

# Soybean Single Inoculant Trial

**Trial ID: 2020-S11N04 – R.M. of MacDonald**

**Objective:** Quantify the agronomic and economic impacts of seed applied inoculant (single inoculation) vs. no inoculant applied in soybean fields. This trial requires a minimum field history of three previous soybean crops.

**Summary:** Nodulation was very similar between treatments. There was no significant yield difference between soybeans with and without a single inoculant. Due to the lack of yield response, there was a decrease in profit/ac in the inoculated area of the trial equivalent to the cost of the seed-applied inoculant.

## Trial Information†

<b>Treatment</b>	BioRhiz (liquid) ½ rate & Nodulator (peat)
<b>Last Soybean Crop</b>	2016
<b>Soybean History</b>	3-year history
<b>Soil Texture</b>	Clay
<b>Previous Crop</b>	Wheat
<b>Tillage</b>	Zero Till
<b>Seeding Date</b>	May 23
<b>Variety</b>	LS Mistral
<b>Seeding Rate</b>	220 000
<b>Row Spacing</b>	15"
<b>Plant Stand @ V1</b>	130 000
<b>Harvest Date</b>	September 26

† 1.5x inoculant rate trial, comparing 1.5x rate to no inoculant

## Precipitation (mm)

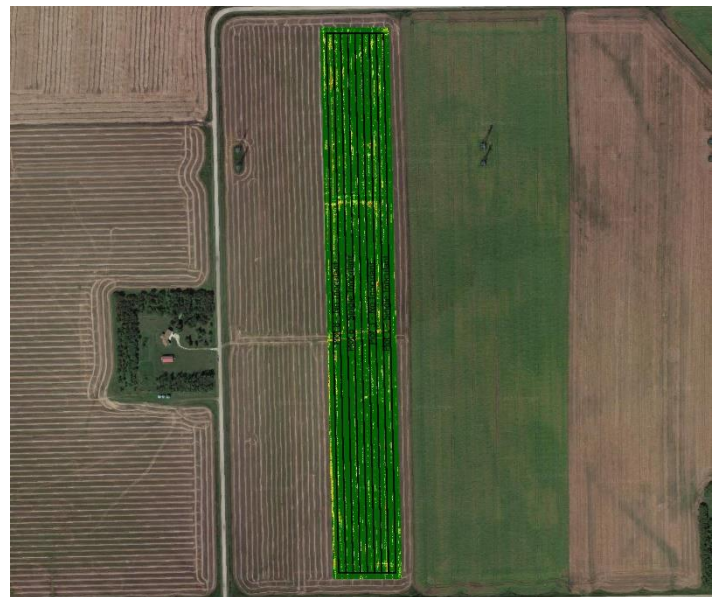
	May	June	July	August
<b>Normal</b>	58.5	92	77.8	67.6
<b>Rainfall</b>	71	54.3	79	39.6

## Nodulation†

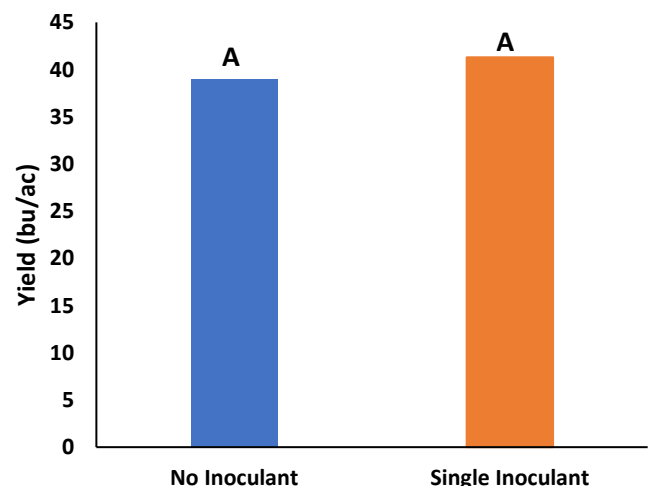
	Average nodulation rating @ R2
<b>Single</b>	3.7
<b>None</b>	3.8

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

## NDVI Field Image August 20



## Yield by Treatment





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### Overall Yield & Economics

	Mean (bu/ac)	Cost †	Change in Profit/ac ††
Single Inoculant	41.3	\$5/ac	-\$5/ac
No Inoculant	38.9		
Yield Difference	2.4		
P-Value	0.1550		
CV	5.4%		
Significance	No	Economic	No

† Based on an estimated cost for on-seed inoculant

† † Because yields were not significantly different, there was no increased income to offset the cost of the single inoculant