Soybean Seeding Rates in 15-Inch Rows

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Objective

To evaluate the effect of seeding rate on yield for conventional soybeans planted in 15inch rows.

Background

Cooperator	Jay Schmidt	Herbicide:	
County:	Paulding	PRE: 4/26/02	2,4-D - 12 oz/acre
Nearest Town:	Payne		Detail - 2 pints/acre)
Soil Type:	Hoytville		Sencor (6 oz/acre)
Drainage:	Systematic	POST:	None
Tillage:	No-Till	Planter:	Kinze 2600
Previous Crop	Corn	Row Spacing:	15-inch
Fertilizer:	None Applied	Planting Rate:	See Treatments
Variety:	LG 3201	Planting Date:	June 4, 2002
		Harvest Date:	October 5, 2002

Methods

Three population rates were used to determine the effect of seeding rate on yield. The planting rates selected were 161,350, 182,400, and 219,540 seeds per acre using a Kinze 2600 no-till planter. Treatment rates were based on settings listed in the planter manual. Treatments were replicated four times in a non-randomized complete block. The harvest plots were one acre in size measuring 60 feet wide by 726 feet long. Each strip was weighed using calibrated portable scales, and the yield was adjusted to 13% grain moisture level.

Harvest population was determined by counting the soybean plants in 1/ 1,000 acre on two corresponding adjacent rows for each individual treatment.

Results

Table 1. Plant Population, Moisture, and Yield for Seeding Rate Treatments.[a]

Planted Population (seeds/A)	Harvest Population (plants/A)	Harvest Moisture (%)	Yield (bu/A)
161,350	111,250a	13.5	50
182,400	119,750a	13	50.8
219,450	150,500b	13.1	51.7
LSD (0.05)	18,671	NS	NS
F - test	16.2	<1	1

[a] Means followed by the same letter in the same column are not significantly different.
NS = Not Significant

Summary

The harvest population was less than 70% of the planting population for the three treatments. Populations were not significantly different between two of the three treatment means. There was no significant difference in soybean averages for yield or moisture.

Data from this first-year study suggests that the soybean populations did not produce a significant yield increase among the three populations. Seed cost per acre ranged from $16.74 per acre for the lowest plant setting of 161,350 plants per acre to $22.77 for the highest population setting of 219,450 plants per acre. This is a savings $6.03 per acre.

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