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.





Source of macro and micro nutrients



Sustained nutrient delivery profile



Suitable for organic farming



Compatible with other fertilizers



Improved nutrient recovery

Treatments	Nutrients applied (kg ha ⁻¹)				
	K ₂ O	S	MgO	CaO	CI
MOP + DT (20S)	115	20	0	22	92
MOP + POLY4 (20S)	115	20	6	40	69
MOP + DT (30S)	115	30	0	22	92
MOP + POLY4 (30S)	115	30	9	49	65

*All treatments received 140kg N ha⁻¹ and 50kg P_2O_5 ha⁻¹ from ammonium nitrate and triple superphosphate.

IMPROVED GRAIN YIELD



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



TRIAL FOCUS

To compare the effectiveness of POLY4 as a K and S fertilizer to local fertilizers.

PARTNER

Warwick University

LOCATION Warwickshire, UK

> DATE 2017

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.



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; 3) DoubleTop (DT) is a trademark name for ammonium nitrate/ammonium sulphate blend from CF Fertilisers; 4) All plots received 140 kg N ha⁻¹ from ammonium nitrate and 50kg P₂O₅ ha⁻¹ from TSP; 5) 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 SO₄⁻² kg⁻¹; 6) 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). Analysis accounts for fertilizer application of spreading cost of US\$20.1/t. Cereal price US\$162. Fertilizer margin = crop output (US\$/n) minus (cost of fertilizer material plus spreading cost).

Source: Warwick University (2017) 8000-WCC-8016-16

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