



# Fertilizing Wheat (*Triticum aestivum*) with Polysulphate

Polysulphate 

[www.polysulphate.com](http://www.polysulphate.com)



## Main features

- Multi-nutrient fertilizer: sulphur, potassium, magnesium and calcium in sulphate form
- Natural mineral (polyhalite) with single crystal structure
- Fully soluble, with all nutrients available for plant uptake
- Low chloride, neutral pH, very low salinity index
- Good and uniform spreadability in the field, up to at least 36 m
- Completely natural, low carbon footprint, approved for organic agriculture

## Functions of S, K, Mg and Ca in wheat crop

- **Sulphur is an essential constituent of proteins:** S is required for the synthesis of three of the necessary amino acids
- **Potassium secures yield and quality:** transport of sugars, stomata control, cofactor of many enzymes, reduces susceptibility to plant diseases
- **Magnesium for high photosynthesis:** central part of chlorophyll molecule
- **Calcium for strong and healthy crop:** a major building block in cell walls, and reduces susceptibility to diseases

## Sulphur guide recommendations based on N application rates

Nitrogen rate	Sulphur recommendation guide	
	kg SO <sub>3</sub> /ha	kg S/ha
100	25	10
150	38	15
200	50	20
250	63	25

## Nutrient offtake (removal) by wheat crop

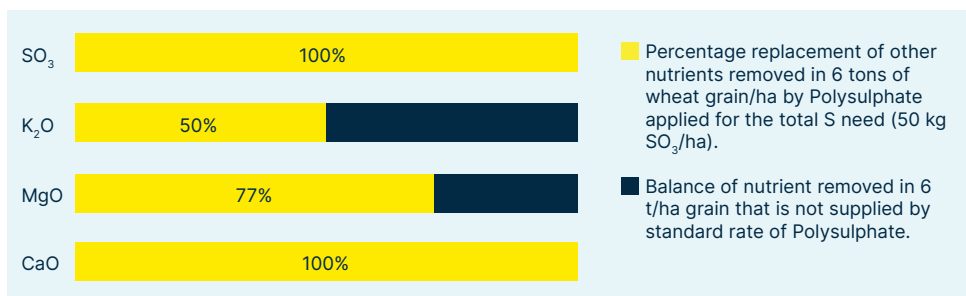
Nutrient	Offtake (kg/t)			Offtake (kg/ha)					
	Grain	Straw	Total	Grain 5 t/ha	Straw 2.5 t/ha	Total	Grain 8 t/ha	Straw 4 t/ha	Total
K <sub>2</sub> O	5.0	12.5	17.5	25	30	55	40	50	90
K	4.1	10.3	14.4	21	21	42	33	41	74
SO <sub>3</sub>	3.4	1.3	4.7	17	3	20	27	5	32
S	1.4	0.5	1.9	7	1	8	11	2	13
MgO	1.3	0.8	2.1	6	2	8	10	3	13
Mg	0.8	0.5	1.3	4	1	5	6	2	8
CaO	0.6	1.9	2.5	3	5	8	5	7	12
Ca	0.4	1.3	1.7	2	3	5	4	5	9

Source: UNIFA

## Practical guideline for wheat fertilization with Polysulphate


- One Polysulphate application will supply all the sulphate needed by the wheat crop
- Sulphur is needed to balance the nitrogen applied so that complete proteins can be produced. Protein content is an important aspect of wheat grain quality
- 100 kg Polysulphate is generally a suitable dressing for wheat, supplying all of the sulphur and calcium needed, and 50% or more of the potash and magnesium removed in the grain
- Ensure sufficient potash is applied when straw is removed from the field
- Apply Polysulphate in early spring, as growth starts in winter wheat – usually at the early tillering stage
- For spring wheat apply Polysulphate in the seedbed at sowing

## Nutrients supplied by Polysulphate at the recommended dose (100 kg/ha) to wheat crop at 6 t/ha grain yield



## Expected benefits

- Higher yield
- Better quality of grain proteins
- Improved baking quality
- Increased nitrogen use efficiency



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

[www.polysulphate.com](http://www.polysulphate.com)

S

18.5%

K<sub>2</sub>O

13.5%

MgO

5.5%

CaO

16.5%

Follow us on

✉ [fertilizers.sales@icl-group.com](mailto:fertilizers.sales@icl-group.com)

🐦 [twitter.com/fertilizerpluS](https://twitter.com/fertilizerpluS)

📺 [YouTube.com/c/Polysulphate-fertilizer](https://www.youtube.com/c/Polysulphate-fertilizer)

📘 [Facebook.com/Polysulphate](https://www.facebook.com/Polysulphate)

The above are general rates, for specific  
recommendations or more information consult  
[www.polysulphate.com/contact/](http://www.polysulphate.com/contact/)  
for your contact in your region.

Polysulphate is a registered trademark of ICL.

**Fertilizerplus**  
Premium plant nutrition from ICL Fertilizers