

Soybean Inoculant and Seed Treatment

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Objective

To compare soybean yields using USDA soybean inoculate, T322 root-growth stimulant, a combination of the two, and no treatment.

Background

Cooperator:	Darke County Farm	Fertilizer:	0-46-0 100 lbs/A
County:	Darke		0-0-60 125 lbs/A
Nearest Town:	Greenville	Herbicides:	PRE: Roundup (1 qt/A)
Soil Types:	Patton silty clay loam		POST: Roundup (1.5 pt/A)
	Brookston silty clay loam	Variety:	Pioneer 93B81
	Crosby silt loam	Planting Date:	May 14, 2000
	Miami silt loam	Planting Rate:	247,500
Previous Crop:	Corn	Row Width:	30 inches
Drainage:	Subsurface	Harvest Date:	October 10, 2000
Tillage:	No-till		
Soil Test:	pH 6.3, P 37 ppm, K 145 ppm		

Methods

These plots were planted in two fields, both where corn had been grown the previous year. Soil types, drainage, and fertility levels are similar in both fields. Plots were planted and analyzed in a complete randomized block design. There were five replications of the treatments. Individual treatment plots were 12 rows (30") wide with lengths of 1,515 feet in one field and 1,035 feet in the other.

Soybeans were planted with a Buffalo slot planter. Treatments were applied to the soybeans in the planter box. There was no significant amount of rainfall for two weeks after planting, but adequate soil moisture and subsequent rainfall permitted seeds to germinate. Growing conditions were adequate through the rest of the season.

Results

Table 1. Soybean Population and Yield.

Treatment	Yield (bu/A)
T322	38.1
Soil Inoculate	38.4
T322 + Inoculate	39.3
No Treatment	39.5
Significance P =0.05	
F <1, CV = 7.6%	NS

Summary and Notes

Recent research has indicated a yield increase in soybeans when using one of the newer soybean inoculates, even when soybeans have recently been grown in the specific field. A newer product, T322, is also being advertised as stimulating root growth, thereby increasing yield. Some independent research has been done that would seem to verify this claim.

In this particular trial, there was no benefit in using either the USDA inoculate or the T322 root-growth stimulant. One explanation of lack of results from use of these products may have been soil moisture. Additional soil moisture soon after planting may have helped either of these products stimulate additional yield. Another consideration may be formulation used or how the material was applied. A good coating of each seed is important for both these materials to work. Perhaps a slurry formulation or addition of water to the soybean seed as the powdery material was applied could have made a difference.

For additional information, contact:

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