Soybean Seeding Rate Trial

Trial ID: 2025-SSR04 – R.M. of Grandview

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

Summary: There was no significant yield difference between seeding rates of 130,000, 160,000 and 190,000 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	130k vs. 160k vs. 190k
Soil Texture	Clay Loam
Previous Crop	Wheat
Tillage	Zero Tillage
Seeding Equipment	40 ft Planter
Seeding Date	5/28/2025
Variety	DKB008-87
Germination	90%
Row Spacing	15 in.
Fertilizer Applied	6 lbs N, 22 lbs P
Harvest Date	10/10/2025

Precipitation (mm)

	May	June	July	Aug	Total
Rainfall	21.3	47.8	43.6	59.6	172.3
Normal	50.77	88.8	77.97	65.48	283.02
% Norm	42%	54%	56%	91%	61%

Plant Stand (plants/ac)

	V4	R5
130k	109,336 C	108,246 B
160k	128,938 B	131,769 A
190k	148,322 A	147,886 A

ɫ Values in columns followed by different letters are significantly different (p-value <0.05).
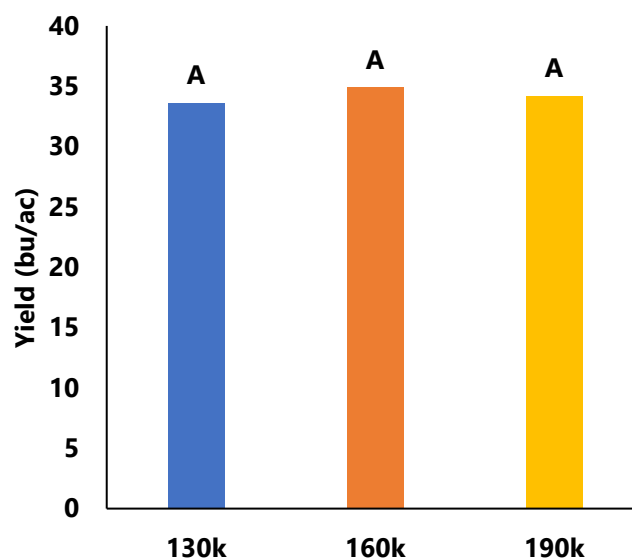
Plant Establishment and Survivability ɫ

	Establishment at V4	Survivability to R5	Change V4 to R5
130k	84%	83%	1%
160k	81%	82%	-2%
190k	78%	78%	0%

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

NDVI Field Image August 13

Plot 1 - 160K
Plot 2 - 130K
Plot 3 - 190K
Plot 4 - 190K
Plot 5 - 160K
Plot 6 - 130K
Plot 7 - 160K
Plot 8 - 190K
Plot 9 - 130K
Plot 10 - 130K
Plot 11 - 190K
Plot 12 - 160K

Yield by Treatment

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Overall Yield & Economics

	Mean (bu/ac)	Cost [†]	Change in Profit [††]
130k	33.6	$55.71/ac	
160k	34.9	$68.57/ac	-$12.86/ac
190k	34.2	$81.43ac	-$25.71/ac
P-Value	0.9206	**Economic**	130k → 160k **No**
CV	12%		130k → 190k **No**
Significance	**No**		160k → 190k **No**

[†] Based on an estimated soybean seed cost of $60.00/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

Field Observations

The trial site on July 9 at V4 stage. There was plant stand differences between the seeding rates (pictured above).

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