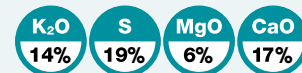


# Growing WHEAT IN GERMANY



**POLY4**



## KEY FINDINGS

**POLY4 treatments showed yield advantage over MOP + AS**

**POLY4 increased yield on average by 500 kg ha<sup>-1</sup> across the two sites**



## POLY4 BENEFITS



Source of macro nutrients



Sustained nutrient delivery



Suitable for organic farming



Compatible with a wide range of common fertilisers



Low carbon footprint

## A CASE FOR POLY4

- Wheat is a major crop in Germany with 3.2 million hectares grown per year.
- Decreased atmospheric deposition has increased the use of sulphur fertilisers in Germany. Application of ammonium sulphate (AS), along with MOP, is now the standard practice in most parts of Western Europe.
- POLY4 delivers a sustained release of nutrients and can be a flexible multi-nutrient fertiliser for cereals.
- Two trials in northern Germany compared winter wheat production with MOP + POLY4 to MOP + AS fertilizer programmes.

## POLY4 application rates recommendation

The **POLY4 standard** treatment delivered yield increase of 4% across two sites at a recommended application rate of 143 kg POLY4 ha<sup>-1</sup> balanced for K with MOP.

The **POLY4 enhanced** treatment delivered 6% yield increase across two sites using a higher application rate of 212 kg POLY4 ha<sup>-1</sup> balanced for K with MOP.

Treatments	Nutrient application rates (kg ha <sup>-1</sup> )				
	POLY4	K <sub>2</sub> O	CaO	MgO	S
MOP + AS	0	80	0	0	40
POLY4 standard	143	80	24	9	27
POLY4 enhanced	212	80	36	13	40

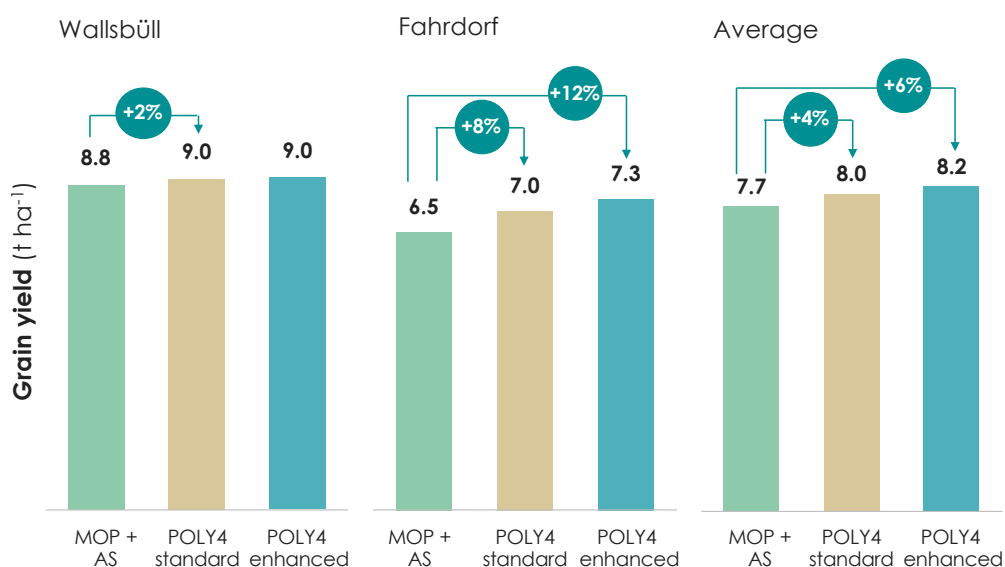
\*All treatments received standard nitrogen and phosphorus application rates. POLY4 standard was balanced for K with 83 kg MOP ha<sup>-1</sup> and POLY4 enhanced with 100 kg MOP ha<sup>-1</sup>.

## IMPROVED YIELD



Across the two sites, wheat fertilized with MOP + POLY4 had significantly greater yield than MOP + AS. On average yield was increased by 500 kg ha<sup>-1</sup> with the highest POLY4 application (212 kg POLY4 ha<sup>-1</sup>). With application of 143 kg POLY4 ha<sup>-1</sup> yield was increased by 330 kg ha<sup>-1</sup>.

At Fahrndorf, 212 kg POLY4 ha<sup>-1</sup> increased yield significantly compared to MOP + AS (+800 kg ha<sup>-1</sup>, 12%). At Wallsbüll, both MOP + POLY4 fertilizer programmes outperformed MOP + AS yields by 2%.



Notes: Cultivar Talent at Fahrndorf and Julius at Wallsbüll; All plots received 170 kg N ha<sup>-1</sup> and 50 kg P<sub>2</sub>O<sub>5</sub> ha<sup>-1</sup> from urea and DAP; Initial soil analysis at Fahrndorf: pH 5.8, 100 mg P kg<sup>-1</sup>, 71 mg K kg<sup>-1</sup>, 67 mg Mg kg<sup>-1</sup>, 5 mg S kg<sup>-1</sup>; at Wallsbüll: pH 6.9, 104 mg P kg<sup>-1</sup>, 95 mg K kg<sup>-1</sup>, 95 mg Mg kg<sup>-1</sup>, 5 mg S kg<sup>-1</sup>; Data analysed with Genstat ANOVA analysis with means separation by Fishers LSD at the 5% level when the ANOVA was significant.

Source: SGS (2019) 18000-SGS-18012-18 (winter wheat).



## TRIAL FOCUS

To compare wheat yield at different rates of POLY4 with MOP + AS at two sites in northern Germany.

## PARTNER

**SGS**

## LOCATION

**Fahrndorf & Wallsbüll,  
Schleswig-Holstein,  
Germany**

## DATE

**2019**

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