



Polysulphate  
Trial

**Lettuce**  
(*Lactuca sativa*)  
on perlite

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<sub>3</sub>  
(19.2% S)

**K** 14% K<sub>2</sub>O  
(11.6% K)

**Mg** 6% MgO  
(3.6% Mg)

**Ca** 17% CaO  
(12.2% Ca)



### When

- Planting date: June 2019
- Harvest: July 2019



### Where

Northern R&D Farm,  
Israel



### Crop

Romaine lettuce



### Soil type

Perlite



### Measurements

- Yield (fresh weight)
- Dry weight
- Nutrients concentration in leaves

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

**Polysulphate** 

- [fertilizers.sales@icl-group.com](mailto:fertilizers.sales@icl-group.com)
- [Twitter.com/Polysulphate](https://twitter.com/Polysulphate)
- [YouTube.com/c/Polysulphate-fertilizer](https://www.youtube.com/c/Polysulphate-fertilizer)
- [Facebook.com/Polysulphate](https://www.facebook.com/Polysulphate)

**www.polysulphate.com**

Polysulphate is a registered trademark of ICL.

For more information consult [www.polysulphate.com/contact/](http://www.polysulphate.com/contact/) for your contact in your region.

## Objective

To evaluate Polysulphate as calcium source for lettuce, using a greenhouse soilless production system.

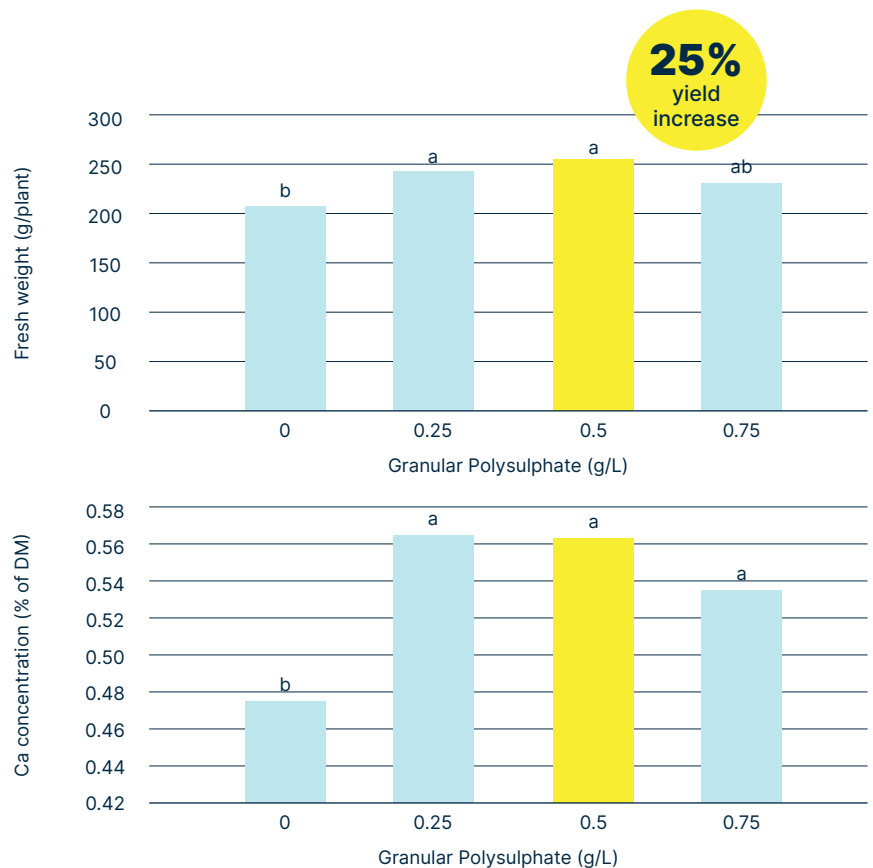
## Treatments

The experiment was designed in complete random blocks, with six replicates consisting of five pots each. Plants were grown under controlled greenhouse conditions in 4 L pots filled with perlite. Treatments included four rates of granular Polysulphate: 0 (control), 0.25, 0.50, and 0.75 g/L that were thoroughly mixed with the perlite before planting.

Water used for irrigation was desalinated using reverse osmosis to a level of 0.6 mEq Ca/L. Plants in all treatments were fertigated throughout the experiment with NPK 5:3:8 + MgSO<sub>4</sub>. Irrigation was scheduled three times a day for 10 minutes per irrigation (approx. 1 L/day).

## Results

- Polysulphate application significantly increased lettuce fresh and dry biomass, adding up to 25% to the fresh weight of the plants.
- Ca and S concentrations in the leaves were significantly higher with Polysulphate application, but no response was observed to the nutrient dose.
- Polysulphate application can ensure enough available Ca to satisfy lettuce requirements and guarantee high produce quality.



Similar letters indicate no significant differences between treatments at  $p < 0.05$ .