Objective

To provide a source of objective information on the relative performance of corn hybrids currently available to farmers in the three-county area.

Background

Cooperator: Jim and Dave Miller
Nearest town: Millersport
Soil Type: Marengo & Cardington silt loams
Previous Crop: Soybeans
Planting Date: May 1, 2000
Planted Population: 30,500 seeds/A
Harvest Date: October 9, 2000
Average Harvest Pop.: 27,654 plants/A
Average Moisture: 19.7%
Average Yield: 212.4 bu/A

Cooperator: Chris Reichley
Nearest town: Somerset
Soil Type: Killbuck, Cincinnati, & Alford silt loams
Previous Crop: Soybeans
Planting Date: May 15, 2000
Planted Population: 30,300 seeds/A
Harvest Date: November 6, 2000
Average Harvest Pop.: 23,482 plants/A
Average Moisture: 18.3%
Average Yield: 163.7 bu/A

Cooperator: Leigh Miller
Nearest town: Lancaster
Soil Type: Alexandria & Sleeth silt loams
Previous Crop: Wheat
Planting Date: May 4, 2000
Planted Population: 27,700 seeds/A
Harvest Date: October 21, 2000
Average Harvest Pop.: 25,875 plants/A
Average Moisture: 18.8%
Average Yield: 201.4 bu/A

Cooperator: Slater Farms
Nearest town: Hebron
Soil Type: Centerburg silt loam & Pewamo silty clay loam
Previous Crop: Soybeans
Planting Date: May 10, 2000
Planted Population: 30,000 seeds/A
Harvest Date: November 22, 2000
Average Harvest Pop.: 23,625 plants/A
Average Moisture: 20.6%
Average Yield: 178.6 bu/A

Cooperator: Mike Thomas
Nearest town: Thurston
Soil Type: Bennington, Cardington, and Montgomery silt loam
Previous Crop: Soybeans
Planting Date: May 1, 2000
Planted Population: 29,000 seeds/A
Harvest Date: September 28, 2000
Average Harvest Pop.: 25,212 plants/A
Average Moisture: 25.7%
Average Yield: 190.7 bu/A
Methods

This study was designed to compare corn hybrid performance using seven farms in a three-county area. Companies submitted hybrids for evaluation based on area market share. Eight hybrids were included in this evaluation.

Experimental design was a randomized complete block with the seven farms serving as replications. Planting order of the hybrids was randomly selected for each farm site. The eight hybrids were planted side-by-side at each location. No check/tester variety was used. Each of the farms had three replications to provide site-specific information to each farm. The hybrids were planted in six-row field-length strips. Strip length was greater than 750 feet at each site. All hybrids were planted with the individual cooperator's planter. Fertilizer, herbicides, and insecticides were applied according to the cooperator's crop-management plan and within recommended cultural practices for obtaining optimum grain yields.

Harvest was done with the cooperator's combine. Final stand count, plot area, total weight, percent moisture, and test weight measurements were taken. Yield was adjusted to 15% moisture. The longest distance between two fields used in this trial was 39 miles.

Results

Table 1. Hybrid Performance Across All Farm Locations.1

<table>
<thead>
<tr>
<th>Hybrid</th>
<th>Yield (bu/A)(^2)</th>
<th>Final Stand (plants/A)</th>
<th>Test Weight (lb/bu)</th>
<th>Grain Moisture (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pioneer 34B23</td>
<td>193.5 a</td>
<td>23,678</td>
<td>58.3 a</td>
<td>19.5 cd</td>
</tr>
<tr>
<td>Norvartis N70-D5</td>
<td>189.1 ab</td>
<td>25,940</td>
<td>58.1 ab</td>
<td>20.1 abc</td>
</tr>
<tr>
<td>Seed Consultants SC 1118</td>
<td>187.8 abc</td>
<td>25,206</td>
<td>58.2 a</td>
<td>20.2 abc</td>
</tr>
<tr>
<td>Golden Harvest H-9229</td>
<td>184.5 abc</td>
<td>25,633</td>
<td>58.2 a</td>
<td>19.9 bc</td>
</tr>
<tr>
<td>Agrigold A6490</td>
<td>184.3 bc</td>
<td>25,006</td>
<td>58.3 a</td>
<td>20.1 abc</td>
</tr>
<tr>
<td>Mycogen 2799IMI(^3)</td>
<td>182.6 bc</td>
<td>23,760</td>
<td>56.8 c</td>
<td>20.6 a</td>
</tr>
<tr>
<td>Asgrow RX738RR</td>
<td>180.9 c</td>
<td>24,653</td>
<td>57.7 b</td>
<td>19.2 d</td>
</tr>
<tr>
<td>Pioneer 33K81</td>
<td>173.6 d</td>
<td>23,520</td>
<td>58.1 ab</td>
<td>19.9 bc</td>
</tr>
</tbody>
</table>

LSD (0.05) 7.1 NS 0.4 0.6
F 5.1 1.9 10.5 4
CV (%) 11.6 10.8 1.1 5

1 Means followed by the same letter are not significantly different at P = 0.05.
2 Adjusted to 15.0% grain moisture.
3 Hybrid suffered wildlife damage at one farm location resulting in approximately 12% less yield than replicate average.
Summary and Notes

According to this trial, the top yielding varieties, which were not significantly different from each other, were Pioneer 34B23, Norvartis N70-D5, and Seed Consultants SC 1118. The results for Mycogen 2799IMI should be viewed carefully as it may have performed equally well with the highest yielding hybrids had it not been damaged by wildlife at one location. The Pioneer 33K81 yielded significantly less than all other hybrids in the trial.

For additional information, contact:     Jeff McCutcheon  
The Ohio State University  
mccutcheon.30@osu.edu