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)

Tea (*Camillia sinensis*) in 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

Harvest period:
April – December 2015

Where

Lam Dong district, Vietnam

Crop

Tea (*Camillia sinensis*)

Soil type

Fluvo-aquic soil

Measurements

- Bud density
- Bud weight
- Bud length
- Tea bud yield
- Tea quality parameters

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

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Fertilizerplus
Premium plant nutrition from ICL Fertilizers

Objective

Polysulphate was examined as a potential additive to compound NPK fertilizers, as part of an alternative fertilization program for the tea industry in the Lam Dong district.

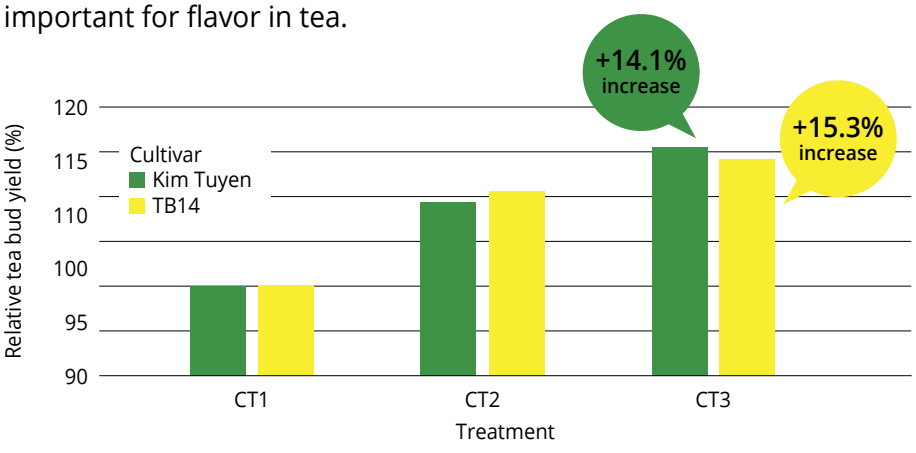
Treatments

Three fertilizer treatments were tested at two sites of seven year old tea plantations of two varieties of tea (Kim Tuyen and TB14) between April and December 2015. The first treatment (CT1) was farmers' standard fertilizer practice, the second treatment (CT2) used locally available commercial compound fertilizer and the third treatment (CT3) was the same as CT2 but fortified with Polysulphate.

Fertilizer	Bao Loc (cv. Kim Tuyén)			Bao Lam (cv. TB14)		
	CT1 (Control)	CT2 (Phu My Fertilizer)	CT3 (Phu My Fertilizer + Polysulphate)	CT1 (Control)	CT2 (Phu My Fertilizer)	CT3 (Phu My Fertilizer + Polysulphate)
	Amount of fertilizer (kg ha^{-1})					
Polysulphate	0	0	200	0	0	150
NPKS (16-16-8-13)	0	800	800	0	400	400
NPK (15-15-15)	0	1,000	1,000	0	500	500
NPK (25-9-9)	0	1,500	1,500	0	750	750
NPK (27-6-6)	0	1,500	1,500	0	750	750
Urea	3,200	900	900	1,600	450	450
Fused Ca-Mg-P	3,353	0	0	1,677	0	0
KCl	832	100	53	466	100	65

Results

Polysulphate, added to a systematic NPK fertilization program for tea plants grown on reddish brown soil in Lam Dong, Vietnam, enhanced the density, weight and size of tea buds, thus increasing tea productivity of both varieties of tea by 14.1-15.3%. Polysulphate also improved tea quality parameters such as dry matter content and the concentrations of soluble substances, tannins and caffeine, which are important for flavor in tea.



Conclusions

Polysulphate enhances the volume and quality of tea buds. Overall, Polysulphate increased farmers' profit by up to 13%. For both cultivars, CT2 was significantly more profitable than CT1, and CT3 more than CT2. These results suggest that the common tea fertilization practice (CT1) in these regions of Vietnam may be considerably improved by using Polysuphate.

Research Partner

Petrovietnam Fertilizer and Chemicals Corporation (PVFCCo), Vietnam.