Growing CARROTS IN BRAZIL

KEY FINDINGS
22% higher marketable yield than MOP and 16% higher than SOP-M
Greater production of high-grade carrots
Increased revenue

A CASE FOR POLY4

- Carrots are cultivated across 25,000 ha in Brazil, with a total production of 780,000 tonnes.
- This region typically has soils with limited K and S availability.
- High K fertilizer applications to carrots and other vegetable crops in the rotation can limit Ca and Mg availability. Carrots deficient in Ca can have reduced root size.
- POLY4 contains K, Ca, Mg and sulphate-S to better meet crop demand.
- POLY4 increased marketable carrot yield in the prior carrot trial in Campinas, São Paulo. This trial was in Andradas, Minas Gerais.

poly4.com
**ELEVATED COMMERCIAL NUMBER OF ROOTS AND SIZE**

POLY4-fertilized crops had more carrots per hectare than MOP or SOP. SOP-M had the greatest number of carrots per hectare, but on average roots were 19\% smaller in size compared to POLY4.

**ENHANCED YIELD AND QUALITY**

POLY4-fertilized crop had the highest marketable yield as well as a greater production of higher-grade carrots: class 2 and 3, with 3 being the most valuable. Higher grade could have been achieved due to POLY4’s balanced nutrition. POLY4 and SOP-M were the only fertilizers to supply Mg while POLY4 also supplied Ca.

**INCREASED FINANCIAL REVENUE**

Revenue is based on the value of each grade of carrot. POLY4-fertilized carrots had a greater revenue than the other fertilizer sources.

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**Trial Focus**

To compare carrot yield and quality after application of POLY4 with alternative K fertilizers.

**Partner**

University of São Paulo

**Location**

Minas Gerais, Brazil

**Date**

2018

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Notes: 1) Prior carrot trial 4000-USP-4020-16; N and P applied with urea and MAP at 140 kg N ha\(^{-1}\) and 300 kg P\(_2\)O\(_5\) ha\(^{-1}\). 2) Initial soil analysis: pH 4.7, 4.4\% SOM, 91 mg K l\(^{-1}\), 276 mg Ca l\(^{-1}\), 84 mg Mg l\(^{-1}\); 3) Carrot prices were US$339/t for Class 1, US$428/t for Class 2, US$501/t for Class 3; Reference price for carrots from July 2018: http://www.ceagesp.gov.br/entrepostos/servicos/cotacoes/#cotacao.

Source: University of São Paulo (2018), 4000-USP-4027-17 (carrot).

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<table>
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<th>Treatments</th>
<th>N</th>
<th>P(_2)O(_5)</th>
<th>K(_2)O</th>
<th>CaO</th>
<th>MgO</th>
<th>S</th>
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<tbody>
<tr>
<td>N + P (control)</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
</tr>
<tr>
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<tr>
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<td>77</td>
<td>244</td>
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</table>

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