

# Evaluation of a Foliar Application of Manganese on Soybean Yield.

Wm. Bruce Clevenger, Agriculture & Natural Resources Extension Agent

## Objective

To evaluate the effect of a foliar application of Manganese on soybean yield.

## Background

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Crop Year	2003	Soil test:	pH 7.1, P 27 ppm
Cooperator:	Defiance Ag Research Assoc.		K 137 ppm (11/24/03)
County:	Defiance	Fertilizer:	3 pt/A Postman® (Mn plot only)
Nearest Town:	Defiance	Planting Date:	June 3 , 2003
Drainage:	Surface	Planting Rate:	225,000
Soil type:	Paulding Clay	Row Width:	7.5-inch
	Roselms Silty Clay	Herbicides:	2,4-D 1 pt/A
Tillage:	No-till		Roundup Weather Max® 16
Previous Crop:	Corn		oz/A + 8 oz/A Select® (7/17/03)
Hybrids:	NK S32-Z3	Harvest Date:	October 22, 2003

## Methods

A randomized complete block experimental design was to evaluate the effect of foliar applied manganese on soybean yield. The two treatments, foliar application and control were replicated five times. On July 17, 2003, the entire plot received Select® herbicide at the rate of 8 oz/A for grass control with the manganese plots receiving an addition to the spray tank of Postman® at 3 pt/A. Plot size was 45ft X 300ft and all post applications were made using a pick-up truck sprayer with a 45 foot boom. The entire plot was harvested and the yield reported in bu/ac. Yield was determined by a calibrated GPS combine yield monitor. All plots were harvested on October 22, 2003. Fifteen foot borders were maintained around the field perimeter

## Results

**Table 1.** Effect of Foliar applied Manganese on Soybean Yield.

Treatment	Yield (bu/A)
Manganese	44.9
Control	44.8
Difference	0.1
LSD (0.05)	Not Significantly Different

## Summary

There was no statistical difference in yield between the manganese treatment and the control. The 2003 growing season was considered “nearly free” of plant stress with adequate rainfall throughout the experiment. Disease and insect pressure was low in this field and there was no need for post emergence rescue treatments of insecticide or fungicide. Soybean root development was substantial, resulting in abundant water and nutrient availability. Manganese was not a limiting factor for soybean yields for 2003 due primarily to the lack of dry soil conditions at any time during the growing season.

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For additional information contact:

Wm. Bruce Clevenger  
Ohio State University Extension, Defiance County  
06879 Evansport Road, Suite B  
Defiance, OH 43512  
419-782-4771  
[clevenger.10@ag.osu.edu](mailto:clevenger.10@ag.osu.edu)

