

Soybean Seeding Rate Trial

Trial ID: 2021-SSR03 – R.M. of Brokenhead

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

Summary: There was no significant yield difference between seeding rates of 120,000, 150,000 and 180,000 seeds/ac. As a result, there was a decrease in profit equivalent to the increase in seed cost for the higher seeding rates.

Trial Information

Treatment	120k vs. 150k vs. 180k
Soil Texture	Mesic / Clay Loam
Previous Crop	Winter Wheat
Tillage	Conventional
Seeding Equipment	40 ft Planter
Seeding Date	May 8
Variety	NSC Sperling RR2Y
Germination	83%
Row Spacing	15"
Harvest Date	September 24

Precipitation (mm)

	May	Jun	Jul	Aug	Total
Rainfall	51.6	25.8	27.8	87	192.2
Normal	54	89.9	73.4	72.6	289.9
% Normal	96%	29%	38%	120%	66%

Early Season Frost Damage (VC)

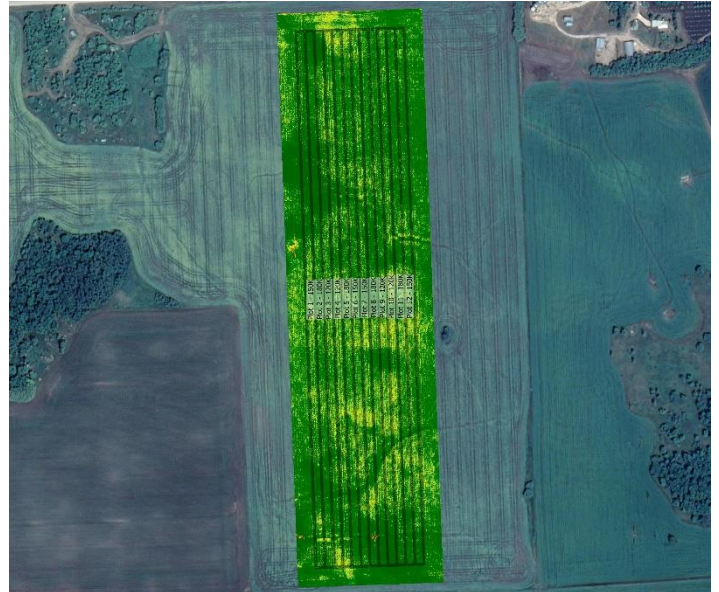
	Average dead seedlings (plants/ac)
120k	27,000
150k	46,000
180k	42,000

A killing frost hit before all the seedlings had emerged. Numbers reflect average dead seedlings/ac a few days following the frost event.

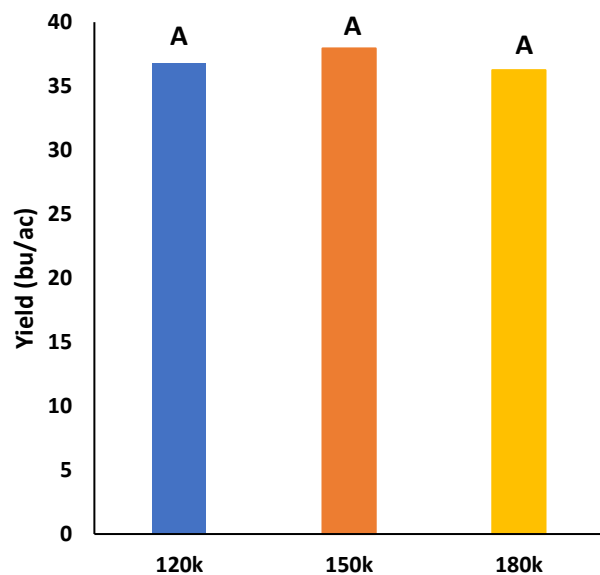
Plant Stand (plants/ac)

	V2	R8
120k	68,000	79,000
150k	91,000	96,000
180k	95,000	97,000

NDVI Field Image August 15



Yield by Treatment





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Overall Yield & Economics

	Mean (bu/ac)	Cost [†]	Change in Profit/ac ^{††}
120k	36.8	\$56/ac	
150k	38.0	\$70/ac	-\$14/ac
180k	36.3	\$84/ac	-\$28/ac
P-Value	0.5506	Economic	120k → 150k No
CV	8.3%		120k → 180k No
Significance	No		150k → 180k No

† Based on MB Agriculture 2021 Cost of Production Guidelines (\$65.30/unit)

†† Change in profit is calculated as the difference in cost between seeding rate treatments. Because yields were not significantly different, there is no increased income to offset the increase in seed cost