Growing
POTATOES IN POLAND

KEY FINDINGS
8% average tuber yield improvement
Improved economic return
Increased dry matter content

A CASE FOR POLY4

- With 320,000 hectares, Poland has the largest potato area in the EU.

- Farmers can use MOP and SOP as a K source.

- The Cl present in MOP can detrimentally reduce tuber dry matter content.

- As sulphur depositions in the EU has decreased, S deficiency can be a problem.

poly4.com
**LOCATION**  
Kepa and Osiny, Poland

**DATE**  
2018

**PARTNER**  
Institute for Soil Science and Plant Cultivation, Puławy, Poland

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**TRIAL FOCUS**

To compare POLY4 performance with commonly-used K fertilizers for potato production in Poland.

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**GREATER TUBER YIELD**

With the POLY4 fertilizer plan, tuber yield was significantly greater at both sites (+6% and +9%). Improved yield increased revenue by US$359/ha.

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**INCREASED DRY MATTER CONTENT**

The POLY4 fertilized potato tubers had greater dry matter content than the MOP + SOP at both sites. This difference was significant at one site. Higher dry matter content is the most important characteristic that helps to attract a price premium from the potato frying industry. For processing, high tuber dry matter content influences the oil absorption rate to achieve a good fry colour.

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**TREATMENTS**

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Average nutrients applied (kg ha⁻¹)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>K₂O</td>
</tr>
<tr>
<td>N + P (control)</td>
<td>0</td>
</tr>
<tr>
<td>MOP + SOP</td>
<td>180</td>
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<tr>
<td>MOP + POLY4</td>
<td>180</td>
</tr>
</tbody>
</table>

*All treatments received standard applications of N and P fertilizer.

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**Notes:**
1) FAOSTAT (2019); 2) Treatments applied at planting; N and P, O₃, provided by AN at 455 kg ha⁻¹ and DAP at 100 kg ha⁻¹, respectively; MOP and SOP are blended to provide K₂O in a 50:50 ratio, whereas MOP + POLY4 are blended to provide K₂O in a 85:15 ratio. Pre-trial soil analysis at Kepa: 15 mg P kg⁻¹, 181 mg K kg⁻¹, 1550 mg Ca kg⁻¹, 116 mg S kg⁻¹, pH KCl 6.1, 0.87% organic carbon, EC 17 μS cm⁻¹, CEC 33 cmol 100g⁻¹; Osiny: 23 mg P kg⁻¹, 192 mg K kg⁻¹, 1150 mg Ca kg⁻¹, 37 mg Mg kg⁻¹, 126 mg S kg⁻¹, pH KCl 5.6, 0.88% organic carbon, EC 8 μS cm⁻¹, CEC 20 cmol 100g⁻¹; 3) Genstat means of trials at both locations. Cultivars used were Lord and Oberon; 4) Data presented after application of 180 kg K₂O ha⁻¹ was the recommended application rate; 5) Potato price obtained from FAOSTAT.