

Soybean Double Inoculant Trial

Trial ID: 2021-S2IN05 – R.M. of St. Andrews

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	1x Nodulator (liquid on-seed) 5 lbs/ac Nodulator (granular)
Last Soybean Crop	2017
Soybean History	2-year history
Soil Texture	Clay
Previous Crop	Wheat
Tillage	Conventional
Seeding Date	May 15
Variety	P006A37X
Seeding Rate	185 000 seeds/ac
Row Spacing	10"
Plant Stand @ V2	135 000 plants/ac
Harvest Date	October 4

Precipitation (mm)

	May	Jun	Jul	Aug	Total
Rainfall	39.2	32.7	25.7	86.8	184.4
Normal	53.8	92	66.4	63.3	275.5
% Normal	73%	36%	39%	137%	67%

Nodulation†

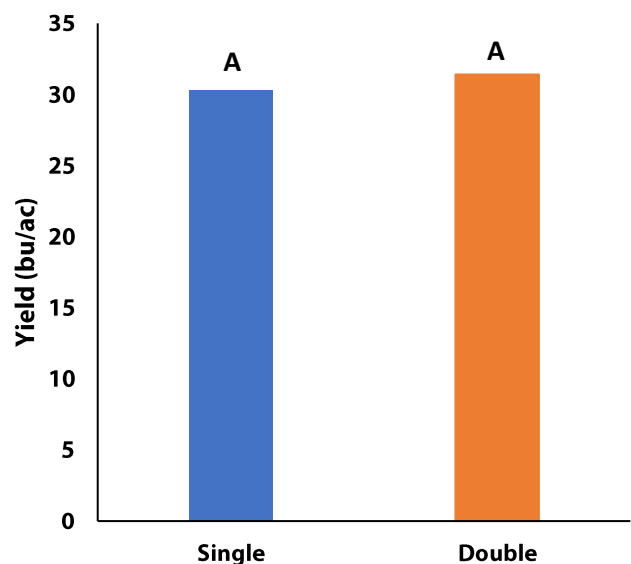
	Average Nodulation Rating @ R1
Double	3.3
Single	3.3

† 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 ^{††}
Double Inoculant	31.4	\$13.50/ac	-\$10/ac
Single Inoculant	30.3	\$3.50/ac	
Yield Difference	1.1		
P-Value	0.6031		
CV	8.7%		
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. Profit/ac declines by the increased cost as a result.