Soybean Response to Rate of Mn Foliar Fertilization

Greg La Barge, Extension Agent, Agriculture & Natural Resources

**Objective**
To determine yield response of soybeans to rate foliar fertilization with manganese containing fertilizers on known deficient soils.

**Background**

Cooperator: Nate Andre  
County: Fulton  
Soil Type: Mermill loam  
Tillage: No-till  
Previous Crop: Corn  
Soil Test: 7.1 pH, 42 P ppm, 157 K ppm, Mn 9 ppm, 4.9 % OM, 14.3 CEC meq/100g  
Fertilizer Rate: No broadcast  
Variety: Rupp  
Planting Date: May 28, 2004  
Seeding Rate: 220,000 seeds/A  
Row Width: 10 inches  
Herbicides: 26 oz. Roundup  
Harvest Pop: 200,000 plants/A  
Harvest Date: October 6, 2004

**Methods**

A field area known to be manganese deficient was divided into plots 10 feet wide by 40 foot long in a randomized complete block design with 6 replications. Treatments were applied at four different rates from 1 pint to 2 quarts per acre. Manganese was applied at growth stage V2-V3 with plants showing foliar deficiency symptoms. Symptoms were not severe and varied during the growing season even on the check. Treatments were applied on 6/23/2004 with an ambient air temperature of 75 degrees F. Applications were made with a CO2 sprayer with a 10 foot boom; nozzles were TeeJet XR11004VS, 20 gallons of water was applied per acre at 20 PSI pressure. The manganese source was White Label Manganese, a 5% chelated solution.

<table>
<thead>
<tr>
<th>Treatment (Volume /A)</th>
<th>Yield (Bu/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 pt</td>
<td>55.1</td>
</tr>
<tr>
<td>2 pt</td>
<td>54.6</td>
</tr>
<tr>
<td>1 qt</td>
<td>55.5</td>
</tr>
<tr>
<td>2 qt</td>
<td>55.4</td>
</tr>
<tr>
<td>Check</td>
<td>55.9</td>
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<tr>
<td>LSD (0.05)</td>
<td>NS</td>
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</tbody>
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For additional information, contact:

Greg La Barge  
OSU Extension - Fulton County  
135 Courthouse Plaza  
Wauseon, OH 43567  
419-337-9210  
labarge.1@osu.edu