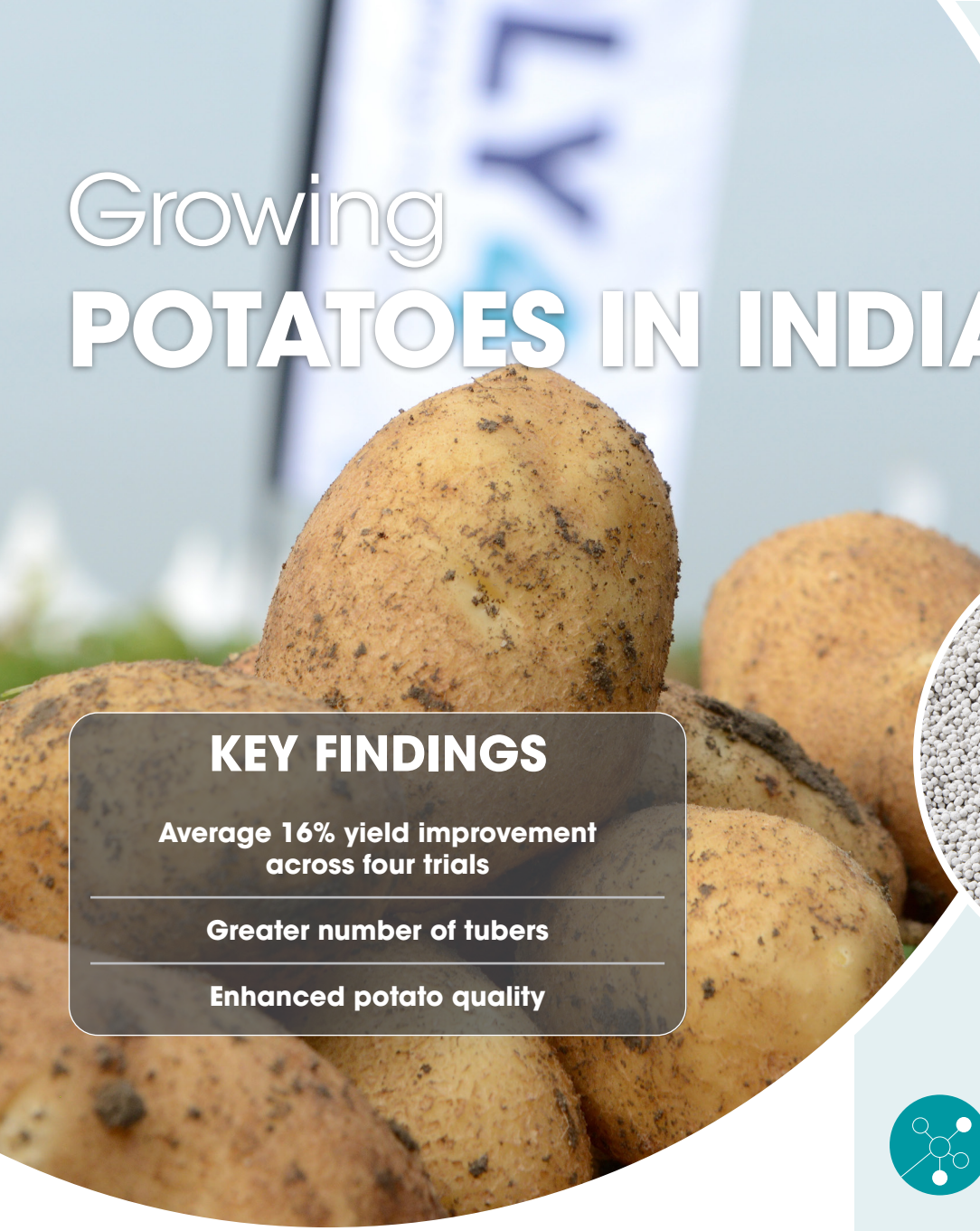
Growing POTATOES IN INDIA

POLY4
An Anglo American Product

K_2O 14% | S 19% | MgO 6% | CaO 17%



KEY FINDINGS

Average 16% yield improvement across four trials

Greater number of tubers

Enhanced potato quality

A CASE FOR POLY4

- Uttar Pradesh produces 30% of India's potatoes.
- Meerut soils have low to medium potassium content. Both Bulandshahar and Meerut soils are also sulphur deficient.
- Standard farmer practice is usually to apply nitrogen and phosphorous, while recommended practice is to use MOP with elemental sulphur.
- Excess chloride in fertilizers can reduce the dry matter content and quality of potatoes.
- Low-chloride POLY4 contributes to balanced crop nutrition and is a good source of sulphate-sulphur, while also delivering potassium, magnesium and calcium in one product.

POLY4 BENEFITS

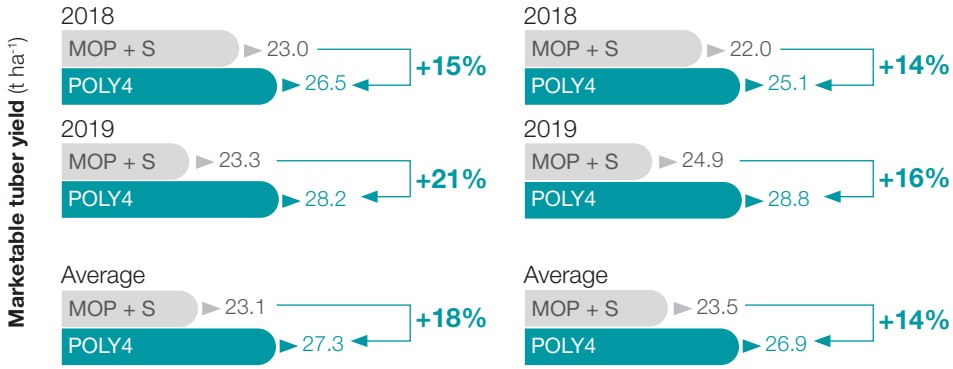
- Source of macro and micro nutrients
- Plant available sulphate-S
- Sustained nutrient delivery
- Low-chloride content
- Stores and spreads effectively

poly4.com

Site	Treatments	Nutrients applied (kg ha^{-1})				
		K_2O	S	CaO	MgO	Cl
Both	N + P (control)	0	0	0	0	0
Bulandshahar	MOP + S	100	136	0	0	77
	POLY4	100	136	121	43	21
Meerut	MOP + S	150	204	0	0	115
	POLY4	150	204	182	64	32

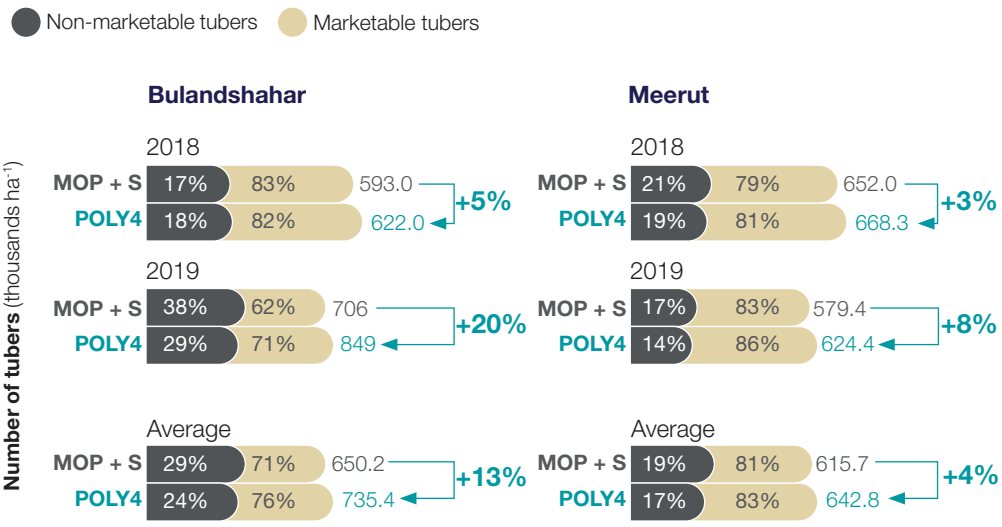
CONSISTENT YIELD IMPROVEMENT

Across four trials on two sites over two years, marketable potato yield was significantly increased by an average of 16% when POLY4 replaced MOP + S. The yield increase was very consistent with each of the four trials showing improvements ranging from 14% to 21%.



GREATER NUMBER OF TUBERS

Across all four trials, POLY4 obtained more tubers per hectare than MOP + S. On average, the tubers were also larger and therefore a greater proportion was marketable.



TRIAL FOCUS

To amalgamate a two-year comparison of potato performance with POLY4 against MOP + elemental sulphur in northern India.

PARTNER

Sardar Vallabh Bhai Patel University of Agriculture & Technology

LOCATION

Bulandshahar and Meerut, Uttar Pradesh, India

DATE

2018 – 2019

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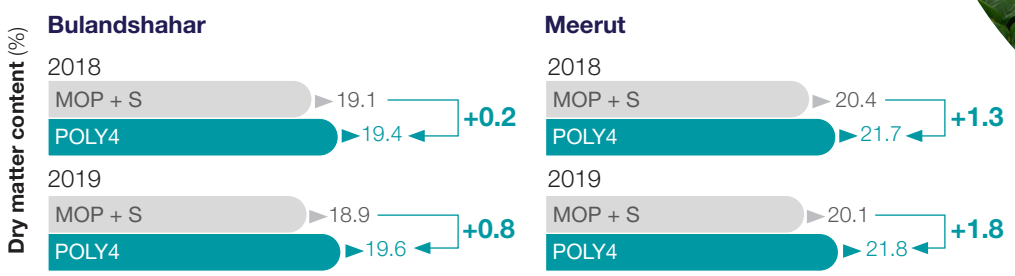
IMPROVED DRY MATTER

Potatoes with higher dry matter content are more suitable for frying. High level of chloride in fertilizers can decrease dry matter, and POLY4 applied less chloride than MOP. Across four trials, the POLY4-fertilized potatoes had 1% higher dry matter content compared to MOP + S.



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Notes: 1) Data from: Monthly Report Potato (June, 2019) Ministry of Agriculture & Farmers Welfare, Government of India http://agricoop.gov.in/; Ramamurthy et al. (2017) https://doi.org/10.20546/ijcmas.2017.612.171; 2) Status of Indian Soils. https://www.sulphurinstitute.org/india/status.cfm. Accessed August 2019; 3) Initial soil analyses 2017 Bulandshahar: pH 7.5; 7 mg P kg^{-1}, 71 mg K kg^{-1}, and 7 mg S kg^{-1}; 2017 Meerut: pH 8.1; 10 mg P kg^{-1}, 112 mg K kg^{-1}, and 9 mg S kg^{-1}; 2018 Bulandshahar: pH: 7.6, 7 mg P kg^{-1}, 82 mg K kg^{-1}, 9 mg S kg^{-1}; 2018 Meerut: pH: 7.9, 9 mg P kg^{-1}, 108 mg K kg^{-1}, 9 mg S kg^{-1}; 4) 180 kg of N and 80 kg of P_2O_5 were applied via urea and DAP at Bulandshahar; 270 kg of N and 80 kg of P_2O_5 were applied via urea and DAP at Meerut; S applied as elemental sulphur with bentonite as binder. Treatments applied at planting; 5) Cultivars used were Kufri Chipsona-1 at Meerut and Kufri Bahar at Bulandshahar; 6) Data is at the recommended K_2O rate of each site (100 kg K_2O ha^{-1} at Bulandshahar, 150 kg K_2O ha^{-1} at Meerut); 7) Significance tested at 5% level with Genstat ANOVA.

Source: Sardar Vallabh Bhai Patel University of Agriculture and Technology (2019), 76000-SVPU-76010-17 & 76000-SVPU-76011-18 (potato).

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