Polysulphate
Trial

Durian
(Durio zibethinus) on sandy clay Ultisol

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_2O (11.6% K)
Mg	6% MgO (3.6% Mg)
Ca	17% CaO (12.2% Ca)

ICL

Fertilizerplus
Premium plant nutrition from ICL Fertilizers

When

- Planted: 1998
- Fertilizer application: July 2020
- Harvest: March 2021

Where

Pahang, Malaysia

Crop

Durian
(Durio zibethinus)

Soil type

Sandy clay Ultisol, pH 6

Measurements

- Fruit weight
- Fruit firmness
- Fruit composition
- Volatile flavor compounds

Objective

To evaluate the effect of Polysulphate on the changes in physicochemical characteristics and total volatile sulphur compounds of Musang King durians.

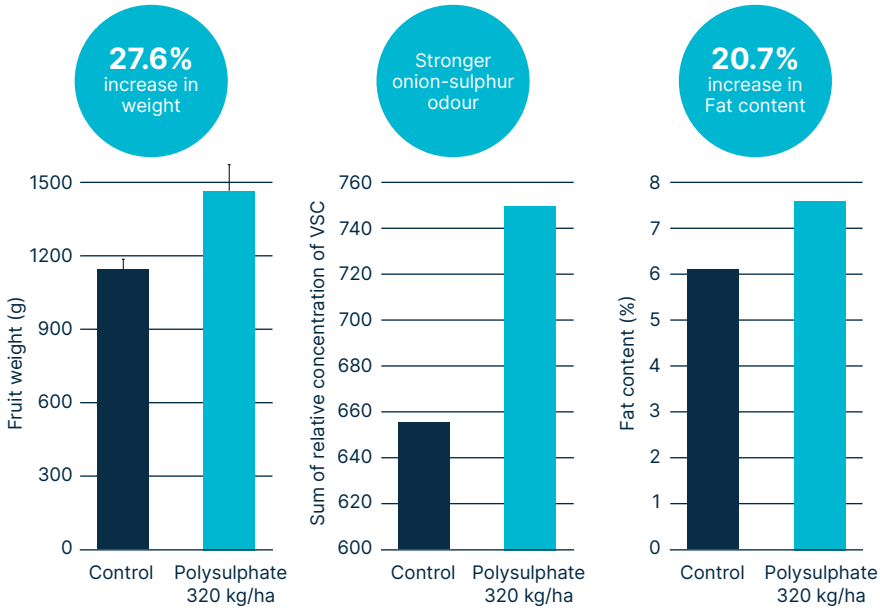
Treatments

The treatments consisted of trees where Polysulphate was applied at 4 kg/tree, and the control where no Polysulphate was applied. Each treatment had 6 biological replicates.

The trees were fertilized with 3 kg/tree of NPK 17-17-17 (K_2O from sulphate of potash) in April and in June 2020; NPK 12-12-17-2 (K_2O from sulphate of potash) was applied in July, August and October 2020 at the rate of 2 kg/tree. Following the appearance of flower buds, the treatment trees received Polysulphate at the rate of 4 kg/tree.

Results

- The whole fruit weight of durians fruit from polysulphate treated trees increased significantly by 27.6%.
- Durians fruit from Polysulphate treated trees showed significantly firmer pulp compared to control.
- The durians fruit from polysulphate treated trees exhibited significant higher fat content (highly desirable by consumers) and lower carbohydrate content compared to the control durians.
- Polysulphate application increased the volatile sulphur compounds (VSCs) in the fruit, which includes diethyl disulfide and diethyl trisulfide. This gives a stronger onion-sulphur odour (highly desirable by consumers).



** Different letters indicate significant differences at P < 0.05.*
** From research funded by the International Potash Institute www.ipipotash.org.*

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

Polysulphate

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