Polysulphate®

Trial

Wheat
(Triticum durum)
on a loamy soil

Polysulphate fertilizer is a soluble, easily-absorbed, cost-effective answer to crop nutrition, containing four key plant nutrients: sulphur, potassium, magnesium and calcium.

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)

ICL

Fertilizerplus®
Premium plant nutrition from ICL Fertilizers

When

- Sowing: 21 December 2021
- Harvest: 27 July 2022

Where

León Province, Spain

Crop

Wheat *(Triticum durum)*, cv. Solindo R1

Soil type

Loamy, pH 7.4

Measurements

- NDVI
- Yield
- Protein content in grain
- Grain specific weight

Objective

To investigate the efficiency of Polysulphate as a sulphur source which also includes potassium, magnesium and calcium, and to compare it with the farmers' practice which requires iron sulphate as an additional source of sulphur for wheat.

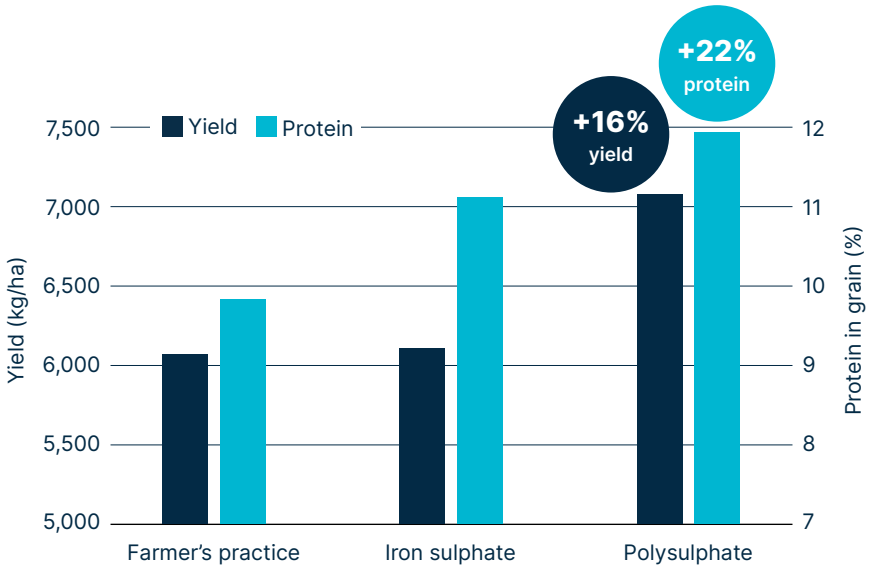
Treatments

This field experiment was conducted in a randomized complete block design with two replicates. The experiment tested three treatments: farmers' practice without sulphur application, farmers' practice including an application of iron sulphate at a dose of 200 kg/ha, and Polysulphate applied at 300 kg/ha. The Polysulphate provided all the potassium (42 kg K_2O/ha) and the sulphur (58 kg S/ha) as sulphate.

In all three treatments, the nitrogen and phosphorus applications were maintained at 198 kg N/ha and 92 kg P_2O_5/ha by applying calcium ammonium nitrate and DAP. Potassium was applied at 42 kg K_2O/ha, as KCl in the two farmers' practice treatments and as Polysulphate in the 3rd treatment. All fertilizers were incorporated before sowing, except calcium ammonium nitrate which was applied as top dressing.

Results

- Polysulphate improved the biomass, measured by NDVI, at the tillering and flowering stages.
- Wheat yield was 16% higher with Polysulphate compared to iron sulphate.
- Protein content of wheat fertilized with Polysulphate was 0.8% higher (an 8% increase) compared with iron sulphate, and up by 2.2% (a 22% increase) compared with the farmer's practice.
- Polysulphate increased the grain specific weight by 1.7% compared with iron sulphate and 2.1% compared with the farmer's practice.
- Polysulphate increased the net income from the wheat crop by 149% compared with iron sulphate.



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

Polysulphate

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