

Comparison of Manganese Sources on Soybeans

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Objective

The objective of this study was to compare soybean yield response among two different manganese sources and not adding manganese.

Background

Cooperator:	Bob Buckland	Soil Test:	pH 7.6, P 53 lbs/A,
County:	Wyandot		K 219 lbs/A, OM 3.0%
Nearest Town:	Carey	Fertilizer:	0-0-60 100 lbs/A
Soil Type:	Blount & Lykins	Herbicides:	Roundup Ultra
Drainage:	No tile	Planting Date:	May 8, 1999
Tillage:	No-till	Planting Rate:	215,000 seeds/A
Previous Crop:	Corn	Harvest Date:	October 2, 1999
		Application Date:	June 24, 1999

Methods

Two different manganese sources, Tech-Mag and Tracite 10% Mn, were applied to the replicated plots. Tech-mag was applied at the rate of 8 pounds per acre and Tracite was applied at one quart per acre. The field strips were sprayed with a 45-foot sprayer with the center 25 feet being harvested from each strip. The field was sprayed with Round-Up Ultra one week prior to the Mn application to eliminate any potential antagonism between the Mn sources and the herbicide. Yields were determined by weigh wagon.

Results

Table 1. Manganese Treatments and Yields.

Treatment	Yield (bu/ac)
Untreated	39.58
Tracite 10% Mn	38.85
Tech-Mag	39.98
LSD (0.05)	3.02 NS

F < 1 indicating no significant differences among treatment means.

CV = 5.77%

Summary and Notes

Many fields in Wyandot County have relatively high pH levels, resulting in soybean crops showing symptoms of manganese deficiencies. Yield differences between the treatments were not statistically different at the 95 percent confidence level. Visually, there was an immediate response to the Mn with the treated soybeans changing from a pale yellow color to a dark green. The inability of the beans to respond to the Mn application by increased yields could have been

due to the abnormally dry weather experienced during the growing season. Additional research needs to be done to clarify the use of manganese in high pH soils and the returns to the producer.

Acknowledgments

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