

Soybean Double Inoculant Trial

Trial ID: 2021-S2IN07 – 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, and nodulation was 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 Optimize (liquid on-seed) 4.5 lbs/ac Nodulator (granular)
Last Soybean Crop	2017
Soybean History	2-year history
Soil Texture	Clay Loam
Previous Crop	Barley
Tillage	Zero Till
Seeding Date	May 26
Seeding Rate	166 000 seeds/ac
Row Spacing	7.5"
Plant Stand @ V1	131 000 plants/ac
Harvest Date	September 26

Precipitation (mm)

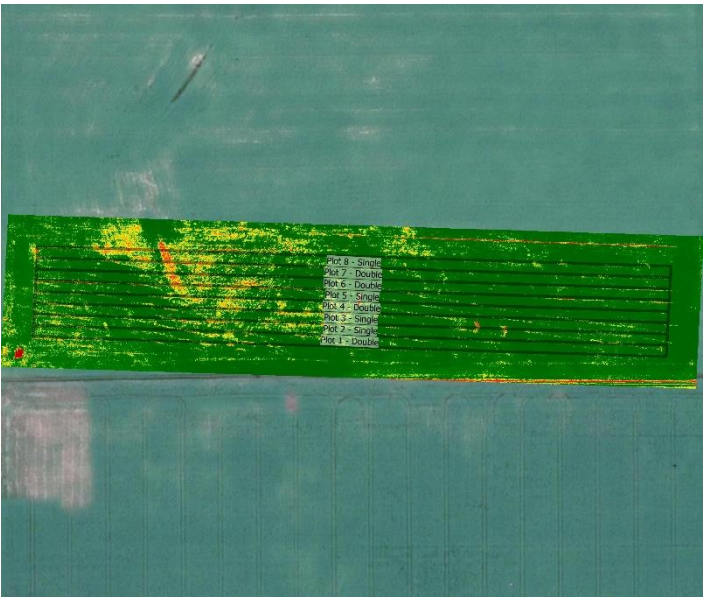
	May	Jun	Jul	Aug	Total
Rainfall	33.6	93.4	13.3	61.1	201.4
Normal	61.1	89.8	68.3	72.3	291.5
% Normal	55%	104%	19%	85%	69%

Nodulation†

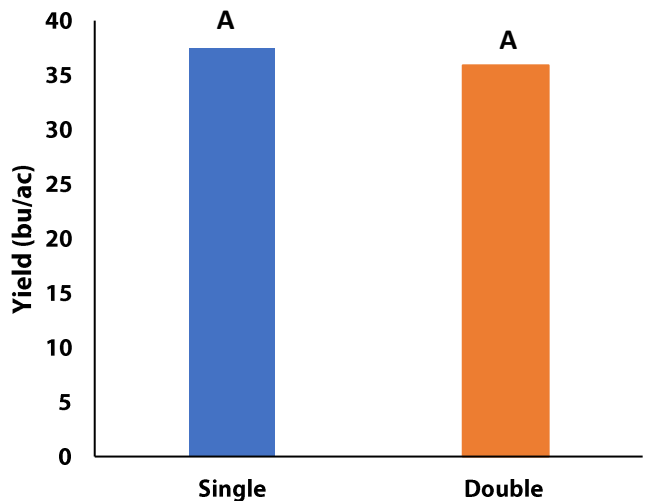
	Average Nodulation Rating @ R1
Double	3.5
Single	3.3

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

NDVI Field Image August 13



Yield by Treatment





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Overall Yield & Economics

	Mean (bu/ac)	Cost [†]	Change in Profit/ac ^{††}
Double Inoculant	35.9	\$13.50/ac	-\$10/ac
Single Inoculant	37.5	\$3.50/ac	
Yield Difference	-1.6		
P-Value	0.1346		
CV	3.7%		
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.