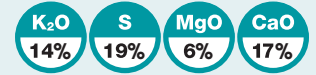


Growing POTATOES IN INDIA



POLY4
A SIRIUS MINERALS PRODUCT



KEY FINDINGS

Improved crop emergence

21% marketable tuber yield increase
compared to MOP + elemental S

Improved tuber dry matter



POLY4 BENEFITS



Source of macro and
micro nutrients



Sustained nutrient
delivery profile



Low in chloride



Plant available sulphate-S

A CASE FOR POLY4

- Uttar Pradesh produced 15.3 million tonnes of potatoes in 2017 – 2018, which amounts to 30% of India's total potato production.
- 45% of Indian soils are sulphur deficient.
- Low-chloride POLY4 is a good source of sulphate-sulphur delivering at the same time potassium, magnesium and calcium in one product.

Treatments	Nutrients applied (kg ha ⁻¹)				
	K ₂ O	S	CaO	MgO	Cl
N + P (control)	0	0	0	0	0
MOP + S	50	68	0	0	38
	100	136	0	0	77
	150	204	0	0	115
POLY4	50	68	61	21	10
	100	136	121	43	21
	150	204	182	64	32

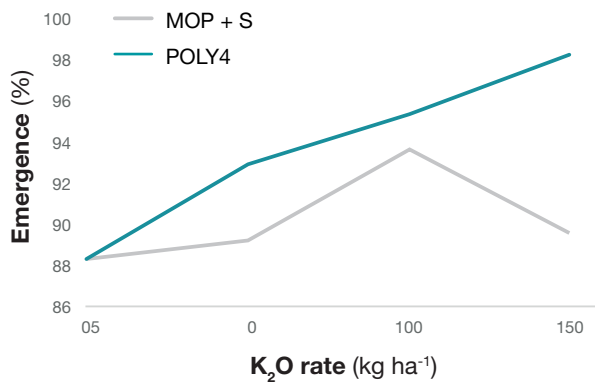
*All treatments received 180 kg N ha⁻¹ and 80 kg P₂O₅ ha⁻¹ from urea and DAP.



BETTER CROP EMERGENCE



Improved emergence and establishment can support subsequent potato yield. Higher plant emergence was observed 30 days after planting when POLY4 replaced MOP + S. The potato emergence continued to increase as more POLY4 but less MOP + S was added.

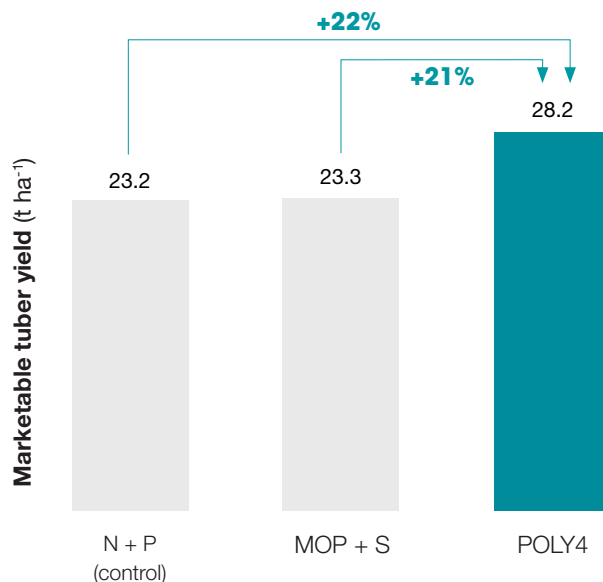


INCREASED MARKETABLE YIELD



Good K supply at the bulking stage is important for developing larger tubers. POLY4-fertilized crops had higher total yield and significantly higher marketable yield than MOP + S. At the recommended K₂O rate (100 kg ha⁻¹), POLY4 had 21% higher marketable yield. The POLY4-fertilized potatoes also had more tubers, and a higher proportion of these were marketable.

Higher yield achieved a revenue increase of US\$460/ha.



TRIAL FOCUS

To compare the performance of table potatoes to POLY4 fertilization with MOP + elemental sulphur.

PARTNER

**Sardar Vallabh
Bhai Patel
University of
Agriculture and
Technology
(SVPUA&T)**

LOCATION

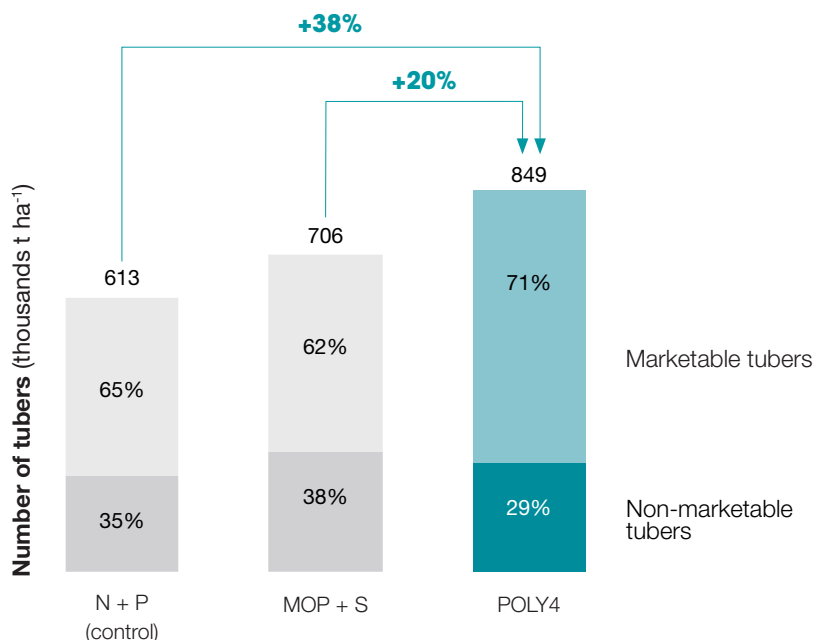
**Bulandshahar
Uttar Pradesh
India**

DATE

2019

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IMPROVED TUBER DRY MATTER



Tuber dry matter is important for potato frying quality. Dry matter content was 18.9% with MOP + S compared to 19.6% with POLY4 at the recommended K₂O rate.

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Notes: 1) Background statistics from Indian Department of Agriculture, Cooperation and Farmers Welfare. Available at <http://agricoop.gov.in/sites/default/files/Monthly%20Report%20on%20Potato%20for%20June%20%202019%20.pdf>. Accessed on 6-Aug-19; 2) Status of Indian Soils. The Sulphur Institute. Available at <https://www.sulphurinstitute.org/india/status.cfm>. Accessed on 6-Aug-19; 3) Pre-trial soil analysis: pH: 7.6, 7 mg P kg⁻¹, 82 mg K kg⁻¹, 9 mg S kg⁻¹; 4) Non-line graph values are at the recommended K₂O rate of 100 kg ha⁻¹; 180 kg of N and 80 kg of P₂O₅ were applied via urea and DAP. S applied as elemental sulphur with bentonite as binder. Treatments applied at planting; 5) Cultivar used was Kufri Bahar; 6) Significance tested at 5% level with Genstat ANOVA; 7) Crop price of US\$93/t.

Source: Sardar Vallabh Bhai Patel University of Agriculture and Technology (2019), 76000-SVPU-76011-18 (Bulandshahar potato).

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