Growing CORN IN USA

KEY FINDINGS

- 400 kg ha⁻¹ yield advantage over MOP on average
- Improved yield across two seasons
- Greater crop biomass during growing season

POLY4 BENEFITS

- A balanced source of K, sulphate S, Mg and Ca
- Sustained nutrient delivery
- Manufactured by using an environmentally considerate production process
- Blends, stores and spreads with standard farm equipment
- Environmentally friendly with low carbon footprint

A CASE FOR POLY4

- Illinois planted 4.2 million hectares (10.5 million acres) of corn in 2019, producing 46 million metric tonnes of grain.

- The fertile soils of Illinois are nutrient rich with a high organic matter content. The standard local recommendation based on the soil analysis was to apply only N and K to corn with the assumption that other secondary nutrients were already available in soil. However, N + K recommended practice improved yield over the N treatment in one year only.

- POLY4 ensured that the secondary nutrients required by the crop were available and improved yield in both years.

poly4.com
**PLANT BIOMASS (t DM ha⁻¹) 2.8 2.8 3.0 POLY4 (150 kg ha⁻¹) 3.0 11.6 11.7 12.6 N (control) MOP POLY4 (150 kg ha⁻¹)**

*All treatments received 200 kg N ha⁻¹ from UAN. The POLY4 treatment was balanced for K with 105 kg MOP ha⁻¹.*

**GRATER YIELD ADVANTAGE**

In addition to potassium, POLY4 supplies in one product sulphate S, Mg and Ca offering a balanced crop nutrition. POLY4-fertilised corn had better yield over N in both years, while MOP only increased yield in one of the two years. On average, across the two years, POLY4 delivered 400 kg ha⁻¹ greater yield over MOP.

**IMPROVED CROP GROWTH**

Crop biomass can increase crop yield as larger plants can capture more light for photosynthesis and sustain better grain fill. In this trial, crop biomass was measured twice: at late vegetative stage (V10) and at kernel appearance (R2). POLY4 treatment had the greatest corn biomass throughout the growing season and in both years.

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**TREATMENTS**

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Nutrient application rates (kg ha⁻¹)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>K₂O</td>
</tr>
<tr>
<td>N (control)</td>
<td>0</td>
</tr>
<tr>
<td>MOP</td>
<td>84</td>
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<tr>
<td>POLY4 (150 kg ha⁻¹)</td>
<td>84</td>
</tr>
</tbody>
</table>

**Notes:** Statistics from USDA NASS 2019 survey. Cultivar: DKC 64-34; initial soil analysis in 2017: pH 5.6, 5.4% SOM, 23 mg P kg⁻¹, 103 mg K kg⁻¹, 3639 mg Ca kg⁻¹, 578 mg Mg kg⁻¹, 12 mg S kg⁻¹; in 2018: pH 6.2, 3% SOM, 21 mg P kg⁻¹, 93 mg K kg⁻¹, 2075 mg Ca kg⁻¹, 306 mg Mg kg⁻¹, 5 mg S kg⁻¹. Significance tested at 10% level.