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, K 219 lbs/A, OM 3.0%
County: Wyandot  Fertilizer: 0-0-60 100 lbs/A
Nearest Town: Carey  Herbicides: Roundup Ultra
Soil Type: Blount & Lykins  Planting Date: May 8, 1999
Drainage: No tile  Planting Rate: 215,000 seeds/A
Tillage: No-till  Harvest Date: October 2, 1999
Previous Crop: Corn  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 Tricite 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>
<thead>
<tr>
<th>Treatment</th>
<th>Yield (bu/ac)</th>
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</thead>
<tbody>
<tr>
<td>Untreated</td>
<td>39.58</td>
</tr>
<tr>
<td>Tracite 10% Mn</td>
<td>38.85</td>
</tr>
<tr>
<td>Tech-Mag</td>
<td>39.98</td>
</tr>
<tr>
<td>LSD (0.05)</td>
<td>3.02 NS</td>
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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

The weigh wagon was provided by Riele Farms, Pioneer Dealer, Upper Sandusky.

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