

Growing LETTUCE IN USA



POLY4

A SIRIUS MINERALS PRODUCT



KEY FINDINGS

**POLY4 increased lettuce
yield by 2 t ha⁻¹**

More cartons of lettuce produced

Improved revenue by US\$144/ha



POLY4 BENEFITS



Source of macro and micro nutrients



Low chloride content



Extended nutrient delivery profile



Suitable for organic farming



Low carbon footprint

A CASE FOR POLY4

- Lettuce is grown continuously in California fields, with a new crop planted year-round every 80-85 days.
- Approximately 83% of all US Romaine lettuce is grown in California across 30,800 ha. US lettuce production in 2017 was valued at US\$1.5 billion.
- POLY4 can benefit lettuce growers due to its sustained supply of K, S, Ca and Mg to growing crops.

Treatments	Nutrients applied (kg ha ⁻¹)						
	N	P ₂ O ₅	K ₂ O	CaO	MgO	S	Cl
Standard blend (15:15:15) + AN-20	79	56	56	0	0	0	43
POLY4 blend (15:15:15) + AN-20	79	56	56	19	7	21	34

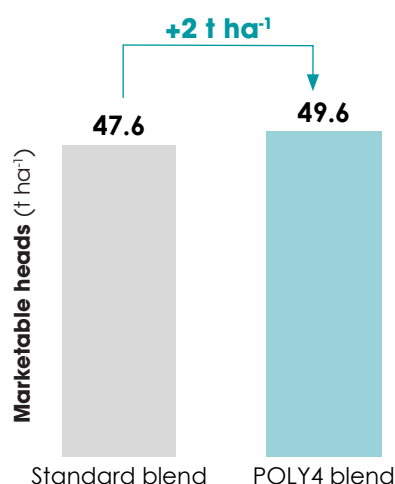
* All treatments received applications of N and P fertilizer.



GREATER YIELD



POLY4 blend gave greater yield than the standard fertilizer option used by US lettuce growers.



TRIAL FOCUS

To compare an NPK blend containing POLY4 to a standard NPK blend used by lettuce growers in California.

PARTNER

**Pacific Ag
Research**

LOCATION

**Salinas, California,
USA**

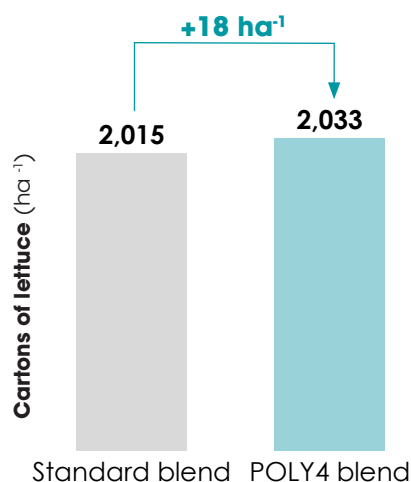
DATE

2018

INCREASED PRODUCTION AND REVENUE



Lettuces are sold by the carton. Cartons are filled with 18 large, 24 medium or 36 small lettuce heads. The MOP + POLY4 blend had the greatest number of cartons. Increased production subsequently improved revenue by US\$144/ha.



Notes: 1) Both treatments received 22 kg N ha⁻¹ from liquid AN-20; For POLY4 blend N and P₂O₅ was supplied by ammonium nitrate (AN) and DAP, 30% of K₂O was supplied by POLY4 and remainder from MOP; for standard NPK treatment N, P₂O₅ and K₂O supplied from commercial 15:15:15 blend; 2) Pre-trial soil analysis: pH 8.1, CEC 9.9 meq/100g, SOM 1.0%, 91 mg P (Bray 1) kg⁻¹, 162 mg K kg⁻¹, 150 mg Mg kg⁻¹, 1599 mg Ca kg⁻¹, 64 mg Na kg⁻¹, 22 mg S kg⁻¹; 3) Revenue is based on price of US\$8/carton.

Source: Pacific Ag Research (2018), 75000-PARC-75011-18 (lettuce).

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