

# Effect of New Soybean Inoculants on Yield

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## Objective

Newly available inoculants may be able to improve nitrogen production by rhizobia bacteria. This study examined the effect of these new soybean inoculants on yields.

## Background

Cooperator:	Tom Weiler	Fertilizer:	0-0-60 (200 lbs/A)
County:	Morrow	Herbicides:	PRE: Canopy (3 oz/A)
Nearest Town:	Chesterville		POST: Roundup Ultra (1 qt/A)
Soil Type:	Chili		AMS (3 lbs/A)
Drainage:	Random tile	Variety:	Stine 3264RR
Tillage:	No-till	Planting Date:	April 25, 1998
Previous Crop:	Corn	Planting Rate:	205,400 seeds/A
Soil Test:	pH 6.7, P 30 ppm, K 123 ppm	Harvest Date:	October 1, 1998
		Harvest Pop.:	171,000 plants/A (avg.)

## Methods

The two products studied were Cell-Tech 2000 and a powdered peat containing a USDA patented strain of *Bradyrhizobium japonicum*. A third treatment was the absence of an inoculum application. Treatments were replicated three times in a randomized, complete block design. Individual strip plots were 39 feet wide and averaged 1,698 feet in length.

## Results

Treatments	% Moisture	Yield (bu/A)
Cell-Tech 2000	11.6	40.1
No Inoculum	11.7	39.8
USDA (Powdered Peat)	11.6	38.7
F-Test	0.55	0.66
Significance (P = 0.05)	NS	NS
CV	1.20%	4.00%

## **Summary and Notes**

Contrary to many studies completed across the Midwest where these new inoculants have shown an average of 4 to 6 percent increase in yield, we did not find a significant increase. Rainfall was very short at the site in August/September with a total rainfall of only 2.4 inches for the two-month period. Nitrogen availability may not have been the determining factor with the limited moisture situation.

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