**Trial Objectives:**

- With the increase in limited irrigation due to reductions in pumping capacity or restrictions on the amount of water producers can pump over a certain time frame, it is imperative that Bayer Crop Science tests products under varying irrigation rates to supply better corn product recommendations by irrigation level.
- The objective of this study was to determine the yield response of key Channel® brand corn products for the region based on seeding rate and irrigation amount.

**Research Site Details:**

<table>
<thead>
<tr>
<th>Location</th>
<th>Soil Type</th>
<th>Previous Crop</th>
<th>Tillage Type</th>
<th>Planting Date</th>
<th>Harvest Date</th>
<th>Rainfall</th>
<th>Irrigation Applied (100% rate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bruning, NE</td>
<td>Silt loam</td>
<td>Soybeans</td>
<td>No tillage</td>
<td>5/12/2018</td>
<td>10/3/2018</td>
<td>13.0</td>
<td>7.7</td>
</tr>
</tbody>
</table>

- Six Channel® brand corn products were planted at 24,000, 30,000, 36,000, and 42,000 seeds/acre under full irrigation (100% irrigation) and a half irrigation rate (50% irrigation). Corn products and seeding rates were replicated two times under the 50% and 100% irrigation rates.
- The trial was irrigated with a center pivot system with drop nozzles placed just above the crop canopy.
- May through mid-June were dry with below normal rainfall. Another dry period followed during the first three weeks of July. Late-season rainfall (mid-August through September) was above normal.
- Weed control was excellent.
- 200 lb of actual nitrogen was side-dressed at the V2 stage.
- The amount of irrigation applied per pass was 0.8 and 0.4 inches at the 100 and 50% treatments, respectively.
- Some stalk lodging was observed prior to harvest.
RESPONSE OF CHANNEL® CORN PRODUCTS TO IRRIGATION AND SEEDING RATE

Understanding the Results

- Averaged across all products and seeding rates, yields were 20 bu/acre (8.7%) higher for the 100% irrigation than the 50% irrigation treatment.
- Averaged across all seeding rates, 209-15VT2PRIB and 215-75STXRIB brand blends had the greatest response to increased irrigation. 208-23STXRIB and 212-48STRXRIB brand blends had the lowest response.
- With full irrigation, all products had a positive response to increasing seeding rate, with the 112-115 RM products having the greatest response. However, with the 50% irrigation rate, yield response to increasing seeding rates was mixed.
- Increasing the seeding rate from 36,000 to 42,000 seeds/acre with full irrigation resulted in a positive yield response for 212-48STXRIB and 215-75STXRIB brand blends (23 and 11 bu/acre, respectively), while other products had similar or lower yields.
RESPONSE OF CHANNEL® CORN PRODUCTS TO IRRIGATION AND SEEDING RATE

What Does This Mean for Your Farm?

• Producers should take care in their corn product selection and seeding rate to maximize their return based on the irrigation environment in each field.

• While yield will typically increase with increased irrigation water applied, producers should weigh the costs of applying that extra water against the increase in crop production, especially under yield-limiting conditions.

• These data would suggest that even at reduced irrigation levels, the seeding rate should be at least 30,000 seeds/acre as there is a consistent yield and profit penalty due to under-planting, regardless of product selection.

• Bayer Crop Science intends to repeat these trials to evaluate product response to irrigation level and seeding rate under changing environmental conditions for the 2019 season. Readers should keep in mind that these results are from one location only, and should look at results from multiple sites before drawing conclusions.

Legal Statements

The information discussed in this report is from a single-site, replicated demonstration trial. This informational piece is designed to report the results of this demonstration and is not intended to infer any confirmed trends. Please use this information accordingly.

Performance may vary, from location to location and from year to year, as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible and should consider the impacts of these conditions on the grower’s fields. Channel® and the Arrow Design® is a registered trademark of Channel Bio, LLC. ©2018 Bayer Group, All Rights Reserved. 181121074023 120518RDH