Growing CORN IN CHINA

KEY FINDINGS
16% higher grain yield
10% more kernels per cob
Improved potassium use efficiency

POLY4 BENEFITS
Sustained nutrient release dynamics
Source of K and Mg with sulphate S, Ca and additional micro nutrients
Blends, stores and spreads well with conventional equipment
Low carbon footprint

A CASE FOR POLY4
• Liaoning province is a major corn producing province in north-eastern China.
• K is usually supplied as MOP.
• Corn can benefit from POLY4’s additional macro and micro nutrients supplied in a single application.

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**HIGH GRAIN YIELD AND INCREASED NUMBER OF KERNELS**

Yields achieved with the MOP + POLY4 (60:40) blend were significantly higher than yields obtained with straight MOP. The cobs of corn fertilized with POLY4 also had 10% more kernels.

**IMPROVED ECONOMICS**

POLY4 blends supported the highest revenue.

**INCREASED POTASSIUM USE EFFICIENCY**

Up to 18 kg more grain was produced for each kg K₂O applied as MOP + POLY4 (60:40), making it over three times more efficient than straight MOP.

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**Notes:** 1) Data presented are averages of both sites. Trials were conducted at two sites in Liaoning province: Changtu and Liaozhong. Pre-trial soil level at Changtu: pH: 5.6; 81 mg P kg⁻¹; 121 mg K kg⁻¹; 1420 mg Ca kg⁻¹; 20 mg S kg⁻¹; 128 mg N kg⁻¹; EC: 72 mS cm⁻¹. Pre-trial soil level at Liaozhong: pH: 6.0; 24 mg P kg⁻¹; 36 mg K kg⁻¹; 375 mg Ca kg⁻¹; 52 mg Mg kg⁻¹; 11 mg S kg⁻¹; 28 mg N kg⁻¹; EC: 18 mS cm⁻¹. 2) Cultivar used in the trial was Zhitai No. 3. Trial at Changtu was rainfed, whereas Liaozhong was irrigated four times. N supplied with urea at both sites. N applied at Changtu: 270 kg ha⁻¹, N applied at Liaozhong: 210 kg ha⁻¹. MgO supplied with DAP at a rate of 99 kg ha⁻¹ at Changtu and at 104 kg ha⁻¹ at Liaozhong. Treatment structure: control: No K₂O added. MOP + POLY4 (80:20): 80% of total K₂O supplied with POLY4, MOP + POLY4 (60:40): 60% of total K₂O supplied with POLY4. 3) Genstat analysis of variance blocked by site. Means separation by Fisher’s LSD test at the 5% significance level. 4) Crop revenue considered a price of US$264/t (Argus, April 2019). 5) Potassium use efficiency is agronomic efficiency, which is defined as yield obtained – yield of control K₂O rate per hectare (kg ha⁻¹) gained of grain (kg ha⁻¹) of fertilizer.