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)

Kiwifruit (*Actinidia deliciosa*) on 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

ICL

Polysulphate

When

2019 (on plants 8 years after grafting)

Where

Xi'an City, Shaanxi Province, China

Crop

Kiwifruit (*Actinidia deliciosa*) cultivar 'Xu Xiang'

Soil type

Sandy loam

Measurements

- Total yield
- Commercial yield

Objective

To evaluate the effects of Polysulphate and MegaPoly[1] on kiwifruit yield and quality, and to determine appropriate application doses and timing for these fertilizers for the kiwifruit production system in Shaanxi Province, China.

Treatments

The experiment was designed in random blocks with 3 replicates (14 plants per replicate). Fertilizers were applied twice during the growing season.

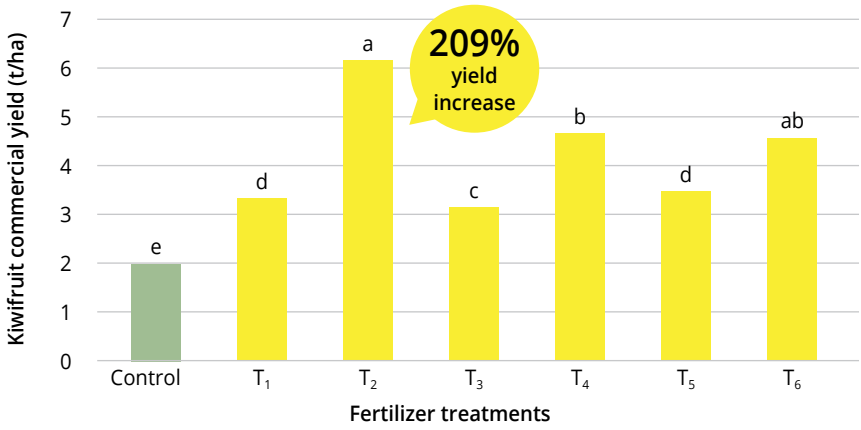
At budding (in early April) all treatments received compound NPK fertilizer (25:5:5) at 750 kg/ha. Polysulphate was applied at 0, 375 and 750 kg/ha to the control, T_1-T_4, and T_5-T_6 treatments, respectively.

At fruit enlargement (July) a second dose of compound NPK fertilizer (20:5:15) was applied at 750 kg/ha to the control, T_1-T_3, and T_6 treatments, and 450 kg/ha to T_4-T_5. Additionally, K_2SO_4 was applied to the control and T_1 at 300 kg/ha K_2SO_4 and MegaPoly was applied at 600 kg/ha to T_3 and 300 kg/ha to T_2 and T_4-T_6.

Results

- Treatment T_2 (375 kg/ha Polysulphate and 300 kg/ha MegaPoly) displayed the highest commercial yield (3 times higher than the control).
- Economic analysis of commercial-grade yields showed that T_2 gave the highest profit for the farmer (2.6 times more profit than the control without Polysulphate and MegaPoly applications).
- Application of Polysulphate at budding and MegaPoly at fruit enlargement demonstrated remarkable potential to enhance kiwifruit yield and quality.

Control = 750NPK+300SOP
T_1 = 750NPK+375Polysulphate+300SOP
T_2 = 750NPK+375Polysulphate+300MegaPoly
T_3 = 750NPK+375Polysulphate+600MegaPoly
T_4 = 450NPK+375Polysulphate+300MegaPoly
T_5 = 450NPK+750Polysulphate+300MegaPoly
T_6 = 750NPK+750Polysulphate+300MegaPoly



Different letters indicate significant differences at P<0.05.

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

[1] MegaPoly is a Polysulphate based fertilizer with of 32, 6.7, 24.3, and 8.6% K_2O, MgO, SO_3, and CaO, respectively

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

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