

Polysulphate 

**Trial**



**S**

48%  $\text{SO}_3$   
(19.2% S)

**K**

14%  $\text{K}_2\text{O}$   
(11.6% K)

**Mg**

6% MgO  
(3.6% Mg)

**Ca**

17% CaO  
(12.2% Ca)

## **Cabbage (*Brassica oleracea* var. *capitata*) on a sandy clay 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

**ICL** Fertilizers

Polysulphate 



## When

- Sowing: October 2013
- Harvest: March 2014



## Where

Hessaraghatta, Karnataka, India



## Crop

Cabbage (*Brassica oleracea* var. *capitata*) cv. Tetries



## Soil type

Sandy clay loam (Typic haplustepts)



## Measurements

- Yield
- Quality
- Growth parameters
- Nutrient uptake

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

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

[www.polysulphate.com](http://www.polysulphate.com)

Polysulphate is a registered trademark of ICL.

**Polysulphate**

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**Fertilizerplus**

Premium plant nutrition from ICL Fertilizers

## Objective

To test the efficacy of Polysulphate as a sulphur source on the performance of cabbage crop in India.

## Treatments

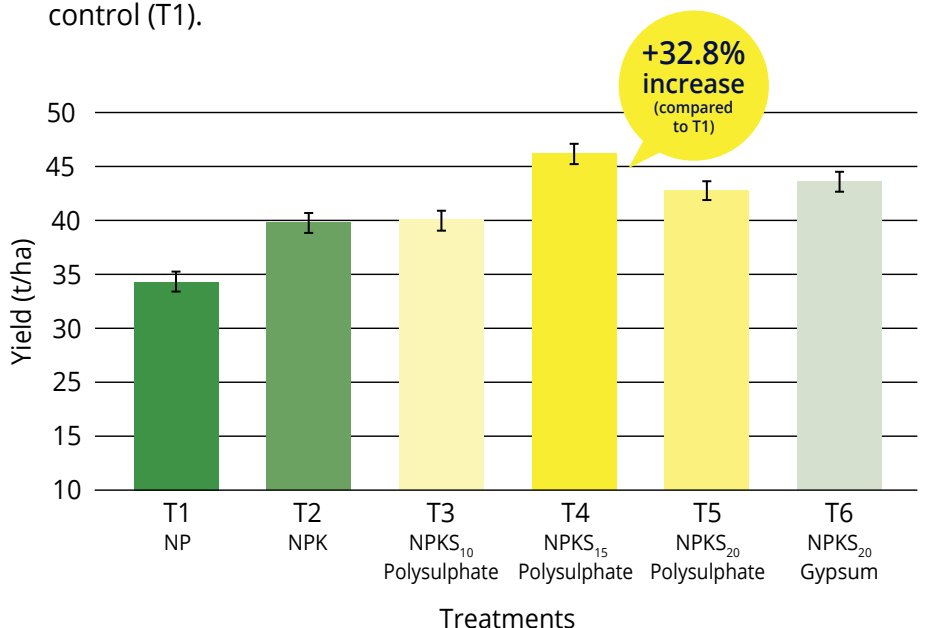
The experiment was laid out in a randomized block design with three replicates and included six treatments:

- T1: Control without S and K fertilization (100% NP only through urea, DAP)
- T2: 100% NPK (urea, DAP, Muriate of Potash (MOP))
- T3: 100% NP + 50% S through Polysulphate (10 kg S ha<sup>-1</sup>) (balanced K through MOP to make 100% K)
- T4: 100% NP + 75% S through Polysulphate (15 kg S ha<sup>-1</sup>) (balanced K through MOP to make 100% K)
- T5: 100% NP + 100% S through Polysulphate (20 kg S ha<sup>-1</sup>) (balanced K through MOP to make 100% K)
- T6: 100% NPK (urea, DAP, MOP) + 100% S through gypsum (20 kg S ha<sup>-1</sup>)

**The recommended dose of fertilizers:** 150 kg N, 100 kg P<sub>2</sub>O<sub>5</sub>, 125 kg K<sub>2</sub>O ha<sup>-1</sup> and 20 kg S ha<sup>-1</sup> was applied as per the treatments. Farm yard manure (FYM) was also applied at 25 t ha<sup>-1</sup> in the last plough.

## Results

- S application significantly contributed to increased yield and quality (head diameter and compactness at harvest) of cabbage.
- S application in the form of Polysulphate, up to 75% of the recommended S dose (T4), enhanced plant growth and development, improving plant height and number of leaves.
- Highest ascorbic acid content and TSS were obtained with S application as Polysulphate, 75% of the recommended S dose (T4).
- N, K, Ca, and S uptake by cabbage crop was highest when S was applied in the form of Polysulphate, up to 75% of the recommended S dose (T4).
- The highest yield was obtained with a full dose N-P-K and 75% S dose delivered through Polysulphate (T4), which gave rise to 32.8% increase in the yield of cabbage, compared to the non-fertilized control (T1).



Bars indicate LSD at P<0.05.

\* From research funded by the International Potash Institute [www.ipipotash.org](http://www.ipipotash.org).