Growing CORN IN INDIA

A CASE FOR POLY4

- Corn is India’s third most important staple crop after rice and wheat.
- Sulphur deficiency is becoming a major issue. 45% of Indian soils show S deficiencies.
- POLY4 contains plant-available sulphate-S, as well as K, Ca and Mg. Its sustained nutrient delivery makes it ideal for meeting the demands of corn throughout the growing season.
- Local recommendations are to apply N, P, K and S. However, the typical local farming practice is to apply N and P only.

poly4.com
Yield was responsive to K and S fertilizer. POLY4 had a consistently greater yield (+7%) than the commercial alternative (MOP+S). The yield after 38 kg K₂O ha⁻¹ from POLY4 was very close to the yield at recommended practice (75 kg K₂O ha⁻¹ and S). This implies a more efficient fertilizer practice.

**GREATER YIELD**

**IMPROVED THRESHING**

Threshing percentage is the proportion of grain removed from the cob during processing. A higher threshing percent is likely to follow factors like better cob maturity.

Higher threshing percentage at harvesting is key to overall grain yield increase.

* All treatments received 150 kg N and 75 kg P₂O₅ from urea and DAP.

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**TRIAL FOCUS**
To compare POLY4 with MOP + S at different application rates.

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**PARTNER**
ICAR-IARI, New Delhi

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**LOCATION**
New Delhi, India

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**DATE**
2019

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At the recommended K₂O rate, the POLY4 treatment increased income by US$123/ha over the MOP + S treatment. Compared to the N + P (control), the income increase reached US$525/ha with POLY4.

**ENHANCED POTASSIUM AND SULPHUR EFFICIENCY**

Nutrient agronomic efficiency is defined as the yield increase per kilogram of fertilizer nutrient applied.

POLY4 outperformed MOP + S gaining more yield per applied kg of K₂O and S at all application rates. This implies POLY4 was a more efficient fertilizer than MOP + S.

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Notes: 1) Farmers portal. Ministry of Agriculture and Farmers Welfare. Government of India. Available at https://farmer.gov.in/M_cropstatsmaize.aspx. Accessed on 25 June 2019; 2) Status of Indian Soils. The Sulphur Institute. Available at https://www.sulphurinstitute.org/india/status.cfm. Accessed on 28 June 2019; 3) Recommended K₂O rate of 75 kg ha⁻¹. All treatments received 150 kg N and 75 kg P₂O₅ from urea and DAP. Pre-trial soil levels: pH: 8.1, 3% organic carbon, 113 mg N kg⁻¹, 9 mg P₂O₅ kg⁻¹, 101 mg K₂O kg⁻¹, 1.4 mg S kg⁻¹; 4) Genstat means of three replicates; 5) Revenue is crop price multiplied by yield at the recommended K₂O rate. Corn price US$251/t; 6) Agronomic efficiency is defined as: (treated yield– yield untreated control)/ kg ha⁻¹ of nutrient applied. Agronomic efficiency of K₂O is determined with NPS control (NP + 30 kg S), whereas S agronomic efficiency is determined with NPK control (NP + 75 kg K₂O).