Growing CORN IN VIETNAM

KEY FINDINGS

- Up to 14% yield improvement
- Greater grain weight and starch content
- Quicker emergence and improved leaf area index

A CASE FOR POLY4

- In Son La province, corn (maize) is grown across nearly 155,000 ha – 30% of the total crop area is in the Northern Upland region.

- Corn is mostly cultivated on steep-sloped, high land under rainfed conditions.

- In Vietnam, sulphur (S) is quickly lost from soils due to leaching. Potassium and magnesium deficiencies are also significant in many areas.

- POLY4’s extended nutrient delivery profile provides K, sulphate-S, Mg and Ca throughout the life of the crop, and supports resilience against leaching losses.

poly4.com
Higher yields were achieved with addition of more POLY4. Grain yield was significantly improved with MOP+POLY4 (60:40) and MOP+POLY4 (40:60) fertilizer plans compared to MOP. Corn starch is important in the region for ethanol production and animal feed. POLY4 inclusion generally increased starch content – where POLY4 supplied over 40% of K$_2$O starch content was significantly greater compared to MOP.

**IMPROVED YIELD COMPONENTS**

Thousand grain weight was significantly improved with all POLY4 treatments. The number of filled grain per cob was greater with 20% and 60% POLY4 inclusions compared to MOP. The number of immature grains per cob was also decreased with POLY4.

**ENHANCED GROWTH**

Seedling emergence was greater, with 20% and 60% POLY4 inclusions, than MOP. All POLY4 fertilizer plans gave significantly higher leaf area indices. Plants were also numerically taller.

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**SIGNIFICANT GRAIN YIELD INCREASE**

**TRIAL FOCUS**

To compare the response of corn to POLY4 with the standard MOP plan in Vietnam’s Northern Upland region.

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**PARTNER**

Soils and Fertilizer Research Institute, Academy of Agricultural Sciences

**LOCATION**

Son La, Vietnam

**DATE**

2018

Notes: IPNI: An introduction to the major soil types in Vietnam; Tran Menh Tien (2015) Vietnam Soil Resources, Asian Soil Partnership Consultation Workshop on Sustainable Management and Protection of Soil Resources; Data analysed by Genstat ANOVA with means separation by Fisher’s Test at 10% level. Initial soil analysis: 24 mg P kg$^{-1}$, 139 mg K$^+_{2}$ ha$^{-1}$, 60 kg S ha$^{-1}$ and 120 kg CaO ha$^{-1}$ from SSP.

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*All treatments received 150 kg N ha$^{-1}$ from urea, 90 kg P$_2$O$_5$ ha$^{-1}$, 60 kg S ha$^{-1}$ and 120 kg CaO ha$^{-1}$ from SSP.