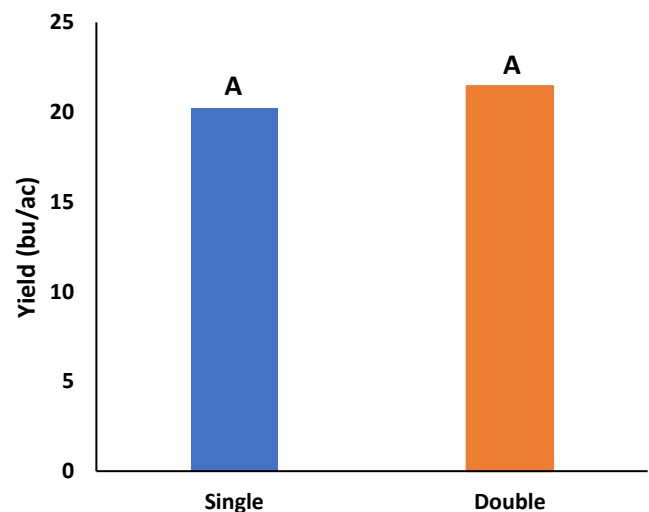
	Average nodulation rating @ R2
<b>Double</b>	3.5
<b>Single</b>	3.4

† 0 = no nodules, 1 = Poor (<5/plant), 2 = Fair (<10/plant), 3 = Good (<20/plant), 4 = Excellent (>20/plant)

## NDVI Field Image August 15



## Yield by Treatment





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### Overall Yield & Economics

	Mean (bu/ac)	Cost †	Change in Profit/ac ††
<b>Double Inoculant</b>	21.5	\$15/ac	-\$10/ac
<b>Single Inoculant</b>	20.2	\$5/ac	
<b>Yield Difference</b>	1.3		
<b>P-Value</b>	0.0867		
<b>CV</b>	9.8%		
<b>Significance</b>	<b>No</b>	<b>Economic</b>	<b>No</b>

† Based on an estimated cost for on-seed + granular in-furrow vs. on-seed only

† † Because yields were not significantly different, there is no increased income with the double inoculant to offset the increased cost/ac