

Soybean Seeding Rate Comparison

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Objective

To evaluate the effect of seeding rate on yield of soybeans.

Background

Cooperator:	Ed and Howard Rosebrook	Soil test:	pH 6.7, P 24 ppm, K 153 ppm
County:	Henry	Fertilizer:	None
Nearest Town:	Deshler	Planting Date:	May 30, 2002
Drainage:	Tile, subsurface	Planting Rate:	225,000 seed/A
Soil type:	Hoytville clay	Row Width:	7-inch
Tillage:	No-till	Herbicides:	Synchrony STS 0.3 oz/A, Reflex 1.5 pt/A, Classic 0.5 oz/ A
Previous Crop:	Corn	Harvest Date:	September 24, 2002
Variety:	Rupp RS2333STS		

Methods

Three population rates were used to determine the effect of seeding rate on soybean yields. They were 110,000, 165,000, 220,000 seeds per acre. A Great Plains 15-foot no-till drill was used. The seed used had a germination percentage of 90%. The entries were replicated four times in a randomized complete block design. Individual planted plot size was 30 feet wide by approximately 930 feet in length. A 20-foot wide strip was harvested the length of the plot and weighed using a yield monitor on the combine.

An emerged population count was taken on June 26 at the V2 stage of the soybean by using the hoop method. Harvest population was determined by counting the soybean plants in 3 feet of row for four rows per treatment.

Results

Table 1. Soybean Population and Yield.^a

Seeding Rate (seeds/A)	Population at V2 (plants/A)	Harvest Population (plants/A)	Yield (bu/A)
110,000	134,522 a	106,175 a	59.3 a
165,000	179,365 ab	147,010 b	61.8 b
220,000	253,035 b	242,300 bc	62.6 b
LSD (0.05)	97,823	39,096	1.3
F-test	4.6	2.3	1.4

^aMeans followed by the same letter in same column are not significantly different

Summary

Weed control was very good across the seeding rates. Grain moisture at harvest was 12.3%. A timely rain allowed crop yields to be near normal for this area.

This study shows that there can be a significant difference between seeding rates as it pertains to soybean yield. The optimum soybean population count in this study was 147,010 plants/ A. When planting minimum seeding rates, be sure the planting equipment is calibrated and the germination rate of the seed is known.

Acknowledgment

Thanks to Rupp Seed Co. for cooperating in this study.

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