

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 ₂ O |
|---|----------------------|
| | (11.6% K) |

| Mg | 6% MgO |
|----|-----------|
| | (3.6% Mg) |

| Ca | 17% CaO |
|----|------------|
| | (12.2% Ca) |







When

- Sowing: September 2016
- Harvest: May 2017



Where

Antalya, Turkey



Crop

Onion (Allium cepa)



Soil type

Sandy loam soil



Measurements

- Bulb yield
- Quality parameters
- · Nutrients uptake

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



- fertilizers.sales@icl-group.com
- Twitter.com/Polysulphate
- YouTube.com/c/Polysulphate-fertiliser
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www.polysulphate.com

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

Objective

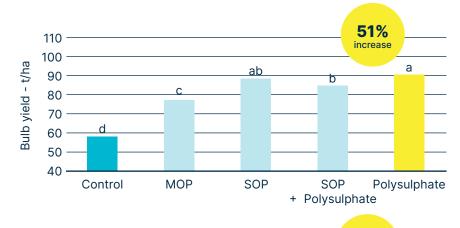
To investigate the effect of Polysulphate, potassium sulphate (SOP) and potassium chloride (MOP, KCI) on the yield, quality parameters and nutrient uptake of onion.

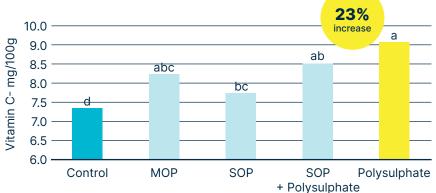
Treatments

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 200 kg N ha⁻¹ (as urea and di ammonium phosphate, DAP), 170 kg P_2O_5 ha⁻¹ (as di ammonium phosphate, DAP) and 270 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

- Plant total uptake of N, P, K, Ca, Mg and S were highest in the Polysulphate treatment. Also micronutrients' uptake (Fe, Zn, Mn and Cu) were also significantly increased by Polysulphate application.
- Nutrients concentration in the bulb (P, K, Ca, Mg, S and Fe) were highest in the Polysulphate treatment.
- Polysulphate treatment resulted in the highest bulb yield significantly differing from the other treatments. Also bulb weight, bulb height and bulb diameter were highest at Polysulphate treatment.
- Polysulphate application increased the net return and was very profitable, with a B:C (benefit:cost ratio) of 21.2.
- The highest vitamin C concentration was found in the Polysulphate treatment. Polysulphate also increased antioxidant activity, phenols concentration and total soluble solids (TSS), which are very important parameters for onion quality.





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