

Soybean Double Inoculant Trial

Trial ID: 2023-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 soybeans. This trial requires a minimum field history of 2 previous soybean crops.

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

Trial Information

Treatments	1x Nodulator (liquid on-seed) vs 1x Nodulator (liquid on-seed) + 1x N-Row (peat/granular)
Last Soybean Crop	2020
Soybean History	5+ year history
Soil Texture	Clay Loam
Previous Crop	Canola
Tillage	Zero Till
Seeding Date	May 20
Variety	B0012RX
Seeding Rate	166 000 seeds/ac
Row Spacing	7.5"
Plant Stand @ VC	156 000 plants/ac
Harvest Date	September 30

Precipitation (mm)

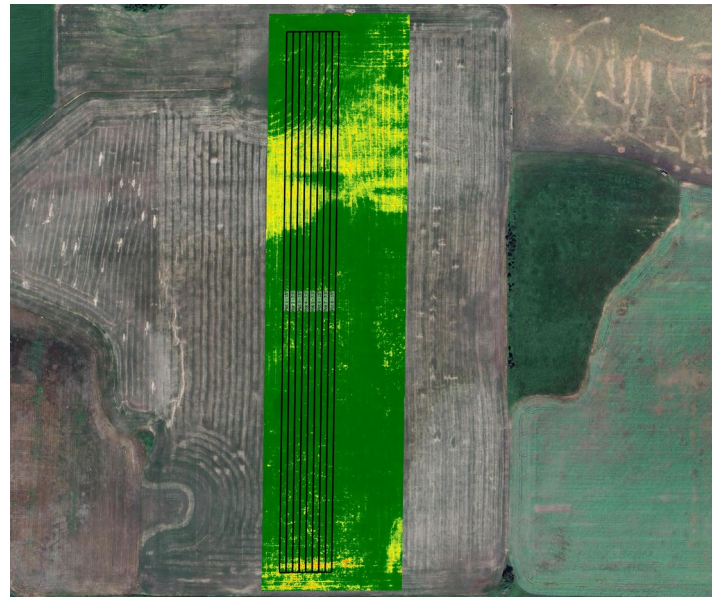
	May	June	July	Aug	Total
Rainfall	29.3	53.4	2.9	44.2	130
Normal	61.1	89.8	68	72.3	292
% Norm	48%	59%	4%	61%	45%

Nodulation †

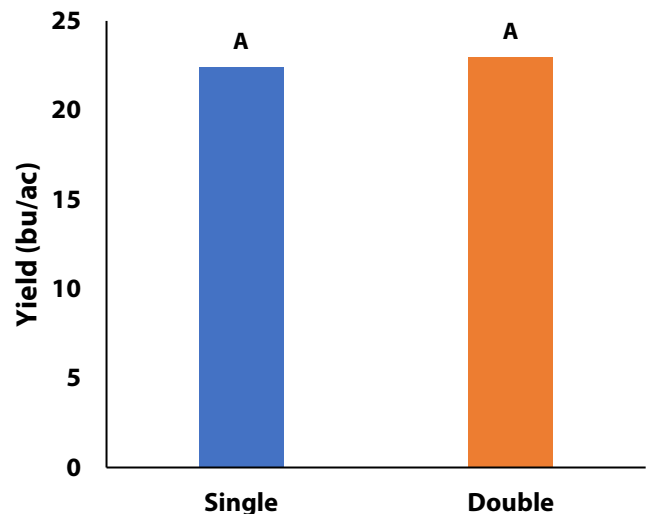
	Average Nodulation Rating @ R2
Double	3.9 A
Single	4.0 A

† 0 = no nodules, 1 = Poor (<5/plant), 2 = Fair (<10/plant), 3 = Good (<20/plant), 4 = Excellent (>20/plant). Averages followed by different letters are significantly different at $\alpha = 0.05$

NDVI Field Image August 8



Yield by Treatment





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Overall Yield & Economics

	Mean (bu/ac)	Cost †	Change in Profit ††
Double Inoculant	22.4	\$13/ac	-\$10/ac
Single Inoculant	23.0	\$3/ac	
Yield Difference	-0.6		
P-Value	0.4066		
CV	4.7%		
Significance	No	Economic	No

† 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 increase in price