

# Roundup Ready Soybean Population Study

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## Objective

To evaluate the yield response of Roundup Ready soybeans to different seeding rates in order to reduce seed costs by finding an optimum seeding rate.

## Background

Cooperator:	Marsh Foundation/ Farm Focus	Fertilizer:	0-0-60 30 lbs/A fall applied
County:	Van Wert	Herbicides:	BRNDN: Touchdown 5 (2 pt/A) AMS (3 lbs/A)
Nearest Town:	Van Wert	POST:	Touchdown 5 (2 pt/A) AMS (3.4 lbs/A)
Soil Type:	Hoytville silty clay loam	Variety:	Seed Consultants SC9320RR
Previous Crop:	Corn	Planting Date:	May 17, 2000
Drainage:	Tile (unknown system)	Planting Rate:	See Methods
Tillage:	No-till	Row Width:	7.5 inches
Soil Test:	pH 6.4, P 88 ppm, K 166 ppm	Harvest Date:	October 3, 2000

## Methods

This study was conducted using three replications of three different seeding rates (110,000, 165,000, and 220,000 seeds per acre) in a complete randomized block design. All plots were planted using a John Deere 750 no-till drill calibrated with the same seed used in the treatments. Plot size was 28.75 feet wide by 1,030 feet long. Population counts were taken at three locations in each plot using a 17.5-foot distance and counting the rows on both sides of the measure. Yields were taken at harvest using a calibrated weigh wagon, with all yields being adjusted to 13% moisture.

## Results

**Table 1. Corn Population and Yield.**

Planting Rate (seeds/A)	Yield (bu/A)	Harvest Population (plants/A)
110,000	61.5 a	79,900 a
165,000	63.2 ab	127,000 b
220,000	65.0 b	145,800 b
LSD (0.05)	2.4	26,800
CV (<15%=credible)	10.1%	1.7%

Means followed by the same letter are not significantly different.

## Summary and Notes

The data from this year show that the two higher seeding rate treatments had a statistically significant yield increase over the lowest rate treatment. This is the second year for the study at this location. Results from both years would indicate that higher seeding rates provide a statistically significant yield increase. However, this yield increase may not cover the cost of the additional Roundup Ready seed used at these higher rates.

Even with the drill calibrated for the specific seed used in the experiment, it is evident that large variations in final stand counts will be experienced when using a drill for seeding soybeans. It is also interesting to note the large difference between seeding rates and the harvest population stand counts. This difference was present in almost all of the research plots at Farm Focus this year. This most likely can be attributed to the cool wet conditions in the spring that delayed planting and emergence, and to the reduced seed quality this past year.

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