ISU FARM Network: Northeast

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ISU FARM Network: Northeast

Abstract
North Central and Northeast Iowa Farmer Assisted Research and Management (FARM) project is in its first year of conducting onfarm research in area farmer cooperator fields. FARM is an expansion of Northwest Iowa On-Farm Research with additional locations in Northwest, West Central, Central, Southwest, and Southeast Iowa. These are field scale, replicated, and randomized trials. Trial ideas come from farmer cooperators, field and campus specialists, as well as agribusinesses. The FARM project was established to help farmers answer crop production questions and better manage their fields.

Disciplines
Agricultural Science | Agriculture

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ISU FARM Network: Northeast

RFR-A1279

Micah Smidt, agricultural specialist

Introduction

North Central and Northeast Iowa Farmer Assisted Research and Management (FARM) project is in its first year of conducting on-farm research in area farmer cooperator fields. FARM is an expansion of Northwest Iowa On-Farm Research with additional locations in Northwest, West Central, Central, Southwest, and Southeast Iowa. These are field scale, replicated, and randomized trials. Trial ideas come from farmer cooperators, field and campus specialists, as well as agribusinesses. The FARM project was established to help farmers answer crop production questions and better manage their fields.

In 2012, 14 projects were conducted with 13 cooperators from Hancock, Wright, Worth, Cerro Gordo, Kossuth, and Floyd counties. Results of all the projects have been published in a FARM results booklet and are available at the Northern Research Farm in Kanawha, Northeast Research Farm in Nashua, and local ISU Extension offices. Trials conducted in North Central and Northeast included citric acid for Goss’ Wilt, corn fungicides, land rolling for soybeans, foliar micronutrients on soybeans, and winter rye cover crop termination timing.

This article reports on the foliar micronutrient trials. In 2011 producers were interested in the use of foliar micronutrients on soybeans. Three trials were conducted with the use of foliar micronutrients. These particular fields had no history of manure, and the cooperators were able to use yield monitors to map harvest yields.

Materials and Methods

The trials looked at the use of foliar micronutrients compared with no foliar micronutrients. An application of AgriSolutions Max-In Ultra ZMB at a qt/acre and AgriSolutions Max-In Boron at a pt/acre was applied to soybeans at the V6 growth stage. The micronutrients consisted of sulfur, manganese, zinc, and boron. Soil samples and tissue samples were collected directly before the micro-mix was applied to monitor changes after the micro-mix was applied. Samples were taken in each replication in grid form every 250 ft. A John Deere 6000 sprayer was used to apply the treatments. The farmers’ equipment was used to plant and harvest the trials. Yield data was collected by a calibrated yield monitor.

Results and Discussion

Table 1 shows the variety, row spacing, planting date, plant population, previous crop, and tillage practice implemented. Table 2 details yield average for each treatment by location. Two locations showed negative responses and the third location showed a positive response. At all three locations, the treatments were not statistically different from the controls.

Acknowledgements

Thanks to Andy Hill, Bruce Smidt, and Mervin Krauss for their participation in this trial. Thanks also to the other farmer cooperators for making FARM a successful first year. A special thanks goes to WinField Solutions for donation of product in these trials. FARM would also like to thank the Iowa Soybean Association and Ag Ventures Alliance for their financial support of this new program.
Table 1. Variety, row spacing, planting date, plant population, previous crop, and tillage in 2012.

<table>
<thead>
<tr>
<th>Trial</th>
<th>Soybean variety</th>
<th>Row spacing (in.)</th>
<th>Planting date</th>
<th>Plant population (seeds/acre)</th>
<th>Previous crop</th>
<th>Tillage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AgVenture 20A3RR</td>
<td>30</td>
<td>5/17/2012</td>
<td>140,000</td>
<td>Corn</td>
<td>Conventional</td>
</tr>
<tr>
<td>2</td>
<td>Dyna-Gro 36RY-1.9</td>
<td>30</td>
<td>5/10/2012</td>
<td>150,000</td>
<td>Corn</td>
<td>Conventional</td>
</tr>
<tr>
<td>3</td>
<td>Pioneer 92Y51</td>
<td>30</td>
<td>5/16/2012</td>
<td>155,000</td>
<td>Corn</td>
<td>Conventional</td>
</tr>
</tbody>
</table>

Table 2. Yield data from cover crop termination timing trials in 2012.

<table>
<thead>
<tr>
<th>Trial</th>
<th>Treatments</th>
<th>Treatment yield</th>
<th>Control yield</th>
<th>P-value</th>
<th>Difference</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Micro Mix</td>
<td>41.3</td>
<td>42.1</td>
<td>0.56</td>
<td>-0.8</td>
<td>NS</td>
</tr>
<tr>
<td>2</td>
<td>Micro Mix</td>
<td>36.7</td>
<td>37.3</td>
<td>0.83</td>
<td>-0.6</td>
<td>NS</td>
</tr>
<tr>
<td>3</td>
<td>Micro Mix</td>
<td>56.7</td>
<td>55.8</td>
<td>0.18</td>
<td>0.9</td>
<td>NS</td>
</tr>
</tbody>
</table>

All yields adjusted to 15.5% moisture.
** = statistically different, P < 0.05.
NS = not statistically different, P > 0.05.