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Soybean Seeding Rate Trial

Trial ID: 2024-SSR06 – R.M. of Brokenhead

Objective: Quantify the agronomic and economic impacts of different soybean seeding rates.

Summary: The high seeding rate (217,000 seeds/ac) yielded 2.2 bu/ac more than the low seeding rate (144,000 seeds/ac). The yield increase was not enough to pay for the increased seed cost and there was a loss in profit of \$6/ac. There were no significant yield differences between seeding rates of 181,000 vs. 144,000 seeds/ac and between 217,000 vs. 181,000 seeds/ac.

Trial Information

Treatment	144k vs 181k vs 217k
Soil Texture	Fibric
Previous Crop	Ryegrass
Tillage	Conventional Till
Seeding Equipment	36ft Disc Drill
Seeding Date	May 17
Variety	Rosser
Germination	84%
Row Spacing	7.5
Harvest Date	October 8

Precipitation (mm)

	May	June	July	Aug	Total
Rainfall	76.5	95.4	50.9	41.5	264.3
Normal	54	89.9	73.4	72.6	289.9
% Norm	142%	106%	69%	57%	91%

Plant Stand (plants/ac)

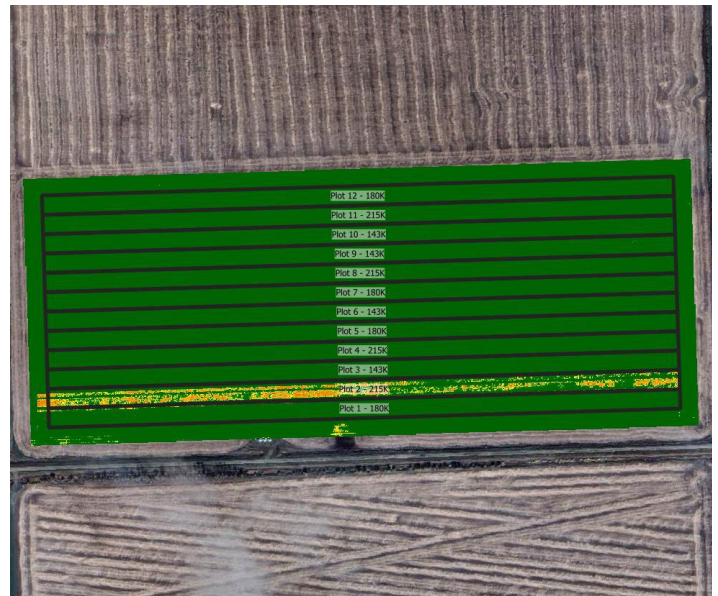
	V2	R7
144k	103,000 B	104,000 B
181k	128,000 AB	120,000 AB
217k	159,000 A	145,200 A

Plant Establishment and Survivability †

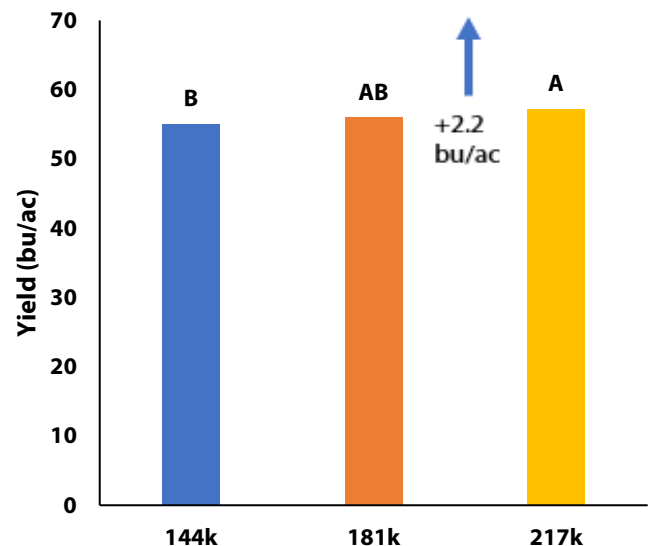
	Establishment at V2	Survivability to R7	Change V2 to R7
144k	72%	72%	0%
181k	71%	66%	-5%
217k	73%	67%	-6%

† % establishment = plant count at V stages/seeding rate; % survivability = plant count at R stages/seeding rate

NDVI Field Image August 11



Yield by Treatment





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Overall Yield & Economics

	Mean (bu/ac)	Cost [†]	Change in Profit ^{††}
144k	55.0 B	\$65/ac	
181k	56.0 AB	\$81/ac	-\$16/ac
217k	57.2 A	\$98/ac	-\$6/ac
P-Value	0.023		144k → 181k No
CV	1%		144k → 217k No
Significance	Yes	Economic	181k → 217k No

[†] Based on a \$62.94/unit soybean seed costs (Source: Manitoba Agriculture 2024 Cost of Production Guidelines)

^{††} Change in profit is calculated as the difference in cost between seeding rate treatments. When a significant yield difference occurs, the change in profit is calculated from profit gained or lost due to yield differences, treatment cost/ac and the current soybean market price of \$12/bu (Source: Manitoba Markets Grains and Oilseed Prices November 2024)