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)

Lucerne (alfalfa, *Medicago sativa*) on a sandy clay loam

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

2017

Where

UK

Crop

Lucerne (alfalfa, *Medicago sativa*)

Soil type

Sandy clay loam

Measurements

- N:S ratio
- Crude protein
- Digestibility

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

To investigate the effect of the application of Polysulphate on the nutritional quality of lucerne (alfalfa). Specifically to increase the S level and improve (tighten) the N:S ratio with the objective of increasing crude protein and improving digestibility.

Treatments

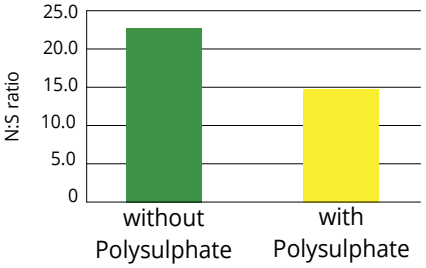
- This was a split field trial.
- A standard broadcast spring application of a phosphate/ potash (PK) fertilizer was compared with a treatment providing the same PK inputs, plus sulphate, magnesium and calcium from Polysulphate.
- The rates of application of the nutrients applied are shown in the table (kg/ha):

	N	P_2O_5	K_2O	MgO	SO_3	CaO
Standard PK	0	80	120	-	-	-
PK+Polysulphate	0	80	120	12	96	34

Results

- The N:S ratio of 20:1 with the standard PK fertilizer was narrowed to the desired 12:1 by the Polysulphate treatment. An N:S ratio of 20:1 is considered too wide for optimal digestibility of the fodder and for maximum nitrogen use efficiency by ruminant livestock.
- The nitrogen content of the fodder (measured as 'crude protein') was improved by the Polysulphate treatment, indicating that an adequate sulphur supply is necessary to enable this crop to fix and utilise nitrogen efficiently.

N:S ratio in lucerne



Crude protein in lucerne