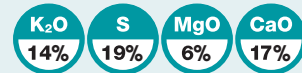


Growing PROCESSING TOMATOES IN ITALY



POLY4
An Anglo American Product

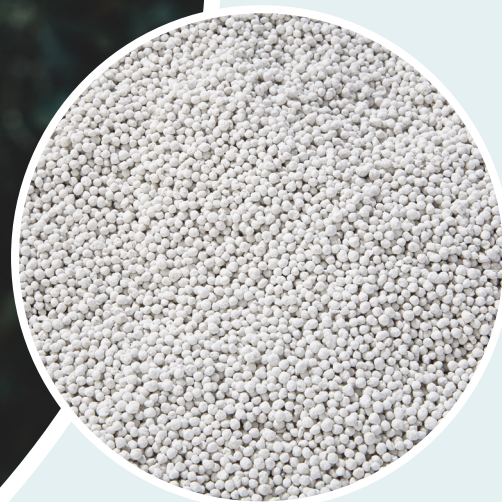


KEY FINDINGS

**32% marketable yield increase
with POLY4 treatment**

Improved economic return

**Uniform ripening and
enhanced fruit quality**



POLY4 BENEFITS



A low Cl⁻ source of K, Ca, Mg and sulphate-S, plus micro nutrients



Sustained nutrient delivery



Suitable for organic farming



Low CO₂ emissions



Blends, stores and spreads well with conventional equipment

A CASE FOR POLY4

- Italy is the largest producer of processing tomatoes in the EU with 4.8 million tonnes harvested in 2018.
- Campania is the most important tomato producing region in Italy.
- Organic farming, particularly of tomatoes, has expanded rapidly in Italy (1,316 ha in 2015 to 2,700 ha in 2018).
- Tomatoes benefit from large K inputs, as well as Ca and Mg, for maximum yield and quality.
- Tomatoes can be sensitive to chloride, and so the use of low-chloride fertilizers like POLY4 is preferred.

Treatments*	Nutrients applied (kg ha ⁻¹)			
	K ₂ O	S	MgO	CaO
SOP	300	108	0	0
SOP + kieserite	300	133	25	0
SOP + POLY4 (75:25)	300	181	31	89
SOP + POLY4 (50:50)	300	288	77	219

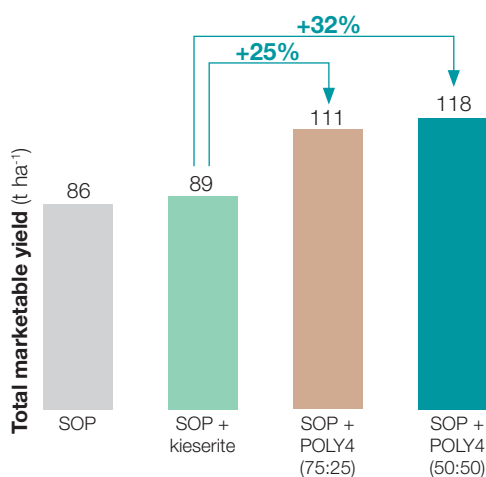
*All treatments received 30 kg of N and 50 kg of P₂O₅ per hectare.

HIGHER MARKETABLE YIELD



Despite a very fertile soil that is typical for the local tomato-growing area, the SOP + POLY4 blends significantly increased yield compared to both standard SOP treatments. This increased income on average by US\$2,316/ha.

The POLY4-fertilized tomatoes had more fruit per plant and larger fruit. They also had less unmarketable produce.

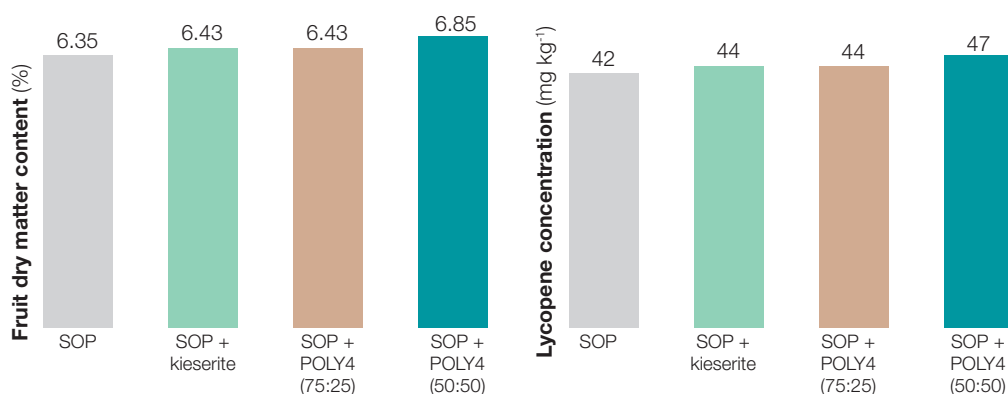


IMPROVED DRY MATTER AND LYCOPENE CONTENT



Higher dry matter content is an important quality characteristic as it improves the consistency of pulped tomatoes. Lycopene is the pigment responsible for the distinctive red colour of tomatoes and is associated with decreasing risk of some types of cancer and cardiovascular disease.

The SOP + POLY4 (50:50) significantly increased both quality measures compared to SOP + kieserite.



TRIAL FOCUS

To compare performance of POLY4 to commercial alternatives for tomato production in Italy.

PARTNER

Sele Agresearch Srl

LOCATION

Campania, Italy

DATE

2019

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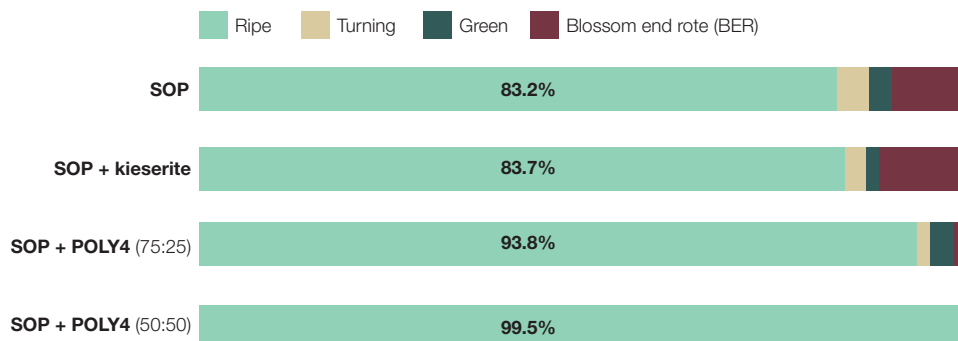
EARLIER AND UNIFORM RIPENING



The POLY4-fertilized tomatoes matured significantly faster and more uniformly. This is beneficial for the mechanised harvest and processing of tomatoes.

Improved maturity followed earlier flowering and better root development.

Percentage of ripe tomatoes



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PARTNER

**Sele
Agroresearch Srl**

LOCATION

Campania, Italy

DATE

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Notes: 1) Istituto Nazionale di Statistica. Coltivazioni Ortive. Available at <http://dati.istat.it>. Accessed on 5 Sep 2019; 2) FoodWeb. Available at <https://www.foodweb.it/2018/07/pomodoro-e-bio-boom/>. Accessed on 5 Sep 2019; 3) Pre-trial soil levels: pH: 8.2, EC: 0.2 dS m⁻¹, 29 g kg⁻¹ SOM, 1680 mg N kg⁻¹, 57 mg P kg⁻¹, 481 mg K kg⁻¹, 2527 mg Ca kg⁻¹, 858 mg Mg kg⁻¹, CEC: 21 meq 100g⁻¹. Cultivar used was Impact F1. Plant density: 30,000 pl ha⁻¹. Crop was drip irrigated. 30 kg ha⁻¹ of N and 50 kg ha⁻¹ of P₂O₅ were applied via ammonium nitrate and DAP. POLY4 was only applied 3 days pre-transplant; 4) Statistical significance at p < 0.05 with Fisher's LSD test; 5) Crop price US\$89/t.

Source: Sele Agroresearch Srl, Italy, 139000-SELE-139010-19 (tomato).

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