

Effects of Two New Inoculants on Soybeans in a Corn/Soybean Rotation

Chris Bruynis, Agriculture and Natural Resources Extension Agent

Objective

To evaluate the effects of two different inoculants on soybean yields in fields currently in a corn/soybean rotation.

Background

Cooperator:	Gary Walter	Soil Test:	pH 6.5, P 200 lbs/A, K 450 lbs/A, OM 3.6%
County:	Wyandot	Fertilizer:	None
Nearest Town:	Wharton	Herbicides:	Canopy
Soil Type"	Blount	Variety:	Callahan 7317
Tillage:	No-till	Planting Date:	May 17, 1999
Previous Crop:	Corn	Planting Rate:	225,000 seeds/A
Drainage:	Surface, no tile	Harvest Date:	October 7, 1999

Methods

Two inoculum products were tested against no inoculant. These products were Cell-Tech 2000 and a USDA humus-based inoculant of *Bradyrhizobium japonicum*. All of the plots containing no inoculant were planted first to avoid contamination of the seed. The inoculant was hand mixed in the seed box, and the inoculant plots were planted. The treatments were replicated four times. Each of the 12 plots was 45' x 505' in size. Yield was measured by a weigh wagon provided by Reile Farms, Upper Sandusky, Ohio.

Results

Table 1. Inoculants and Soybean Yields.

Treatment	Yield (bu/A)
No Inoculum	51.22 a
USDA Inoculum	52.81 a
Cell-Tech 2000	53.05 a
LSD(p=0.05)	2.07 NS
CV	9.86%

Summary and Notes

New soybean inoculant products may be able to improve nitrogen production by increasing the numbers of rhizobia bacteria. The yield difference was not statistically significant at the 95 percent confidence level in this research. These results are contrary to many studies completed

across the Midwest but consistent with local results from 1998. The lack of response to the inoculant could be due to the shortage of rainfall during the summer. Soil moisture was very limited during most of the growing season. This raises the question about the ability of the rhizobia bacteria to multiply in the dry soil environment.

Acknowledgments

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For additional information, contact:

Chris Bruynis
The Ohio State University Extension
bruynis.1@osu.edu