

Soybean Single Inoculant Trial

Trial ID: 2020-S11N05 – R.M. of Bifrost-Riverton

Objective: Quantify the agronomic and economic impacts of seed applied inoculant (single inoculation) vs. no inoculant applied in soybean fields. This trial requires a minimum field history of three previous soybean crops.

Summary: Nodulation was the same for both treatments. There was no significant yield difference between soybeans with and without a single inoculant. Due to the lack of yield response, there was a decrease in profit/ac in the inoculated area of the trial equivalent to the cost of the seed-applied inoculant.

Trial Information

Treatment	1x Nodulator (liquid)
Last Soybean Crop	2018
Soybean History	6-year history
Soil Texture	Clay
Previous Crop	Oats
Tillage	Conventional
Seeding Date	May 26
Variety	P003A97X
Seeding Rate	165 000
Row Spacing	20"
Plant Stand @ VC	136 000
Harvest Date	September 26

Precipitation (mm)

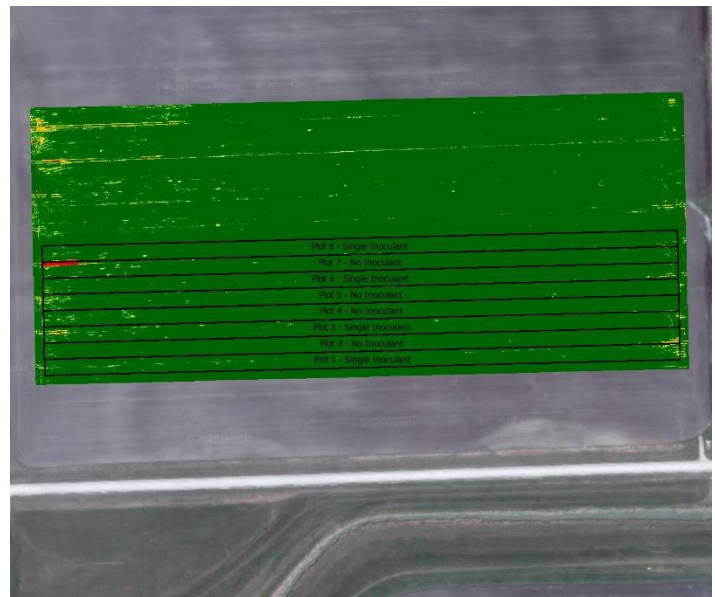
	May	June	July	August
Normal	44.7	75.6	69	79.7
Rainfall	12.1	83.5	61.2	33.5

Nodulation †

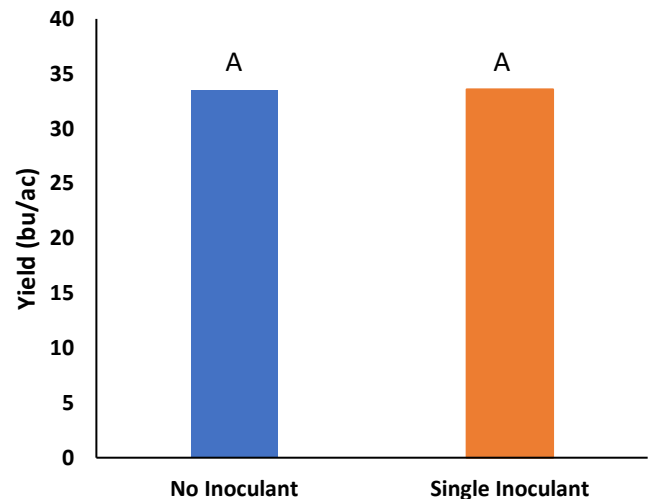
	Average nodules/plant @ R2
Single	3.6
None	3.6

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

NDVI Field Image August 14



Yield by Treatment





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Overall Yield & Economics

	Mean (bu/ac)	Cost †	Change in Profit/ac ††
Single Inoculant	33.6	\$5/ac	-\$5/ac
No Inoculant	33.5		
Yield Difference	0.1		
P-Value	0.9526		
CV	4.5%		
Significance	No	Economic	No

† Based on an estimated cost for on-seed inoculant

† † Because yields were not significantly different, there was no increased income to offset the cost of the single inoculant