



Growing CORN IN VIETNAM'S CENTRAL HIGHLANDS REGION

KEY FINDINGS

12% yield improvement

Highest yield achieved with addition of more POLY4

Enhanced quality

Soil and environmental benefits



Source of macro and micro nutrients

POLY4 BENEFITS

s Mg Ca

Extended nutrient delivery profile



Calcium supports soil and plant health



Resilient to leaching losses

A CASE FOR POLY4

- In Dak Lak province corn (maize) is grown across nearly 115 thousand ha and occupies 48% of the corn area in the Central Highlands of Vietnam.
- Corn is cultivated on both steep, high land and on flat areas under rainfed condition.
- 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.

Treatments	Nutrients applied (kg ha ⁻¹)				
	% K from POLY4	K ₂ O	S	CaO	MgO
MOP	0	120	60	120	0
MOP + POLY4 (80:20)	20	120	93	149	10
MOP + POLY4 (60:40)	40	120	125	178	21
MOP + POLY4 (40:60)	60	120	158	207	31

*All treatments received 150 kg N ha⁻¹ from urea, and 90 kg $\rm P_2O_5$ ha⁻¹ 60 kg S ha⁻¹ and 120 kg CaO ha⁻¹ from SSP.

IMPROVED YIELD



Corn yield was improved with the POLY4 fertilizer plans. The highest yields were achieved after more POLY4 was added: MOP + POLY4 (40:60) had significantly higher yield than MOP.

Starch content was maintained among the treatments (mean of 72%).



IMPROVED GRAIN WEIGHT



Thousand grain weight was significantly improved with the 60% POLY4 inclusion.



IMPROVED GROWTH



POLY4 treatments (20% and 60% inclusion ratios) had significantly higher leaf area indices than MOP. Stem thickness was significantly increased with all POLY4 treatments.



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 Fishers Test at 10% level. Initial soil analysis: 41 mg P kg⁻¹; 131 mg K kg⁻¹.

TRIAL FOCUS

To compare the response of corn to POLY4 fertilizer plans with the standard MOP plan.

PARTNER

Soils and Fertilizer Research Institute, Academy of Agricultural Sciences

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