

Soybean Double Inoculant Trial

Trial ID: 2023-S2IN05 – R.M. of Springfield

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) + 3.5 lbs/ac Lalfix DUO Spherical (granular)
Last Soybean Crop	2018
Soybean History	3+ year history
Soil Texture	Clay
Previous Crop	Ryegrass
Tillage	Conventional
Seeding Date	May 22
Variety	NSC Winkler RR2X
Seeding Rate	181 000 seeds/ac
Row Spacing	10"
Plant Stand @ V2	193 000 plants/ac
Harvest Date	October 13

Precipitation (mm)

	May	June	July	Aug	Total
Rainfall	39.4	58.7	50	56.1	205
Normal	54	89.9	73	72.6	290
% Norm	73%	65%	69%	77%	71%

Nodulation †

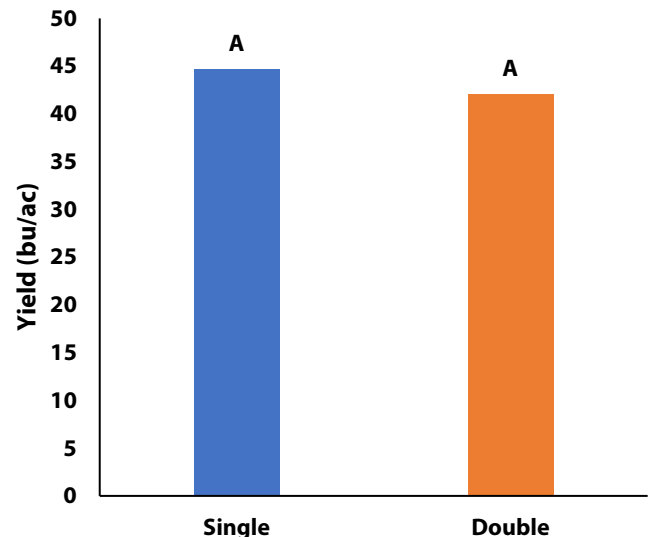
	Average Nodulation Rating @ R2
Double	3.8 A
Single	3.8 A

† 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 14



Yield by Treatment





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Overall Yield & Economics

	Mean (bu/ac)	Cost †	Change in Profit ††
Double Inoculant	42.0	\$13/ac	-\$10/ac
Single Inoculant	44.7	\$3/ac	
Yield Difference	-2.7		
P-Value	0.4213		
CV	1.9%		
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