

Growing RICE IN CHINA



POLY4



KEY FINDINGS

A 4% yield increase on average across the three rice varieties

Best yield achieved when POLY4 supplied half of potassium



POLY4 BENEFITS



Provision of K and sulphate-S as well as Mg and Ca in one product



Sustained nutrient delivery



Fertilizer suitable for organic farming



Low carbon footprint

A CASE FOR POLY4

- China is the largest rice producer in the world with 214 million tonnes of rice harvested in 2018 from 30 million hectares.
- Sichuan Province produces 2 million hectares of rice.
- Soil potassium (K) is often deficient in Sichuan. Soils are also sulphur (S) deficient in some areas.
- In 2017 rice yield compared to standard MOP-K, was increased by 7% when half of the potassium was replaced with POLY4.
- For this trial, three POLY4 inclusion ratios were tested with three cultivars.

Treatments	Nutrient application rate (kg ha ⁻¹)			
	K ₂ O	S	MgO	CaO
N + P (control)	0	0	0	0
MOP + POLY4 (60:40)	135	74	23	64
MOP + POLY4 (50:50)	135	92	29	80
MOP + POLY4 (40:60)	135	110	35	96

*All treatments received 150 kg N ha⁻¹ and 75 kg P₂O₅ ha⁻¹ from urea and MAP.

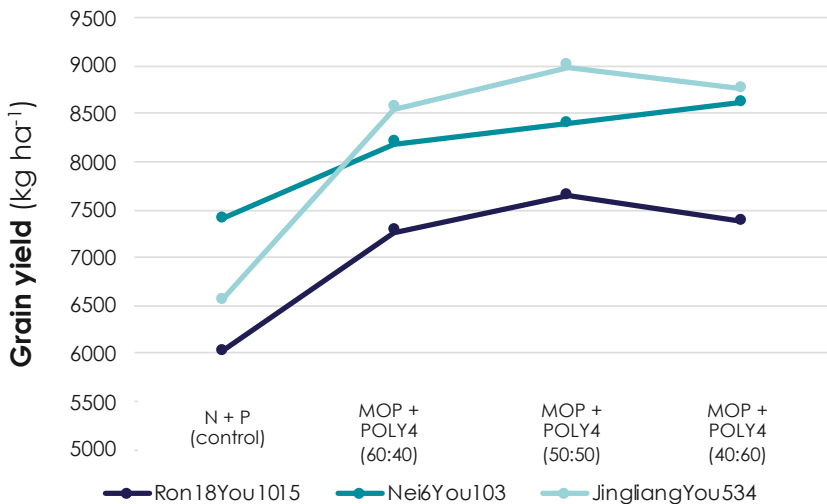
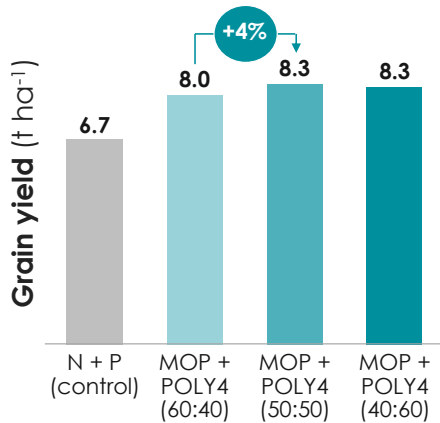


IMPROVED GRAIN YIELD



In a 2017 rice trial ([Click here to read more](#)), MOP + POLY4 (50:50) improved the yield by 7% compared to MOP with cultivar Rong18You1015.

In 2018, three varieties (Rong18You1015, Nei6You103, and JingliangYou534) were tested at different inclusion rates. They tended to have the best performance when half of the K was supplied by POLY4. Across the three varieties there was a 4% increase on average between the 40% and 50% POLY4 inclusion rates.



TRIAL FOCUS

To identify the optimal inclusion rate of POLY4 for rice cultivars as an enhancement for MOP in fertilizer blends.

PARTNER

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LOCATION

Sichuan, China

DATE

2018

Notes: China data from FAOSTAT (2017); Sichuan data from China Statistical Yearbook 2013; MOP + POLY4 ratios are the proportion of potassium supplied from each source; pre-trial soil analysis: pH: 5.7, P: 12 mg kg⁻¹, K 59 mg kg⁻¹, Ca: 2950 mg kg⁻¹, Mg: 650 mg kg⁻¹, S: 143 mg kg⁻¹, OM: 3%.

Source: Soil and Fertilizer Institute, Sichuan Academy of Agricultural Science (2018), 19000-SAAS-19017-17 & 19000-SAAS-19020-18 (rice).

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