Growing WINTER BARLEY IN THE UK

KEY FINDINGS
POLY4 plan increased yield by up to 6%
MOP + POLY4 fertilized barley had the best financial return

A CASE FOR POLY4

- Barley is a globally important broad-acre crop, amounting to a worldwide coverage of 46.9 million hectares.

- Sulphur (S) deficiencies are increasingly common. Increased crop yields extract more S from soil, while less S is received from atmospheric deposition.

- POLY4 provides plant available sulphate-S, K, Mg and Ca to meet the crop requirements throughout the growing season. POLY4’s sustained delivery of K, S and Mg is especially important during grain filling.

poly4.com
**IMPROVED GRAIN YIELD**

MOP + POLY4 at both S rates had the highest yield.

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**INCREASED FERTILIZER MARGIN**

Fertilizer margin is the crop output minus the cost of fertilizer material and spreading. MOP + POLY4 yield improvements increased fertilizer margin at both sulphur application rates.

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**TREATMENT**


<table>
<thead>
<tr>
<th>Treatments</th>
<th>Nutrients applied (kg ha⁻¹)</th>
<th>K₂O</th>
<th>S</th>
<th>MgO</th>
<th>CaO</th>
<th>Cl</th>
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</thead>
<tbody>
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<td>MOP + DT (20S)</td>
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<td>115</td>
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<td>92</td>
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<tr>
<td>MOP + POLY4 (20S)</td>
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<tr>
<td>MOP + DT (30S)</td>
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<td>30</td>
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<tr>
<td>MOP + POLY4 (30S)</td>
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<td>115</td>
<td>30</td>
<td>9</td>
<td>49</td>
<td>65</td>
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</tbody>
</table>

*All treatments received 140kg N ha⁻¹ and 50kg P₂O₅ ha⁻¹ from ammonium nitrate and triple superphosphate.

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**NOTES**

1) FAO 2017
2) Barley variety used was Glacier, a two-row feed barley that offers a high yield and has good disease resistance. Fertilizer treatments were applied on 24 February. Sulphur was supplied from either DoubleTop (DT) or POLY4. DoubleTop (DT) is a trademark name for ammonium nitrate/sulphur blend from CF Fertilisers.
3) All plots received 140kg N ha⁻¹ from ammonium nitrate (AN) and 50kg P₂O₅ ha⁻¹ from TSP.
4) Initial soil analysis for site: pH 6.5, organic matter: 2.1%, 17 mg P kg⁻¹, 54 mg K kg⁻¹, 91 mg Mg kg⁻¹, 1256 mg Ca kg⁻¹, 7.2 mg SO₄²⁻ kg⁻¹.
5) Fertilizer prices based on local prices: MOP (US$287/t), POLY4 (US$200/t), TSP (US$289/t), DoubleTop (US$248/t), AN (US$228/t).

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**LOCATION**

Warwickshire, UK

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**DATE**

2017

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**PARTNER**

Warwick University