

Polysulphate 

**Trial**



**S**

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

**K**

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

**Mg**

6%  $\text{MgO}$   
(3.6% Mg)

**Ca**

17%  $\text{CaO}$   
(12.2% Ca)

## Potato (*Solanum tuberosum*) on 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



## When

- Planting date: December 2017
- Harvest: March 2018



## Where

Piedade, São Paulo, Brazil



## Crop

Potato (*Solanum tuberosum*)



## Soil type

Clay



## Measurements

- Yield
- Incidence of Blackleg disease

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)

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**Polysulphate** 

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**Fertilizerplus**   
Premium plant nutrition from ICL Fertilizers

## Objective

To evaluate the effect of Polysulphate as a replacement for MOP fertilizer and to assess the effect of calcium supply on the incidence of Blackleg disease in potato (*Pectobacterium carotovorum*).

## Treatments

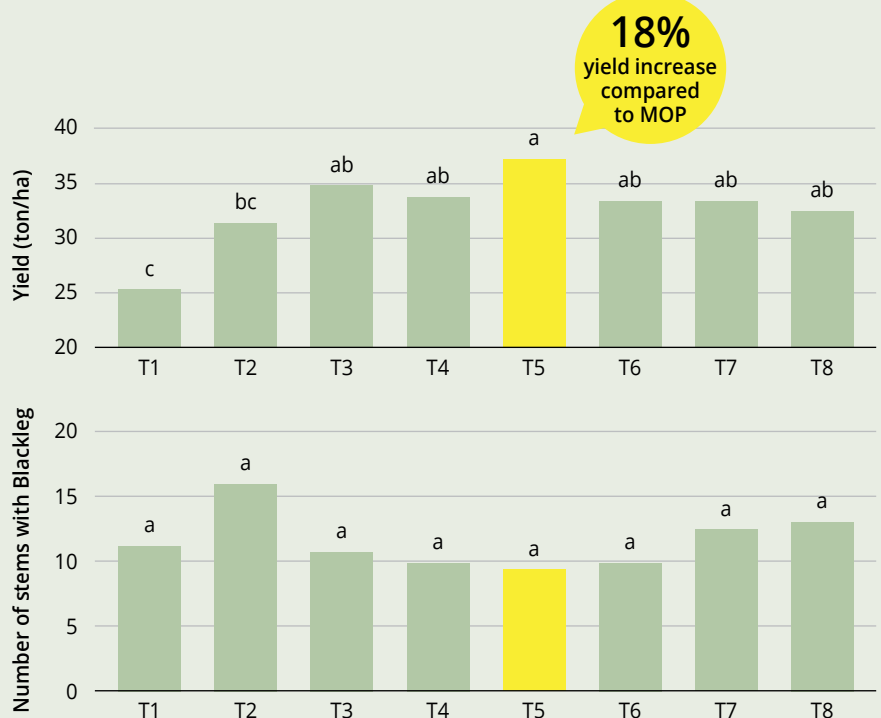
The trial was done in randomized blocks, with 8 treatments. Different blends of MOP and Polysulphate were applied, each providing a rate of 320 kg/ha K<sub>2</sub>O. Treatments 7 and 8 supplied all the potassium through MOP and had part of the phosphorus supplied by simple superphosphate (SSP) with the objective of applying 50% and 100%, respectively, of the rates of Ca supplied by Polysulphate in treatments 4 (50% of Polysulphate) and 6 (100% Polysulphate).

In addition, at planting, 500 kg/ha of P<sub>2</sub>O<sub>5</sub> was applied using MAP, and in treatments 7 and 8 the MAP rate was reduced as a function of the SSP supply. 220 kg/ha of N was also applied using urea.

## Results

- The application of potassium significantly increased the tuber yield.
- Tuber yield increased with partial substitution of MOP with Polysulphate, and the highest yield increase (42.7% as compared with the control and 18% as compared with 100% MOP) was achieved when 75% of MOP was replaced with Polysulphate.
- Where 75% of MOP was replaced with Polysulphate this achieved the greatest reduction in the number of potato stems infected with the bacteria that cause Blackleg.

T1 = Control  
T2 = 100% MOP  
T3 = 75/25 MOP/Polysulphate  
T4 = 50/50 MOP/Polysulphate  
T5 = 25/75 MOP/Polysulphate  
T6 = 100% Polysulphate  
T7 = MOP+SSP (52 kg Ca/ha)  
T8 = MOP+SSP (274 kg Ca/ha)



Different letters indicate significant differences at  $P < 0.05$ .

Results from research funded by the International Potash Institute [www.ipipotash.org](http://www.ipipotash.org).