Growing CORN IN INDIA

A CASE FOR POLY4

• India has the fourth largest corn (maize) area in the world with 9.2 million hectares planted in 2017.

• A mustard-maize cropping system is prevalent in Uttarakhand, where POLY4 improved the prior mustard crop yield by 13%.

• N + P and MOP + elemental S (40 kg ha⁻¹) are the typical fertilizers for mustard-maize systems. Elemental sulphur is not immediately plant-available and must be converted by microorganisms to sulphate-S.

poly4.com
**IMPROVED GRAIN YIELD**

Grain yield was increased by 1.6 t ha\(^{-1}\) after applying MOP + POLY4 compared to standard practice (MOP + 40S). Number of grains was increased from 473 per cob with MOP + 40S to 530 per cob with MOP + POLY4.

**INCREASED FERTILIZER MARGIN**

Fertilizer margin was greatest when POLY4 treatments replaced standard fertilizer inputs.

**ENHANCED PLANT GROWTH**

POLY4-fertilized corn was larger which allowed the crop to capture more sunlight. Stem girth was also increased in the POLY4-fertilized crops.

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**Notes:** 1) FAO Stat (2017); 2) Mustard factsheet, Uttarakhand, India (2018), Sirius Mineral; 3) N and P supplied from urea and DAP at 120 kg N ha\(^{-1}\) and 40 kg P\(_2\)O\(_5\) ha\(^{-1}\) from urea and DAP; 4) Two-thirds of potassium (29 kg K\(_2\)O) was supplied by POLY4 in the MOP + POLY4 treatment; 5) Initial soil analysis: pH 7.5, 7 mg P kg\(^{-1}\), 288 mg Mg kg\(^{-1}\), 2700 mg Ca kg\(^{-1}\), 5 mg S kg\(^{-1}\), 1.2% SOM; 6) Fertilizer prices: MOP (US$214/t), POLY4 (US$214/t), bentonite (US$350/t), DAP (US$307/t), urea (US$84/t); Analysis accounts for fertilizer application of spreading cost of US$9.07/t. Corn price was US$243/t. Margin = crop output (US$/ha) minus (cost of fertilizer material plus spreading cost).

**Source:** G B PANT University of Agriculture & Technology (2018) 88000-GBPU-88010-17.

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**TREATMENT FOCUS**

To compare POLY4’s effect on corn yield to the commercial practice of MOP + elemental S.

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**PARTNER**

G B PANT University of Agriculture & Technology

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**LOCATION**

Pantnagar, India

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**DATE**

2018