Yield and Quality of Organically Grown Soybean and Corn Treated With an Inoculant — Clay County

Cooperator: Lynn Brakke Organic Farms
Nearest Town: Comstock, MN
Tillage: Spring: One pass with a field cultivator

**Corn**
- Previous Crop: Alfalfa
- Planting Date: 5/16/15
- Variety: 2883 blue corn
- Row Width: 22 inches
- Inoculant: TerraMax N-+-IF
- Planting Population: 210,000/ac
- Harvest Date: 9/29/15

**Soybean**
- Previous Crop: Soybean
- Planting Date: 6/5/15
- Variety: EXP 350
- Row Width: 22 inches
- Inoculant: TerraMax PFB-IF
- Planting Population: 32,000/ac
- Harvest Date: 10/13/15

**Purpose of Study:**
Evaluate TerraMax, N-+-IF and PFB-IF, on corn yield and soybean yield and quality in an organic production system.

**Methods:**
Inoculants were applied in-furrow to soybean and corn using a John Deere 7300 Vacuum Planter. All plots except untreated check received inoculant at 12.8 fl oz or 25.6 fl oz per acre. Field plots were 18 rows wide and 30 feet long. Stand counts were taken on middle two rows (rows 9 and 10) on 24 June. At harvest, ten feet of row was collected from the middle two rows of each plot and used to determine yield and quality. Soybean and corn yields were adjusted to 13% and 15.5% moistures, respectively. Experimental design was a randomized complete block with four replicates. There were two locations for each experiment. Locations were combined for statistical analysis.

**Results:**
Stand counts were not statistically significant among treatments for soybean or corn (data not shown). There were no significant differences among treatment yields for soybean (table 1) or corn (table 2). There were no significant differences among soybean treatments for protein and oil (table 1).

**Table 1.** Yield and quality from organically grown soybean treated with an inoculant. Comstock, MN, 2015.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Yield (bu/ac)</th>
<th>Protein (%)</th>
<th>Oil (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated check</td>
<td>30.8</td>
<td>37.9</td>
<td>18.1</td>
</tr>
<tr>
<td>TerraMax PFB-IF 12.8 fl oz/ac</td>
<td>32.0</td>
<td>37.7</td>
<td>17.9</td>
</tr>
<tr>
<td>TerraMax PFB-IF 25.6 fl oz/ac</td>
<td>32.4</td>
<td>38.1</td>
<td>17.9</td>
</tr>
<tr>
<td><strong>LSD 0.05</strong></td>
<td><strong>NS</strong></td>
<td><strong>NS</strong></td>
<td><strong>NS</strong></td>
</tr>
</tbody>
</table>

**Table 2.** Yield and quality from organically grown and corn treated with an inoculant. Comstock, MN, 2015.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Yield (bu/ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated check</td>
<td>184.0</td>
</tr>
<tr>
<td>TerraMax N-+-IF 12.8 fl oz/ac</td>
<td>169.8</td>
</tr>
<tr>
<td>TerraMax N-+-IF 25.6 fl oz/ac</td>
<td>174.4</td>
</tr>
<tr>
<td><strong>LSD 0.05</strong></td>
<td><strong>NS</strong></td>
</tr>
</tbody>
</table>

**Acknowledgements:**
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