

Soybean Planting Population Rate Evaluation

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Objective

To evaluate the response of different soybean planting population rates in a 10-inch row width system.

Background

Cooperator:	Agricola Farms	Herbicides:	PRE: Authority (7 oz/A) 2,4-D Estron (8 oz/A)
County:	Van Wert		POST: Poast Plus (20 oz/A) Pinnacle (0.1 oz/A)
Nearest Town:	Van Wert		
Soil Types:	Blount silt loam	Variety:	Pioneer 92B61
Previous Crop:	Corn	Planting Date:	May 6, 2000
Drainage:	Systematic	Planting Rate:	See Treatments
Tillage:	No-till	Row Width:	10 inches
Fertilizer:	None	Harvest Date:	September 19, 2000

Methods

A study using three replicates in a randomized complete block design was established to determine the effect of seeding rate on yields in a 10-inch row width system. Seeding rate treatments were 144,000, 180,000, and 212,000 seeds per acre. Plots were 138 feet wide and a minimum of 2,342 feet long. Soybeans were planted with a White 6300 planter. The center 58 feet of each plot were harvested and weighed, and grain yield was adjusted to 13% moisture. Harvest populations were estimated by counting the number of plants in three 13-foot sections from two adjacent rows. Counts were made at three different locations in each plot.

Results

Table 1. Soybean Population and Yield.

Treatment	Harvest Population (plants/A)	Yield (bu/A)
144,000 seeds/A	117,277 A	40.4
180,000 seeds/A	141,849 B	41.8
212,000 seeds/A	162,847 C	41.7
LSD (P = 0.05)	5,249	NS
CV	1.70%	4.90%

Means with the same letter are not significantly different.
Yield differences were not significant at P = 0.05.

Summary

As seen in this study, planter settings can be a variable with regards to comparing target-seeding rates with final harvest populations. Germination rates can also be a factor as final stands were approximately 80% of target seeding rates. Populations were statistically different between the means of all three treatments. There were no significant differences among the three yield means.

In conclusion, data from this one-year study suggests that there were three distinct soybean populations in this study that did not produce significant reductions or increases in yield.

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