INFLUENCE OF SEEDING RATE AND SKIP-ROW PLANTING ON CORN GRAIN YIELD

TRIAL OVERVIEW

- Using a skip-row planting configuration in arid environments has been a common management practice, especially for cotton.
- Skip-row planting could be a beneficial practice for dryland corn in some environments.
- Typical growing conditions in central Texas could be conducive for a skip-row planting configuration in corn.

RESEARCH OBJECTIVE

- To determine if a 2-1 skip-row planting configuration has any advantages compared to solid planting of corn in central Texas.
- Evaluate the optimal seeding rates or planting densities of corn for skip-row compared to solid planting.

<table>
<thead>
<tr>
<th>Location</th>
<th>Soil</th>
<th>Previous Crop</th>
<th>Tillage Type</th>
<th>Planting Date</th>
<th>Harvest Date</th>
<th>Potential Yield/Acre</th>
<th>Planting Rate/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hillsboro, TX</td>
<td>Clay</td>
<td>Corn</td>
<td>Conventional</td>
<td>03/15/2017</td>
<td>08/10/2017</td>
<td>120</td>
<td>18,000 to 36,000</td>
</tr>
</tbody>
</table>

SITE NOTES:
- DEKALB® DKC67-42 brand SmartStax® corn was planted at 4 seeding rates (18,000, 24,000, 30,000, and 36,000) in both solid and skip-row planting configurations.
- Solid planting was on 30-inch rows using 6-row plots.
- Skip-row planting was arranged using 6-row plots, with rows 2 and 5 unplanted.
- Skip-row populations were on a per-acre basis, meaning that the seeding rates within a row were actually 1.5 times higher than corresponding within-row rates in the solid planting treatments.

UNDERSTANDING THE RESULTS

- Solid planting of corn, at all seeding rates, out yielded skip-row planting (Figure 1).
- With the solid planting configuration, yield tended to increase as seeding rate increased up to 36,000 seeds/acre.
- With the skip-row planting configuration, there was little variation in yield across seeding rates, with 30,000 seeds/acre having the highest yield.
- Excellent growing conditions, particularly during grain fill, contributed to well above-average corn yields at this dryland location.
WHAT DOES THIS MEAN FOR YOUR FARM?

- With excellent growing conditions and extremely low drought stress, skip-row planting may not provide an advantage over solid planting of corn.
- DEKALB® DKC67-42 brand SmartStax® corn responded well to higher seeding rates with solid planting on 30-inch rows.
- Optimal seeding rates in skip-row plantings (based on total land area) may be lower than solid planting because of the resulting excessive within-row populations.
- Additional research on skip-row planting of dryland corn is needed to determine potential advantages for this practice under drought-stress conditions.

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