

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)

## **Black pepper (*Piper nigrum* L.) on an acidic 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

- January 2016
  - December 2017
- Garden planted in 2012



## Where

Gia Lai province, Central Highlands, Vietnam



## Crop

Black pepper (*Piper nigrum L.*)



## Soil type

Acidic reddish brown soil



## Measurements

- Yield and quality
- Vegetative growth
- Diagnostic leaves
- Mealybugs infestation

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.php](http://www.polysulphate.com/contact.php) for your contact in your region.

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

Polysulphate is a registered trademark of ICL.

**Polysulphate** 

[info.polysulphate@icl-group.com](mailto:info.polysulphate@icl-group.com)

[Twitter.com/Polysulphate](https://twitter.com/Polysulphate)

[YouTube.com/c/Polysulphate-fertiliser](https://www.youtube.com/c/Polysulphate-fertiliser)

[Facebook.com/Polysulphate](https://www.facebook.com/Polysulphate)

**Fertilizerplus**   
Premium plant nutrition from ICL Fertilizers

## Objective

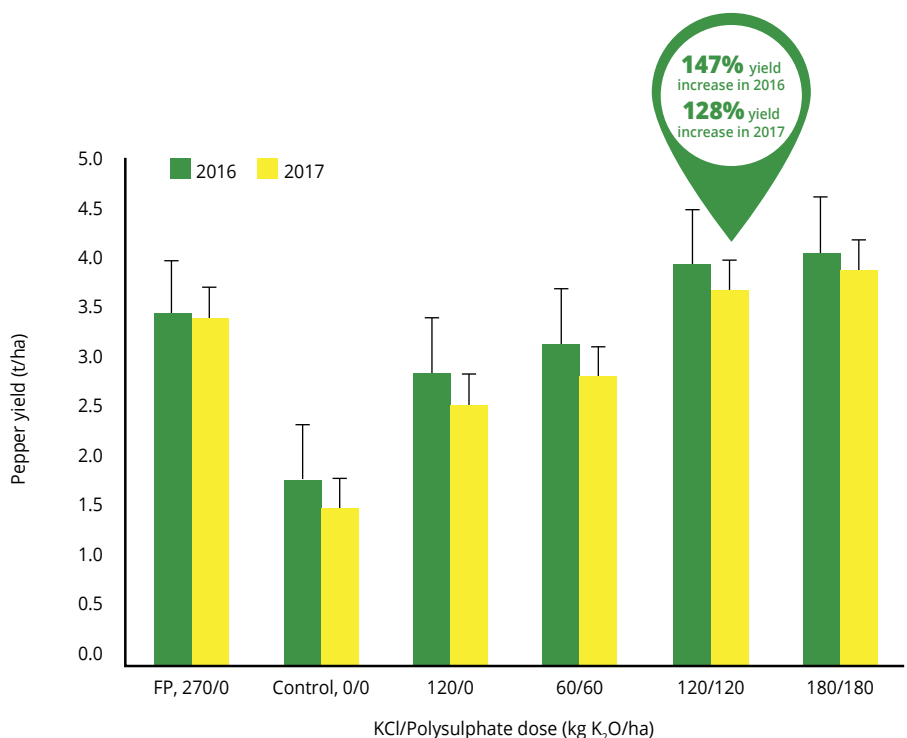
To evaluate the effectiveness of Polysulphate as a supplementary fertilizer on black pepper performance, yield, quality, and economic efficiency under the conditions of the Central Highlands of Vietnam.

## Treatments

The experiment was set according to a randomized complete block design (RCBD) with four replications. Polysulphate was examined in combination with MOP (KCl), in equal proportions, to provide doses of 120, 240 and 360 kg K<sub>2</sub>O/ha/yr, split into six applications during the year. These treatments were compared to doses of zero (control), 120, and 270 (farmers' practice) kg K<sub>2</sub>O/ha applied solely as MOP. Standard N and P fertilizers were applied in all treatments.

## Results

- Fruit weight, volume and density increased with Polysulphate application combined with MOP, while fruit shedding rates reduced.
- Elongation of primary branches and number of secondary branches increased with Polysulphate application combined with MOP, while premature fruit abscission dramatically reduced.
- The combined MOP and Polysulphate applications significantly reduced mealybug infestation.
- Plants supplied with combined MOP and Polysulphate showed increased levels of leaf K, S, Ca, and Mg as compared with the unfertilized control.
- Combined MOP and Polysulphate applied at the doubled dose (240 kg K<sub>2</sub>O/ha) gave rise to the best crop performance and to the highest yield, produce quality, and profit.



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