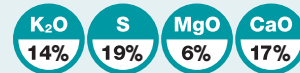


Growing WHEAT IN INDIA



POLY4

A SIRIUS MINERALS PRODUCT



KEY FINDINGS

Improved yield

Increased fertilizer margin

Greater tillering and
thousand grain weight



POLY4 BENEFITS



Source of macro and micro nutrients



A sulphate-S source for good crop availability



Sustained nutrient availability



pH neutral



Compatible in NPK blends

A CASE FOR POLY4

- In 2017 India produced 98.5 Mmt of wheat across 30.6 million ha.
- North Central India is a major wheat growing region, with the wheat often grown in rotation with rice. Many farmers apply only N + P in these systems, even though application of K and S is recommended.
- Elemental S combined with bentonite is the typical sulphur source. Elemental S must be converted by soil microorganisms to sulphate-S before it can be available for plant uptake.
- POLY4 contains plant-available sulphate-S, K, Ca and Mg. Its sustained nutrient delivery makes it ideal for meeting the demands of wheat throughout the growing season.

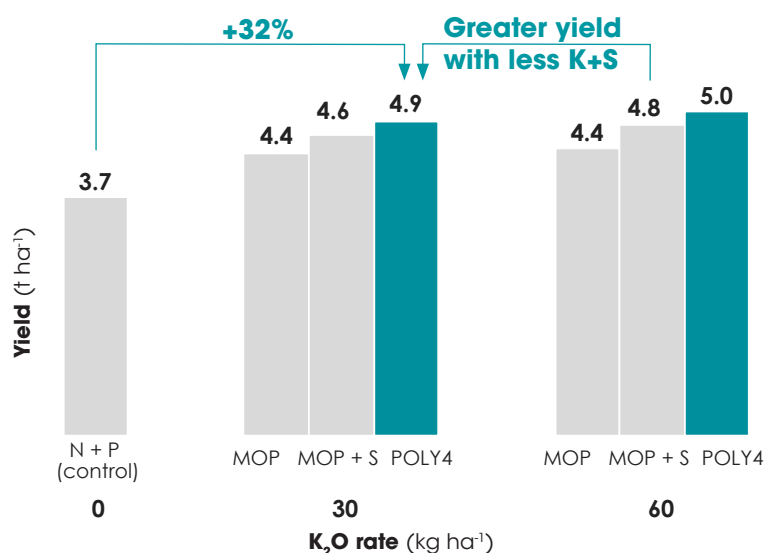
Treatments	Nutrients applied (kg ha ⁻¹)			
	K ₂ O	S	CaO	MgO
N + P (control)	0	0	0	0
MOP	30	0	0	0
MOP	60	0	0	0
MOP + S	30	41	0	0
MOP + S	60	81	0	0
POLY4	30	41	36	13
POLY4	60	81	73	26

* Recommended K₂O rate of 60 kg ha⁻¹. All treatments received 120 kg N and 60 kg P₂O₅ from urea and DAP.

GREATER YIELD



Application of K and S fertilizers increased yield relative to N + P alone. Wheat fertilized with half the K₂O rate had a greater yield than MOP + S. This means a greater output was achieved with lower K and S inputs.

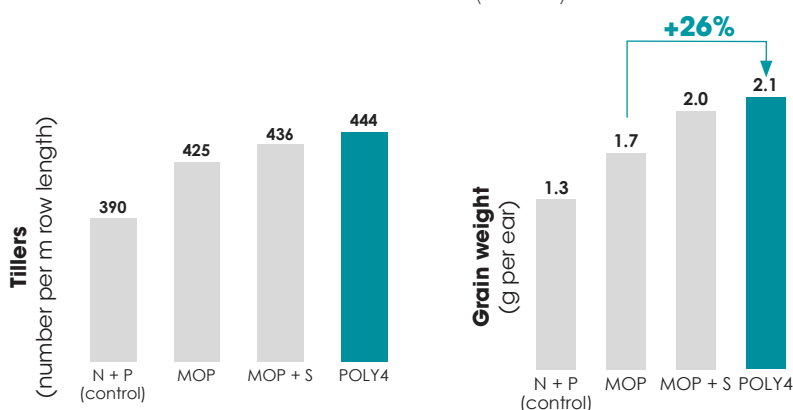


IMPROVED YIELD COMPONENTS



Wheat yield depends on the tillering density, ears per tiller and ear weight (grain number and weight). Wheat fertilized with POLY4 had more tillers and grains per ear than other treatments.

POLY4-fertilized wheat also had the highest thousand grain weight. The POLY4 fertilized wheat had significantly heavier ears than MOP and N + P (control) treatments.



TRIAL FOCUS

To compare POLY4 with MOP and MOP + S at the recommended (60 kg K₂O) and a lower K rate.

PARTNER

ICAR-IARI, New Delhi

LOCATION

New Delhi, India

DATE

2018

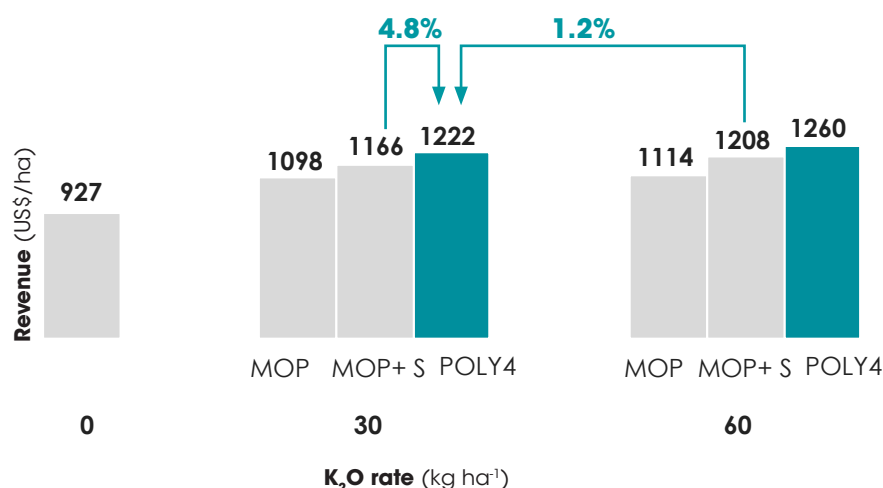
Follow us on social media



HIGHER INCOME



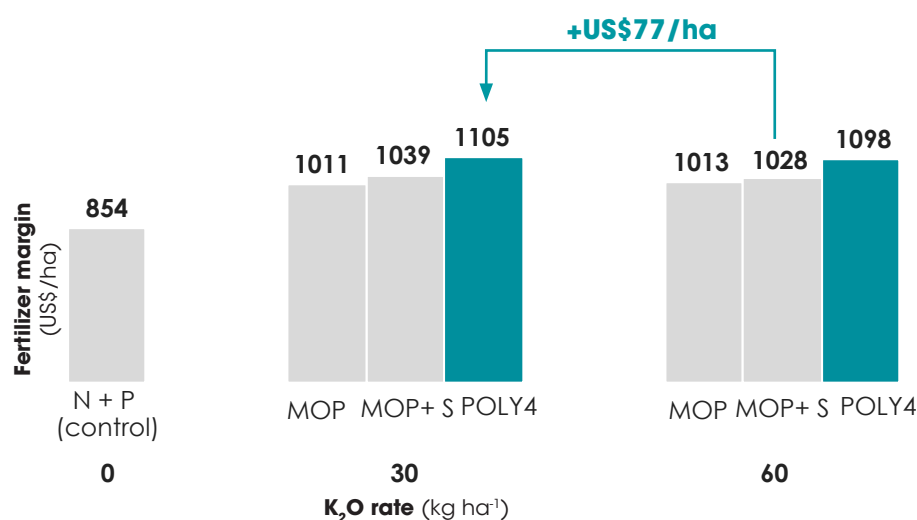
POLY4 fertilized wheat had the greatest revenue. Application of 30 kg K₂O ha⁻¹ from POLY4 had 4.8% greater revenue than equivalent MOP + S. Importantly, the revenue after applying 30 kg K₂O ha⁻¹ from POLY4 was greater than using 60 kg K₂O ha⁻¹ from MOP + S (1.2% higher).



INCREASED FERTILIZER MARGIN



Application of 30 kg K₂O ha⁻¹ from POLY4 gave the greatest fertilizer margin. This fertilizer programme had a lower cost than 60 kg K₂O ha⁻¹ from MOP + S and produced greater yield and revenue.



TRIAL FOCUS

To compare POLY4 with MOP and MOP + S at the recommended (60 kg K₂O) and a lower K rate.

PARTNER

ICAR-IARI, New Delhi

LOCATION

New Delhi, India

DATE

2018

Notes: 1) FAOSTAT 2017; 2) Recommended K₂O rate of 60 kg ha⁻¹. All treatments received 120 kg N and 60 kg P₂O₅ from urea and DAP; 3) Data analysed by Genstat ANOVA with mean separation by Fishers LSD at the 5% level; 4) Revenue is crop price multiplied by yield. Wheat price US\$251/t; Fertilizer margin is the revenue minus the cost of fertilizer and spreading; Fertilizer prices: urea US\$80/t, DAP US\$403/t, bentonite-S US\$869/t, MOP US\$284/t, POLY4 US\$200/t; spreading cost US\$9.07/t.

Source: ICAR-IARI, New Delhi (2018) 67000-ICAR-67011-17 (wheat).

Follow us on social media

