ISU FARM Network: North Central

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Abstract
The 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 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
ISU FARM Network: North Central

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Micah Smidt, agricultural specialist

Introduction
The 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 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 booklet and are available at the Northern Research Farm in Kanawha, 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. The rye cover crop termination study is discussed in this article.

In 2011 producers in the Mississippi River Basin Initiative (MRBI) project in the southern part of Wright County had problems terminating the rye cover crop. An application of glyphosate was applied to terminate the rye in the spring before planting, but the rye did not die due to cold weather. The objective was to see if there was a yield advantage to terminating the rye at various timings.

Materials and Methods
A treatment application of glyphosate in early spring was made to the rye about one month before corn planting, and another treatment was applied about two weeks before corn planting. Both trials were previously soybeans (2011) going to corn. The treatments were field length strips randomized and replicated four times. Buffer strips were implemented between the early and late treatments. A John Deere 6000 sprayer was used to apply the treatments. The farmer’s equipment was used to plant and harvest corn. Yield data was collected by either a calibrated yield monitor or a grain cart with a scale.

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. Both locations showed a positive yield response to the early treatment of glyphosate. Location 1 showed significant yield response to the early treatment.

Acknowledgements
Thanks to Rick Lee and Arliss Nielsen for their participation in this trial. Thanks to all the other farmer cooperators for making FARM a successful first year. 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>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>DK 58-83</td>
<td>30</td>
<td>4/27/2012</td>
<td>36,000</td>
<td>Soybean</td>
<td>No-till</td>
</tr>
<tr>
<td>2</td>
<td>DK 53-78 RIB</td>
<td>30</td>
<td>4/23/2012</td>
<td>34,018</td>
<td>Soybean</td>
<td>No-till</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Trial</th>
<th>Burnoff timing</th>
<th>Yield (^1) bu/acre</th>
<th>P-value</th>
<th>Difference (bu/acre)</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3/28/2012</td>
<td>171.1</td>
<td>0.03</td>
<td>9</td>
<td>**</td>
</tr>
<tr>
<td></td>
<td>4/18/2012</td>
<td>162.1</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>4/4/2012</td>
<td>144.7</td>
<td>0.13</td>
<td>12.9</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>4/11/2012</td>
<td>131.8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^1\) All yields adjusted to 15.5% moisture.

** = statistically different, P < 0.05.

NS = not statistically different, P > 0.05.