

Polysulphate 

Trial



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)

Sesame (*Sesamum indicum* L.) 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



When

- Sowing: July 2014
- Harvest: October 2014



Where

Kanpur, Uttar Pradesh,
India



Crop

Sesame (*Sesamum indicum* L.)



Soil type

Sandy loam



Measurements

- Yield
- Yield components
- Oil content
- 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 for your contact in your region.

www.polysulphate.com

Polysulphate is a registered trademark of ICL.

Polysulphate

- fertilizers.sales@icl-group.com
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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 sesame crops in India.

Treatments

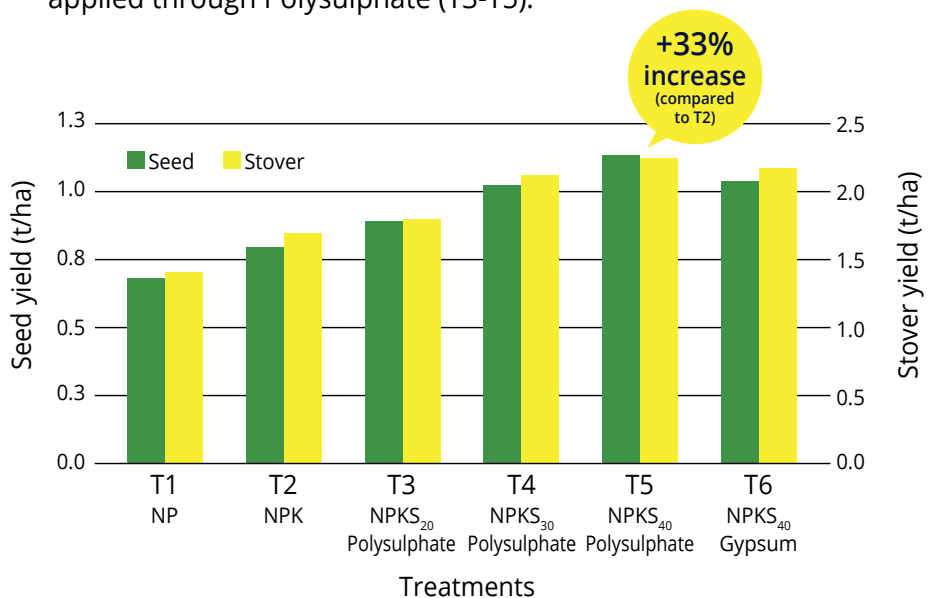
The experiment was laid out in a randomized block design with three replicates and included six treatments:

- T1: Control without S and K fertilization (100% NP through urea and DAP only)
- T2: 100% NPK (urea, DAP, Muriate of Potash (MOP))
- T3: 100% NP + 50% S through Polysulphate (20 kg S ha⁻¹) (balanced K through MOP to make 100% K)
- T4: 100% NP + 75% S through Polysulphate (30 kg S ha⁻¹) (balanced K through MOP to make 100% K)
- T5: 100% NP + 100% S through Polysulphate (40 kg S ha⁻¹) (balanced K through MOP to make 100% K)
- T6: 100% NPK (urea, DAP, MOP) + 100% S through gypsum (40 kg S ha⁻¹)

The recommended dose of fertilizers: 120 kg N, 60 kg P₂O₅, 60 kg K₂O ha⁻¹ and 40 kg S ha⁻¹ was applied as per the treatments. Full dose of P, K, S and half dose of N were applied at the time of sowing as a basal application. The remaining half dose of N was applied in two equal splits, at the stages of maximum tillering and flower initiation.

Results

- Sesame yield increased significantly and steadily in response to the increasing S dose applied through Polysulphate (T3-T5).
- Seed yield increased by 33% at the maximum S dose of 40 kg S ha⁻¹ (T5) when compared to no S addition (T2). The same S dose, when applied through gypsum (T6), yielded slightly fewer seeds.
- The response of oil yield to Polysulphate application was dramatic, providing 43% increase (T5 vs. T2). Sulphur applied through gypsum (T6) also gave rise to a significant increase in oil yields, although to a lesser extent than with Polysulphate.
- Yield components like pods per plant, pod length, seeds per pod and seed weight were highest at the maximum S level (T5).
- K and S uptake by sesame crop increased with increasing S dose applied through Polysulphate (T3-T5).



CD (P=0.05): 0.045 (seed); 0.140 (stover)

* From research funded by the International Potash Institute www.ipipotash.org.