

TRIAL RESULTS

# SOYBEAN

**ONTARIO, CANADA (2016)**



## TRIAL OBJECTIVE

To compare the effectiveness of different sources of potassium and sulphur, including straight and blended fertilizers, on soybeans.

## HIGHLIGHTS

**FLEXIBILITY IN USE AS A STRAIGHT OR AS THE K SOURCE AS PART OF A BLEND**

**12-16% INCREASE IN YIELD COMPARED TO MOP+GYPSUM**

## TRIAL DESIGN

**PARTNER:** UNIVERSITY OF GUELPH

**LOCATION:** ONTARIO, CANADA

**YEAR:** 2016

- Ontario is the largest soybean producing province in Canada accounting for 58% of national production.
- Trial site was realistic of a working farm.
- Approximately 50% of soil in Ontario is responsive to potassium and sulphur fertilizers.
- Two field sites (Ridgetown and Pioneer) were chosen for this trial.
- This trial compared potassium and sulphur sources: MOP, Gypsum and POLY4.



## TREATMENT TABLE (kg ha<sup>-1</sup>)<sup>1</sup>

NUTRIENT	AVERAGE NUTRIENT APPLIED IN TRIAL (kg ha <sup>-1</sup> )						
	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	CaO	S	Cl
Control	180	50	0	0	0	0	0
MOP	180	50	60	0	0	0	48
MOP+Gypsum	180	50	60	0	55	15	48
POLY4	180	50	60	26	72	33	13
POLY4+MOP (37:63 K <sub>2</sub> O)	180	50	60	10	26	12	35

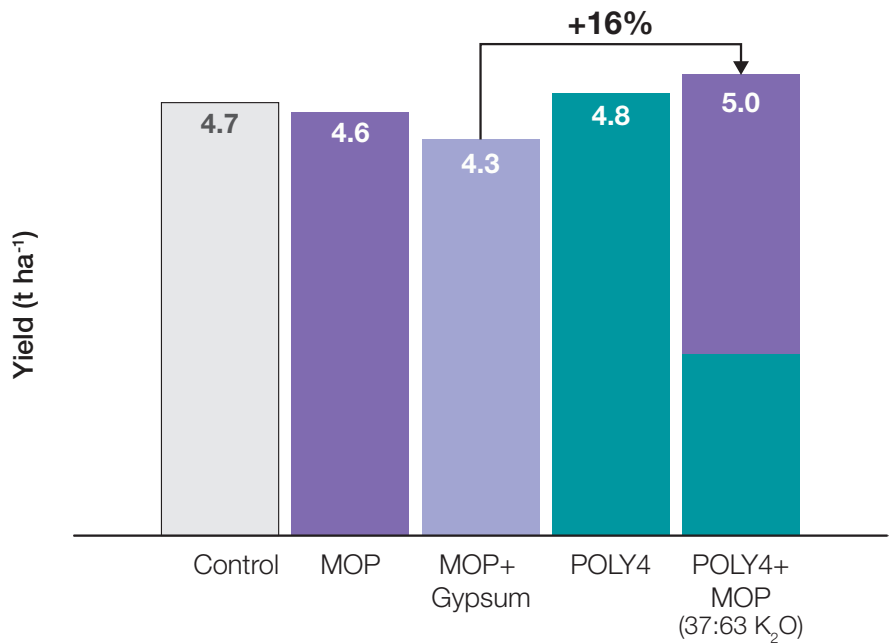




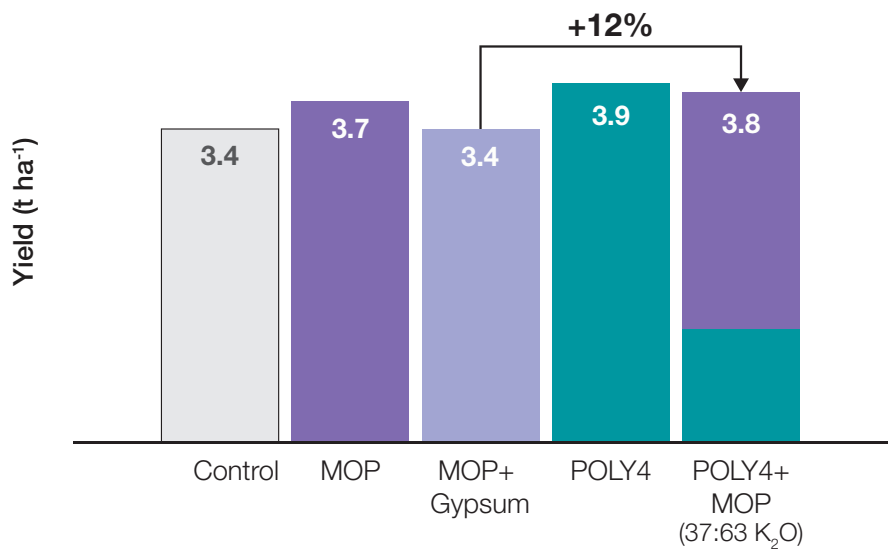
# YIELD SUMMARY (t ha<sup>-1</sup>)<sup>1</sup>

- Using Gypsum to supply sulphur did not enhance yields because of limited nutrient release and low solubility.
- Application of POLY4 to supply potassium and sulphur gave a yield lift over MOP and MOP+Gypsum.
- At the Ridgetown site, the value of magnesium from POLY4 elevated yields higher than Pioneer site due to differences in soil magnesium.

RIDGETOWN SITE



PIONEER SITE



Notes: 1) GENSTAT means. Initial soil analysis: Pioneer field – pH 5.6, P 27 mg kg<sup>-1</sup>, K 80 mg kg<sup>-1</sup>, Mg 65 mg kg<sup>-1</sup>; Ridgetown field – pH 6.9, P 20 mg kg<sup>-1</sup>, K 76 mg kg<sup>-1</sup>, Mg 204 mg kg<sup>-1</sup>.

Source: University of Guelph (2016) 48000-UGR-48010-16.

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