



Fertilizing Oilseed Rape (*Brassica napus*) and other Brassicae with Polysulphate





Main features of Polysulphate fertilizer

- Ideal sulphur fertilizer with 48% SO₃ and additional benefit of potassium (K), magnesium (Mg) and calcium (Ca), all in sulphate form.
- Prolonged nutrient release pattern reduces sulphate leaching risk.
- Fully soluble, with all nutrients available for plant uptake during the growth period.
- Excellent spreading characteristics; spreads evenly and accurately up to 36 m.
- Low chloride, very low salinity index, neutral pH, no acidifying effect.
- Natural mined mineral (polyhalite) approved for organic agriculture.
- UK produced fertilizer with a low carbon footprint.

Expected benefits

- Better yields and quality
- Higher oil content in seed crops
- Increased nitrogen use efficiency

Functions of S, K, Mg and Ca in brassicae

- **Sulphur** is an essential constituent of proteins: it is required for the synthesis of three of the amino acids which make up true proteins.
- **Potassium** secures yield and quality, transport of sugars, stomatal control and is a co-factor of many enzymes. It reduces susceptibility to plant diseases and impact of drought and is essential for efficient use of nitrogen.
- **Magnesium** is fundamental for photosynthesis, being a central part of chlorophyll molecule, and is key to grain filling and leaf quality.
- **Calcium** for strong and healthy crops; it is a major building block in cell walls and reduces susceptibility to diseases.

Nutrient offtake (removal) by oilseed rape and some vegetable brassicae

| Nutrient | Offtakes per tonne - kg/t | | | Offtakes per hectare - kg/ha | | |
|----------------------|---------------------------|----------------|--------------------|---------------------------------|---------------------------|-------------------------------|
| | Oilseed rape grain | Cabbage, fresh | Cauliflower, fresh | Oilseed rape, grain 3.5 t/ha | Cabbage, fresh 50 t/ha | Cauliflower, fresh 50 t/ha |
| K ₂ O (K) | 11.0 (9.1) | 3.6 (3.0) | 4.8 (4.0) | 39 (32) | 180 (150) | 240 (200) |
| MgO (Mg) | 5.0 (3.0) | 0.4 (0.3) | 0.6 (0.4) | 18 (11) | 20 (15) | 30 (20) |
| CaO (Ca) | 5.7 (4.1) | 1.0 (0.7) | 3.5 (2.5) | 20 (14) | 50 (35) | 175 (125) |

Sources: UK Fertiliser Manual, PDA and Australian Soil Fertility Manual.

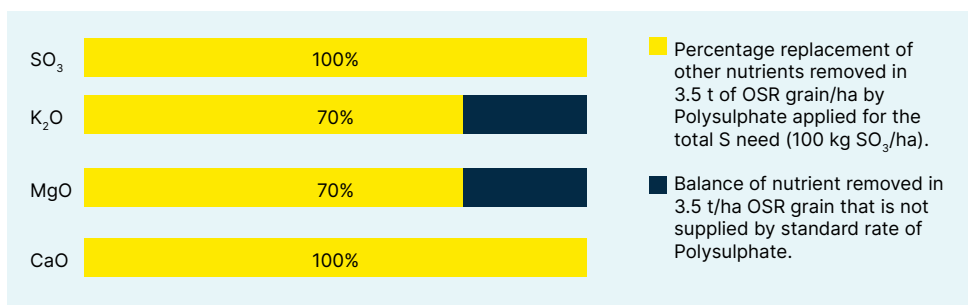
Sulphur main dressing - guide recommendations

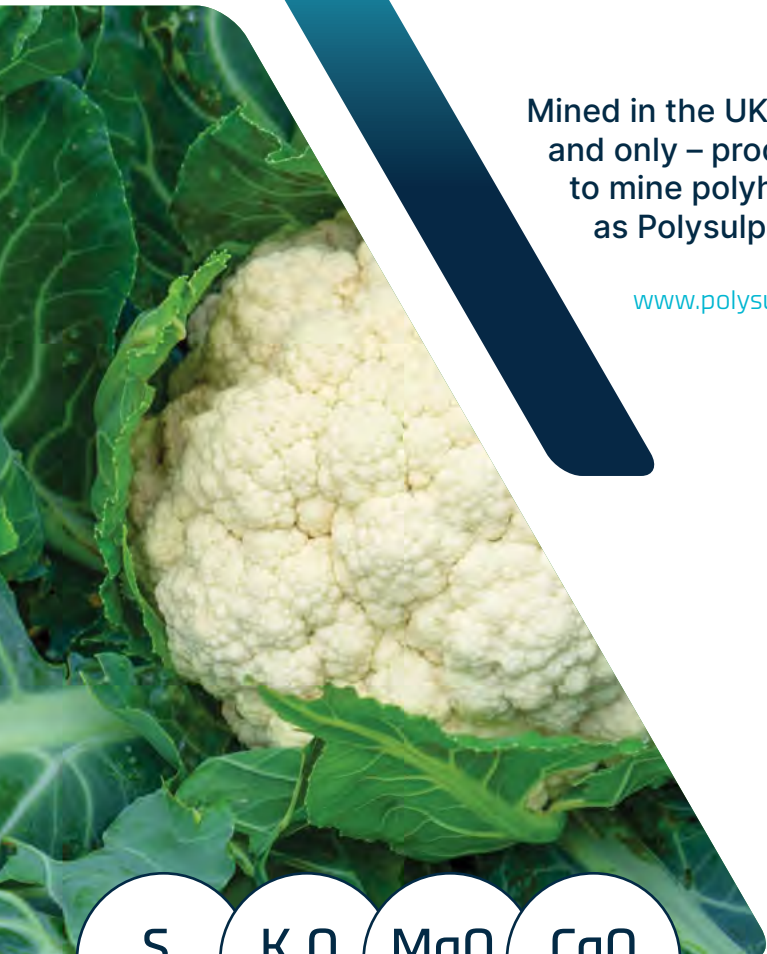
| Nitrogen rate kg N/ha | Sulphur recommendation guide | |
|--------------------------|------------------------------|---------|
| | kg SO ₃ /ha | kg S/ha |
| 100 | 50 | 20 |
| 150 | 75 | 30 |
| 200 | 100 | 40 |
| 250 | 125 | 50 |

Practical guidelines for fertilizing oilseed rape (OSR) and other brassica with Polysulphate

- An application of 50 kg Polysulphate to the seedbed of autumn-sown oilseed rape provides S for early plant growth and into the winter.
- Polysulphate can be applied as a straight or included in a blend as part of a tailored fertilizer programme.
- Apply the main Polysulphate dressing in early spring, just before or when spring growth starts. The prolonged release characteristics of Polysulphate mean that an early spring dressing will provide freshly available K, Mg and Ca as well as the essential S when the crop receives its first N dressing, providing continued release of sulphate during the period of active growth with minimum risk of loss due to leaching.
- 200 kg/ha of Polysulphate is generally a suitable main dressing for oilseed rape, supplying all of the S and Ca needed, and 70% of the K and Mg removed in the grain.
- 200 kg/ha of Polysulphate is a general recommendation for brassicae, providing the necessary S and Ca together with much of the K and Mg removed at harvest. Incorporate into the seedbed before drilling or transplanting.
- Ensure sufficient K is available from the soil for these high-demanding crops; at maximum biomass they may contain more than 300 kg K₂O/ha.

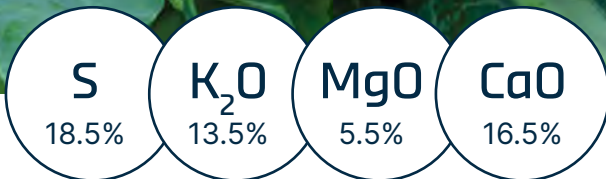
Nutrients supplied by Polysulphate at the recommended rate (200 kg/ha) to oilseed rape at 3.5 t/ha grain yield.









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

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The above are general rates, for specific recommendations or more information consult www.polysulphate.com/contact/ for your contact in your region.

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