



Polysulphate
Trial

Cabbage (*Brassica oleracea*) on a clay 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% SO₃
(19.2% S)

K 14% K₂O
(11.6% K)

Mg 6% MgO
(3.6% Mg)

Ca 17% CaO
(12.2% Ca)



When

Sowing: October 2016
Harvest: January 2017



Where

Piedade, Sao Paulo state, Brazil



Crop

Cabbage (*Brassica oleracea*)



Soil type

Clay soil



Measurements

- Yield
- Incidence of black rot in the leaves (*Xanthomonas campestris*)
- Plant vigor

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



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Objective

Evaluate the yield and quality of the cabbage when KCl is substituted with Polysulphate as the source of potassium.

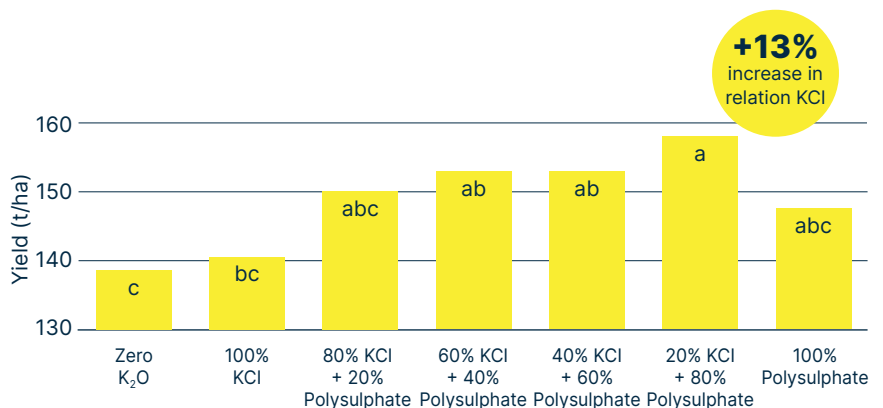
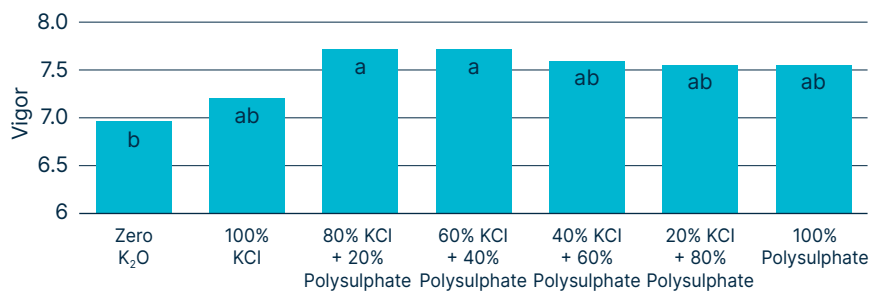
Treatments

This randomized block trial consisted of four replicates with seven different treatments. With the exception of the control, the treatments consisted of different combination of KCl and Polysulphate with the total K_2O application rate remaining at 200 kg/ha. Each treatment was applied (broadcast) to the soil surface in 4 equal applications the day before planting and at 14, 28 and 42 days after planting.

At planting, all treatments were fertilized with 400 kg/ha of P_2O_5 (MAP), broadcast and incorporated into the soil, and 200 kg/ha of N (urea) applied at the same time as the initial treatment applications.

Results

- Polysulphate increased vigor and reduced the risk of black rot.
- Partial replacement of KCl by Polysulphate increased crop productivity.
- The ratios between 40 and 80% Polysulphate in the blend with KCl are the most indicated, even in high fertility soils.



*Different letters within columns indicate statistically significant differences