



Polysulphate[®] Trial

Soybean (*Glycine max*) on an ultisol 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)
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K	14% K ₂ O (11.6% K)
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Mg	6% MgO (3.6% Mg)
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Ca	17% CaO (12.2% Ca)
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When

- Sowing: October 2017
- Harvest: March 2018



Where

Itapúa, Paraguay



Crop

Soybean (*Glycine max*)



Soil type

Ultisol



Measurements

Yield

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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 Twitter.com/Polysulphate
 YouTube.com/c/Polysulphate-fertilizer
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www.polysulphate.com

Polysulphate is a registered trademark of ICL.

For more information consult
www.polysulphate.com/contact/
 for your contact in your region.

Objective

To compare the agronomic efficiency of bulk fertilizer blends that include Polysulphate with other formulations currently in use, for soybean crop in Paraguay.

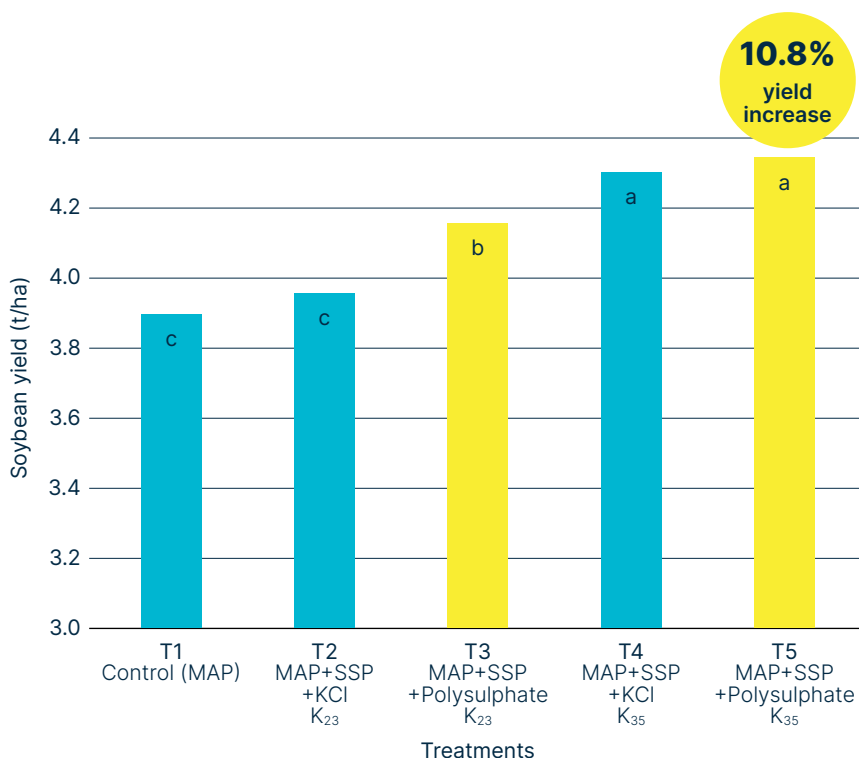
Treatments

The five treatments consisted of two common fertilizer blends (5-20-10 and 5-30-15) having different proportions of $P_2O_5:K_2O$ (2:1 and 3:1) and were prepared using MAP, SSP, and a K source (KCl or Polysulphate). The four grades were compared with monoammonium- phosphate (MAP) as a control lacking S, K and Mg. All five treatments received the same rate of 70 kg P_2O_5 ha⁻¹.

Treatment (fertilizer blend)	$P_2O_5:K_2O$	Grade NPKS	Fertilizer rate	kg ha ⁻¹				
				N	P_2O_5	K ₂ O	MgO	S
T1 Control - MAP	-	10-52-0-0 S	135	15	70	-	-	-
T2 MAP, SSP, KCl	3:1	5-30-10-5 S	233	11	70	23	-	11
T3 MAP, SSP Polysulphate	3:1	6-30-10-6 S	233	15	70	23	5	15
T4 MAP, SSP, KCl	2:1	5-30-10-5 S	233	12	70	35	-	8
T5 MAP, SSP Polysulphate	2:1	6-30-10-6 S	233	15	70	35	3	10

Results

- Soybean crop showed significant yield increase in response to Polysulphate application at both K₂O doses: 6.8% and 10.8% when compared with the control treatment, for 23 kg K₂O/ha and 35 kg K₂O/ha respectively.
- The use of Polysulphate significantly increased soybean yield by 5.3% (T3: 23 kg K₂O/ha, 3:1 P:K ratio) when compared with KCl as K source (T2); but there was no advantage to either KCl nor to Polysulphate at the higher K₂O dose (2:1 P:K ratio).



Different letters above bars indicate significant differences among treatments ($P < 0.05$)
 * From research funded by the International Potash Institute www.ipipotash.org.