Polysulphate Trial

Canola
(Brassica napus)
on a grey sand-loam soil

Polysulphate fertilizer is a soluble, easily-absorbed, cost-effective answer to crop nutrition, containing four key plant nutrients: sulphur, potassium, magnesium and calcium.

S	48% SO_3 (19.2% S)
K	14% K_2O (11.6% K)
Mg	6% MgO (3.6% Mg)
Ca	17% CaO (12.2% Ca)

ICL

Fertilizerplus
Premium plant nutrition from ICL Fertilizers

When

Sowing: 4th May 2021
Harvest: December 2021

Where

West Broomehill, Western Australia

Crop

Canola *(Brassica napus)* cultivar GT-53

Soil type

Grey sand-loam

Measurements

Yield

Objective

To evaluate the effect of Polysulphate applied at three rates on Canola yield as compared with NPKS fertilizers.

Treatments

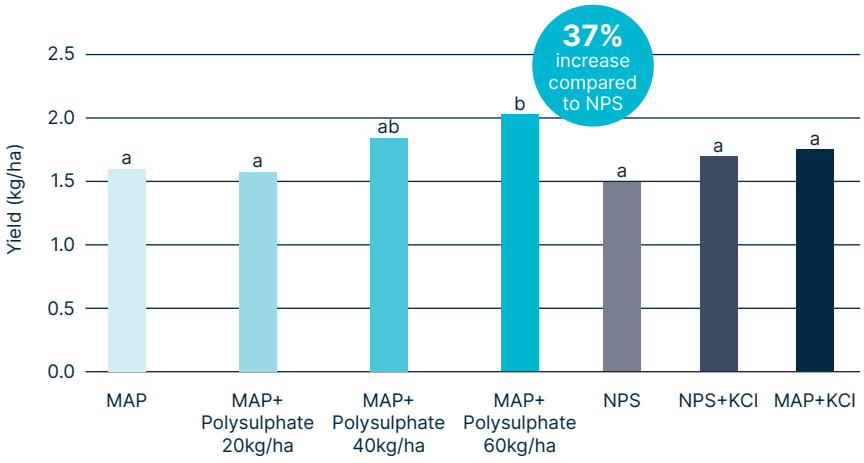
This randomized block experiment contained 7 treatments and 4 replications. The treatments consisted of the application of 50 kg/ha of N and 15 kg/ha of P to all treatments. Different combinations of MAP, Polysulphate, NPS and KCl were tested, resulting in different doses of S and K.

Treatments	MAP	NPS	Polysulphate	KCl	Liquid N fertilizer[1]	N	P	K	S
				(kg/ha)					
MAP	69				134.8	50	15	0	1.0
MAP+Polysulphate20	69		20		134.8	50	15	2.2	5.0
MAP+Polysulphate40	69		40		134.8	50	15	4.5	8.9
MAP+Polysulphate60	69		60		134.8	50	15	6.7	12.9
NPS[2]		107			108.3	50	15	0.0	10.3
NPS[2]+KCl		107		13.4	108.3	50	15	6.7	10.3
MAP+KCl	69			13.4	134.8	50	15	6.7	1.0

[1] *Liquid nitrogen fertilizer: urea ammonium nitrate (UAN 32N), split between sowing and topdress.*
[2] *NPS fertilizer 14.3N-14P-0K+9.6S (elemental analysis).*

Results

- There was a linear yield increase with the increase in Polysulphate rate.
- MAP+Polysulphate treatments gave higher yields than the MAP and NPS treatments, with or without KCl.
- MAP+40 kg Polysulphate gave significantly higher yield than NPS+KCl and MAP+KCl, despite all treatments receiving the same rate of potassium.
- The economic analysis shows that MAP+40 kg Polysulphate and MAP+60 kg Polysulphate had the highest relative margins at AUD$ 1,274 and AUD$ 1,421/ha, respectively, compared to the lowest margin of AUD$ 1,002/ha for the NPS treatment.



Different letters indicate significant differences at P < 0.05.

Mined in the UK, ICL is the first – and only – producer in the world to mine polyhalite, marketed as Polysulphate.

Polysulphate

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