Growing TANGERINES IN CHINA

POLY4
A SIRIUS MINERALS PRODUCT

K_2O 14% | S 19% | MgO 6% | CaO 17%

KEY FINDINGS

6% yield increase

Enhanced fruit nutrition

Improved vitamin C content

A CASE FOR POLY4

- China was the largest single citrus producer.
- Citrus trees need K, Ca and Mg but farmers in this region rarely apply Mg and Ca fertilizers.
- Citrus trees are susceptible to Cl toxicity, causing long-term injury or death. Farmers therefore typically use SOP as a low-Cl fertilizer to supply K.
- POLY4 has a very low Cl content and contains plant available K, S, Ca and Mg.

POLY4 BENEFITS

- Source of macro and micro nutrients
- Extended nutrient delivery
- Calcium supports soil and plant health
- Compatible in NPK blends
- Blends, stores and spreads well with conventional equipment

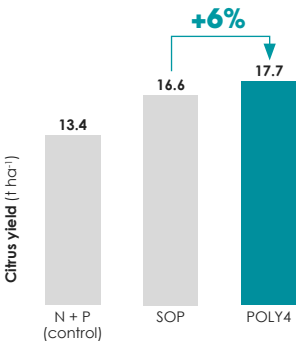
poly4.com

Treatment	Nutrients applied (kg ha^{-1})			
	K_2O	S	CaO	MgO
N + P (control)	0	0	0	0
SOP	169	57	0	0
POLY4	169	229	205	72

*Each treatment received 216 kg N ha^{-1} and 135 kg P_2O_5 ha^{-1}

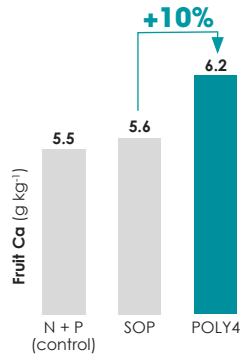
SIGNIFICANTLY GREATER YIELD

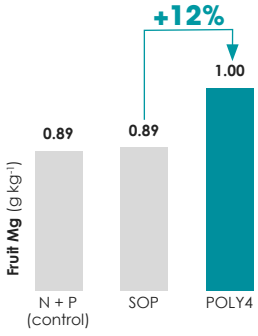
The POLY4 fertilized tangerines had significantly greater yield than SOP.



IMPROVED NUTRITION

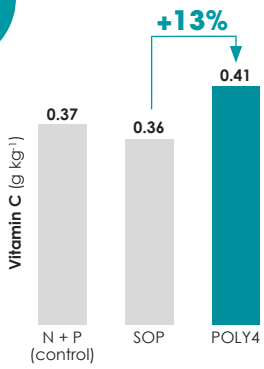
POLY4-fertilized citrus had the greatest fruit Ca and Mg concentrations. Ca and Mg are important for citrus fruit development. Ca deficiencies can cause the skin of citrus fruit to crack. Mg deficiency causes leaf chlorosis and has been reported to decrease yield and give poorer quality fruit with reduced soluble solids and vitamin C.

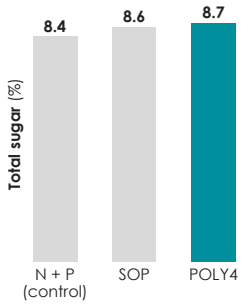




BOOSTED FRUIT QUALITY

POLY4 improved vitamin C content, which is symptomatic of good K nutrition. POLY4 also maintained the total sugar content.





ENHANCED SOIL NUTRIENT LEVEL

The post-harvest soil Ca and soil Mg levels were greater with POLY4. These nutrients can continue to be utilised by the citrus trees in the subsequent season.

Notes: 1) Citrus production stats http://www.fao.org/3/a-i8092e.pdf; 2) Tangerine trees of 'Chunjian' variety were four years old; each treatment received 216 kg N ha^{-1} and 135 kg P_2O_5 ha^{-1} from urea and MAP; 3) Treatment table is based on the average K_2O applied (113, 169, and 225 K_2O ha^{-1}); Initial soil analysis: pH 5.8, EC 115 µS cm^{-1}, 50 mg P kg^{-1}, 89 mg K kg^{-1}, 134 mg S kg^{-1}, 500 mg Ca kg^{-1}, 80 mg Mg kg^{-1}; 4) Significance tested at 5% level; Darwood et al. (2001) Response of Washington Navel orange trees grown on slightly alkaline clay soils to magnesium rate, methods and number of applications. Egyptian Journal of Agricultural Research.

Source: Sichuan Academy of Agricultural Science (2017), 19000-SAAS-19018-17 (citrus).

TRIAL FOCUS

To test the response of citrus (tangerines) to POLY4 compared to SOP.

PARTNER

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LOCATION

Sichuan, China

DATE

2017

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