

Soybean Seeding Rate Trial

Trial ID: 2020-SP09 – R.M. of Morris

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

Summary: There were significant yield differences between the three seeding rates at this trial. The 180,000 seeds/ac treatment yielded 1.7 bu/ac more than the 150,000 seeds/ac treatment and 2.9 bu/ac more than the 120,000 seeds/ac treatment. The 150,000 seeds/ac yield was also significantly different from the 120,000 seeds/ac yield, with an increase of 1.2 bu/ac. Increasing the seeding rate to 150,000 and 180,000 were both economic.

Trial Information

Treatment	120k vs 150k vs 180k
Soil Texture	Clay
Previous Crop	Wheat
Tillage	Conventional
Seeding Equipment	57.5 ft Air Drill
Seeding Date	May 28
Variety	PS 0068 XR
Row Spacing	9"
Harvest Date	September 26

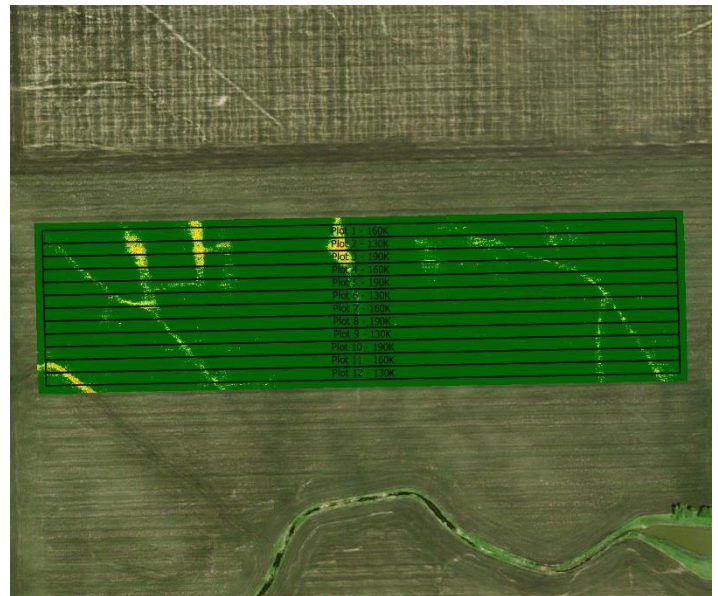
Precipitation (mm)

	May	June	July	August
Normal	53.6	86.4	71.9	65.4
Rainfall	9.9	96	82.6	117

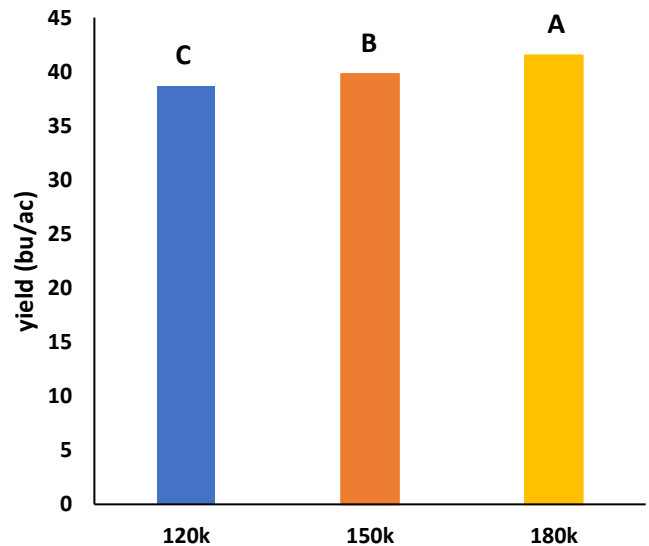
Plant Stand (plants/ac)

	V1	R6
120k	121 000	111 000
150k	147 000	138 000
180k	178 000	159 000

NDVI Field Image August 17



Yield by Treatment





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Overall Yield & Economics

	Mean (bu/ac)	Cost †	Change in Profit (@ soybean price of \$10-\$12/bu) ††
120k	38.6	\$59/ac	
150k	39.8	\$71/ac	120k → 150k: \$0 to +\$2/ac
180k	41.5	\$86/ac	120k → 180k: \$2 to +\$8/ac 150k → 180k: \$2 to +\$5/ac
P-Value	<0.0001		
CV	4.5%		
Significance	Yes	Economic	120k → 150k Yes 120k → 180k Yes 150k → 180k Yes

† Based on MB Agriculture 2020 Cost of Production Guidelines (\$66.50/unit)

†† Change in profit is the difference between the change in income/ac, from a significant difference in yield, and the change in cost/ac with the change in seeding rate. Profit is presented as a range across soybean prices of \$10/bu to \$12/bu