Polysulphate®

Trial

Cabbage
(Brassica oleracea)
on a sandy 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: September 2016
- Harvest: January 2017

Where

Antalya, Turkey

Crop

Cabbage
(Brassica oleracea)

Soil type

Sandy loam soil

Measurements

- Yield
- Quality parameters
- Nutrients uptake

Objective

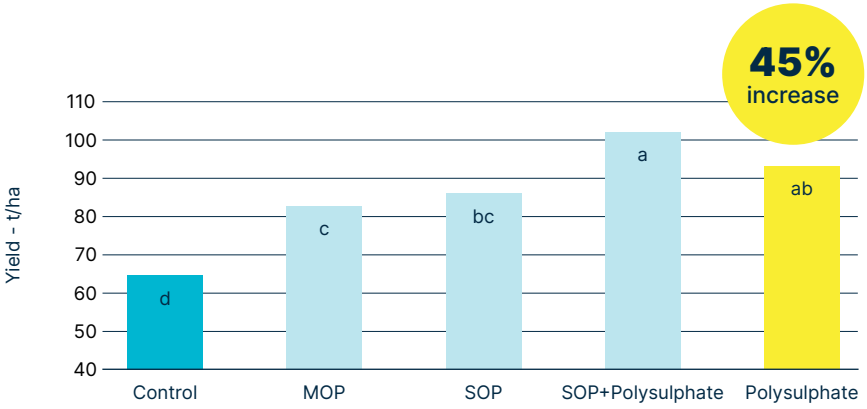
To investigate the effect of Polysulphate, potassium sulphate (SOP) and potassium chloride (MOP, KCl) on the yield, quality parameters and nutrient uptake of cabbage.

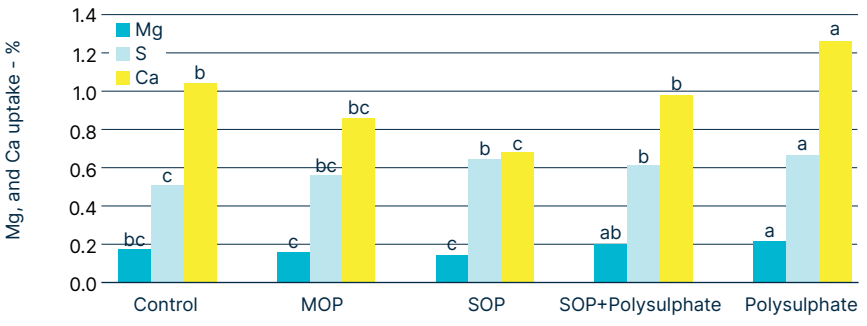
Treatments

This randomized trial consisted of four replicates with five treatments. Nitrogen, phosphorus and potassium were applied according to target yield and soil tests at a rate of 250 kg N ha^{-1} (as urea and di ammonium phosphate, DAP), 100 kg P_2O_5 ha^{-1} (as di ammonium phosphate, DAP) and 300 kg K_2O ha^{-1} (as Polysulphate, SOP or MOP). An additional treatment consisted in K given 50% from SOP and 50% from Polysulphate. Control treatment received the same N and P doses but no K was applied.

Results

- Uptake of Ca, Mg and S were highest in the Polysulphate treatment. Also Ca, Mg and S concentrations in the leaves were highest in the Polysulphate treatment.
- Polysulphate + SOP treatment resulted in the highest total and marketable yield, followed by the Polysulphate treatment. Also head weight, width and height followed the same behavior.
- Polysulphate application increased the net return and was very profitable, with a B:C (benefit:cost ratio) of 20.3 for Polysulphate treatment and 28.3 for the Polysulphate+SOP treatment.
- The highest antioxidant activity, phenols concentration and total soluble solids (TSS) were found in the Polysulphate + SOP treatment, followed by the Polysulphate treatment which statistically did not differ from the Polysulphate + SOP treatment. Vitamin C concentration was found highest at the Polysulphate treatment.





** Different letters above bars indicate significant differences among treatments ($p<0.001$).*
** From research funded by the International Potash Institute www.ipipotash.org.*

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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