Twin Row Corn Study

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Twin Row Corn Study

Abstract
Interest in narrow row corn and, more recently, twin row corn has increased over the last several years. Research done in the 1990s in various locations throughout the Corn Belt has demonstrated significant yield advantages of narrowing corn rows from 38 in. to 30 in. This is now the third year of this study, and yield results from row spacings narrower than 30 inches have indicated a greater likelihood of a yield response in the northern part of the Corn Belt. Yield increases for narrow row spacing in corn from the central to southern areas of the Corn Belt have been inconsistent. Interest in this new concept, twin row corn, has prompted many new questions about row spacing in corn. One of the advantages of twin row corn is that no major modifications of harvest or spray equipment are necessary when converting from single row 30-inch spacing. Another potential set of advantages is better seed placement, more accurate plant spacing, and greater sunlight utilization.

Disciplines
Agricultural Science | Agriculture

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Twin Row Corn Study

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Introduction
Interest in narrow row corn and, more recently, twin row corn has increased over the last several years. Research done in the 1990s in various locations throughout the Corn Belt has demonstrated significant yield advantages of narrowing corn rows from 38 in. to 30 in. This is now the third year of this study, and yield results from row spacings narrower than 30 inches have indicated a greater likelihood of a yield response in the northern part of the Corn Belt. Yield increases for narrow row spacing in corn from the central to southern areas of the Corn Belt have been inconsistent. Interest in this new concept, twin row corn, has prompted many new questions about row spacing in corn. One of the advantages of twin row corn is that no major modifications of harvest or spray equipment are necessary when converting from single row 30-inch spacing. Another potential set of advantages is better seed placement, more accurate plant spacing, and greater sunlight utilization.

Materials and Methods
In this study, a John Deere 7000 planter was used to plant both 30-in. rows and twin rows. Twin row corn is planted in two rows 7.5 in. apart and centered on 30-in. centers. These two-row configurations were planted in three replicated plots at approximately 32,000 seeds/acre. The replications were eight rows wide and approximately 430 feet long. The plot was no-till planted in late April. The Marshall soil has high to very high P and K fertility, and 140 lb of actual nitrogen was applied as anhydrous ammonia.

Results and Discussion
Final plant stands were very similar in both the 30-in. rows and the twin rows, approximately 29,450 plants/acre for the 30-in. rows and 30,110 plants/acre for the twin rows. Emergence scores were identical, as were plant height measurements taken on May 18, 2004, and June 16, 2004. Yield differences and moisture differences were not significant between row spacings. This season, the 30-in. rows yielded 231.7 bushels/acre, and the twin rows yielded 234.0 bushels/acre. In 2002, twin row corn had a significant yield advantage of 10.7 bushels/acre in the plots, while in 2003 there was no significant difference as the 30-in. rows yielded 2 bushels/acre more. In general, our yield results are similar to other narrow row corn research in the middle of the Corn Belt, which shows no consistent yield response to row spacing narrower than 30 in. When considering twin row corn spacing based on our data, it appears that there is no yield penalty, and a small chance of a yield increase. We will continue this study for several more years.

Table 1. Twin row corn versus 30-in. row corn spacing trial, 2004.

<table>
<thead>
<tr>
<th>Row Spacing</th>
<th>Moisture</th>
<th>Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>17.2</td>
<td>231.7</td>
</tr>
<tr>
<td>Twin</td>
<td>17.0</td>
<td>234.0</td>
</tr>
</tbody>
</table>