

Soybean Double Inoculant Trial

Trial ID: 2022-S2IN01 – 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 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 in the double inoculated area of the trial, equivalent to the cost of the granular inoculant application.

Trial Information

Treatment	1 x Nodulator (liquid on-seed) 4.5 lbs/ac Nodulator (granular)
Last Soybean Crop	2019
Soybean History	4-year history
Soil Texture	Loam
Previous Crop	Canola
Tillage	Zero Till
Seeding Date	May 24
Variety	S001-D8X
Seeding Rate	180,000 seeds/ac
Row Spacing	7.5"
Plant Stand @ V1	157,000 plants/ac
Harvest Date	September 28

Precipitation (mm)

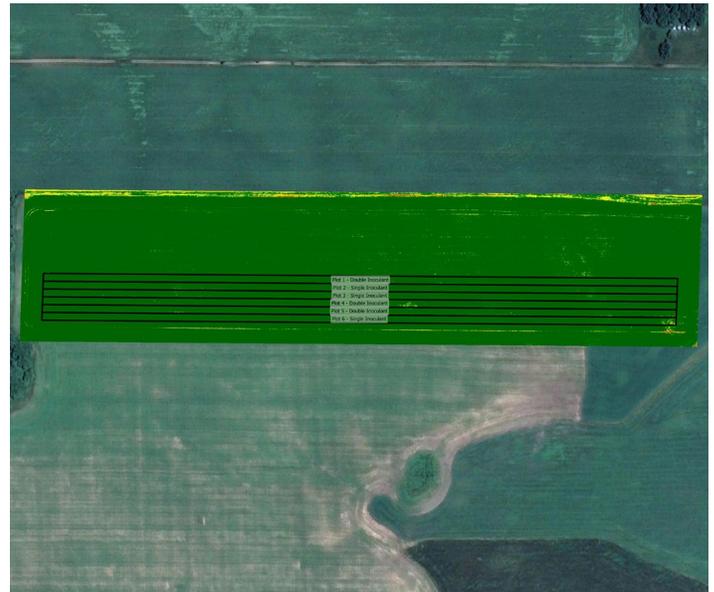
	May	Jun	Jul	Aug	Total
Rainfall	129.1	42.5	115	43	329.6
Normal	61.1	89.8	68.3	72.3	291.5
% Normal	211%	47%	168%	59%	113%

Nodulation (R2)[†]

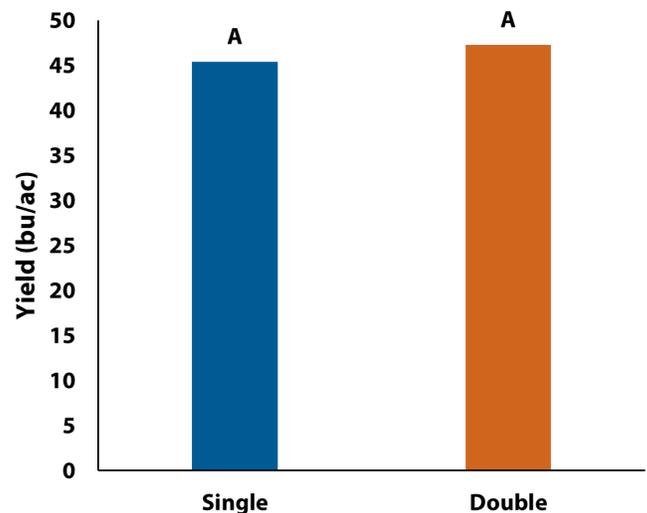
	Average Nodulation Rating
Double	4.0
Single	4.0

[†] Nodulation is rated on a scale where 0 = no nodules, 1 = poor nodulation (<5/plant), 2 = fair nodulation (<10/plant), 3 = good nodulation (<20/plant) and 4 = excellent nodulation (>20/plant).

NDVI Field Image August 13



Yield by Treatment





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Overall Yield & Economics

	Mean (bu/ac)	Cost [†]	Change in Profit/ac ^{††}
Double Inoculant	47.3	\$13/ac	-\$10/ac
Single Inoculant	45.4	\$3/ac	
Yield Difference	1.9		
P-Value	0.0713		
CV	2.5%		
Significance	No	Economic	No

[†] Based on an estimated cost of \$3/ac for liquid inoculant and \$10/ac for granular inoculant; does not include application cost.

^{††} Yields were not significantly different, therefore profit/ac decreased by the cost/ac of the double inoculation treatment.