Three-Year Summary of Effect of Row Width on Wheat Yield

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Objective

To compare wheat yields grown at 7.5 and 15-inch row widths.

Background

Test Site: Ohio State University
Unger Farm

Soil test: pH 5.8, P 21 ppm, K 163 ppm

County: Crawford

Fertilizer: 127-69-60 actual NPK per acre

Soil type: Pewamo clay loam and Blount silt loam

Planting date: October 2, 2001

Tillage: Disk

Row width: 7.5 and 15 inch

Herbicide: 2,4-D 1 pt/A

Previous crop: Soybeans

Planted date: July 8, 2002

Variety: See table

Methods

A completely randomized design with six replications in small plots (5.5 x 50 feet) in each of three years was used to evaluate the effect of row width on wheat yield. Treatments were 7.5 and 15-inch row wheat. Wheat was planted with a three-point hitchmounted tool-bar planter equipped with sunflower openers. Wheat harvest was done with a small plot combine.

Results

Table 1. Effect of Row Spacing on Wheat Yield in Crawford County, Ohio, 2000 to 2002.

<table>
<thead>
<tr>
<th>Year and Variety</th>
<th>7.5-inch rows (bu/A)</th>
<th>15-inch rows (bu/A)</th>
<th>F-test</th>
<th>LSD (0.05) (bu/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000 I9824</td>
<td>72.3</td>
<td>70.8</td>
<td>&lt;1</td>
<td>NS</td>
</tr>
<tr>
<td>2001 Agra 962</td>
<td>86.7</td>
<td>79.2</td>
<td>14.5</td>
<td>4.4</td>
</tr>
<tr>
<td>2002 Agra 962</td>
<td>85.1</td>
<td>76.8</td>
<td>28.3</td>
<td>3.5</td>
</tr>
<tr>
<td>Average</td>
<td>81.5</td>
<td>75.6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Summary

What level of wheat yield can be expected from wheat grown in 15-inch rows vs. the row spacing of 7.5 inches? With the new technology of polymer-coated soybeans, this question is important to producers evaluating the profitability of such systems as modified relay
intercropping. In the first year of this study, the yield of wheat grown in two different row widths was not significantly different. In the second and third years, yield was significantly different with higher yields with the narrower row wheat planting. When comparing the two treatments over the three-year period, yields were not significantly different.

The yield difference over the three years varied from 2 to 7.5 bu/ A. This result was consistent with work done by Beuerlein et al. (Profitable Wheat Management, Extension Bulletin 811, page 18) on the effect of row spacing on wheat yield in Ohio.

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