Growing RICE IN CHINA





KEY FINDINGS

7% grain yield improvement

Enhanced grain nutrient content and uptake

Increased residual soil fertility

POLY4 BENEFITS



A natural source of a beneficial range of macro and micro nutrients



Sustained nutrient availability



Compatible in NPK blends



Low carbon footprint



- China is the largest rice producer in the world (213 million tons from 31 million ha, 29% of global rice production).
- Sichuan Province has 2 million hectares of rice.
- Soil K is often deficient in Sichuan. Soils are also S deficient in some areas of the region.
- POLY4 provides K and S as well as Mg, Ca and micro nutrients. These nutrients are supplied at a sustained rate over time to meet requirements of the growing crop.

Treatments	Nutrient application rate (kg ha ⁻¹)			
	K₂O	S	MgO	CaO
MOP (standard practice)	135	0	0	0
MOP + POLY4 (50:50)	135	92	29	80

*All treatments received 150kg N ha⁻¹ and 75 kg P_2O_5 ha⁻¹ from urea and DAP.

HIGHER GRAIN YIELD



The highest grain yield was achieved with 50% K₂O supplied by POLY4 (MOP + POLY4 (50:50)). Higher yield subsequently offered US\$234/ha higher revenue compared to MOP.



IMPROVED GRAIN NUTRITION



POLY4 improved nutrient uptake. Grain K and S were both greater with MOP + POLY4 than with MOP.



ENHANCED SOIL NUTRIENT STATUS



Post-trial soil nutritional status was enhanced with the use of POLY4, which can be beneficial for future cropping. Soil potassium was improved with both treatments, and soil sulphur was significantly improved after MOP + POLY4 treatment.

Notes: 1) http://www.fao.org/faostat/en/#data/QC, rice crop from 2016; 2) For the MOP + POLY4 treatment 50% of K₂O was from POLY4 and the remainder from MOP; 3) GENSTAT ANOVA analysis. Significance tested at 5% level; 4) Initial soil analysis: pH 5.3, OM 3.9%, 8 mg P kg⁻¹, 136 K mg kg⁻¹, 3.4 g Ca kg⁻¹, 0.6 g Mg kg⁻¹, 148 mg S kg⁻¹; 5) Rice cultivar "Rong 18 You".

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



TRIAL FOCUS

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

PARTNER

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