

Soybean Double Inoculant Trial

Trial ID: 2021-S2IN04 – R.M. of Westlake-Gladstone

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 and agronomically sufficient. 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 in-furrow inoculant application.

Trial Information

Treatment	2x Nodulator (liquid on-seed) 3 lbs/ac Cell-Tech (granular)
Last Soybean Crop	2018
Soybean History	3-year history
Soil Texture	Fine Sandy Loam
Previous Crop	Canola
Tillage	Conventional
Seeding Date	May 15
Variety	P005A83X
Seeding Rate	150 000 seeds/ac
Row Spacing	30"
Plant Stand @ V2	121 000 plants/ac
Harvest Date	September 29

Precipitation (mm)

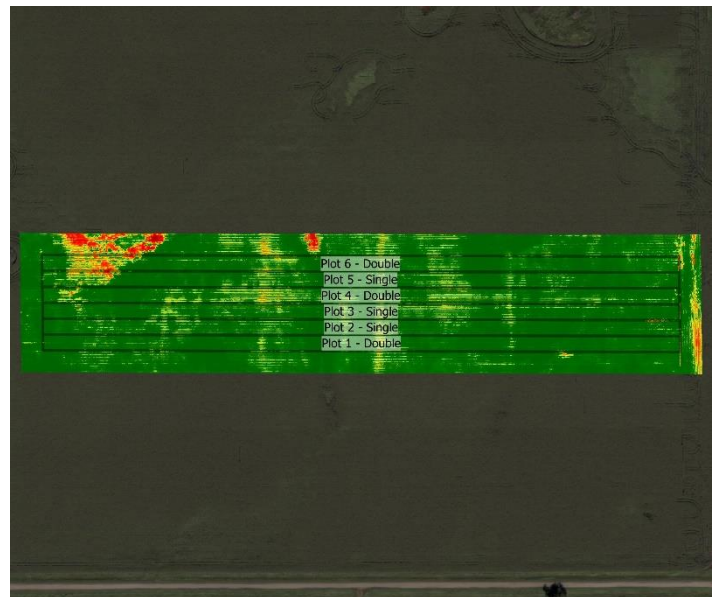
	May	Jun	Jul	Aug	Total
Rainfall	35.3	48.3	8.9	119	211.5
Normal	52.7	70.5	73.5	67.7	264.4
% Normal	67%	69%	12%	176%	80%

Nodulation†

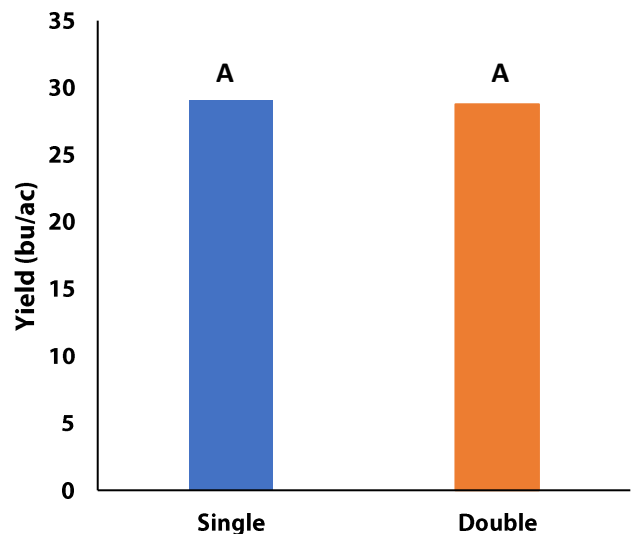
	Average Nodulation Rating @ R2
Double	4.0
Single	4.0

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

NDVI Field Image August 16



Yield by Treatment





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Overall Yield & Economics

	Mean (bu/ac)	Cost [†]	Change in Profit/ac ^{††}
Double Inoculant	28.8	\$13.50/ac	-\$10/ac
Single Inoculant	29.1	\$3.50/ac	
Yield Difference	-0.3		
P-Value	0.8976		
CV	19%		
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. Profit/ac declines by the increased cost as a result.