



# Fertilizing Sugarcane (*Saccharum officinarum*) with Polysulphate

Polysulphate<sup>®</sup>



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

## Main features of Polysulphate fertilizer

- Ideal multinutrient sulphur fertilizer with 17.5% sulphur in sulphate form plus potassium (12.5%  $K_2O$ ), magnesium (5%  $MgO$ ) and calcium (15%  $CaO$ ).
- Reduced risk of early season sulphate loss through leaching due to its prolonged nutrient release pattern.
- Fully soluble, with all nutrients available for plant uptake during the growth period.
- Low chloride, very low salinity index, neutral pH, no liming effect.
- Natural mined mineral (polyhalite) suitable for organic agriculture.
- UK produced fertilizer with a low carbon footprint.

## Functions of S, K, Mg and Ca in sugarcane crops

- Potassium is fundamental to sugarcane for the synthesis and translocation of protein and carbohydrate, and for accumulation of sucrose. Potassium is important for high cane yield and sugar production, better the juice quality, regulate stomatal opening and closing and strengthen crop against moisture stresses. Adequate K application improve cane girth and counter the crop lodging due to excessive N dose.
- Sulphur requires for proteins and lipids formation, sucrose accumulation during maturation. Sulphur application improve nitrogen use efficiency and crop get more build-up of dry matter per unit N applied and influenced sugarcane productivity. Application of sulphur is beneficial in sustaining sugarcane production to a considerable extent under stresses such as salinity, drought, metal toxicity and extreme temperatures.
- Magnesium is central molecules of chlorophyll and carrier of Phosphorus in the plant. It is important for photosynthesis, carbohydrate partitioning in crop, sugar synthesis and movement in the stalk.
- Calcium required for cell wall formation and important for membrane stability, play key role in stabilizing and strengthening cell wall. Adequate supply of calcium stimulates the root hairs and growth of the entire root system, stalk & leave formation.

## Guidelines for fertilising sugarcane with Polysulphate fertilizer

- Polysulphate is a sulphate-based source of potassium, magnesium and calcium, supplying all of the sulphur needed, and a significant proportion of the calcium, magnesium and potash removed at harvest, without affecting the soil pH.
- Sugarcane remove very large amounts of potassium at harvest and the proportion not supplied by Polysulphate can be applied as muriate of potash (MOP) at the time of planting and earthing up (100 -120 DAP).
- 100 kg/acre Polysulphate is generally a suitable dressing with MOP in two split for sugarcane in India (50% as basal application in fresh planting / within 15 days of harvest in ratoon and 50% at earthing up).
- The prolonged release characteristic of Polysulphate provide a continuing fresh source of K, S, Mg & Ca to the growing crop and keep the crop healthy.

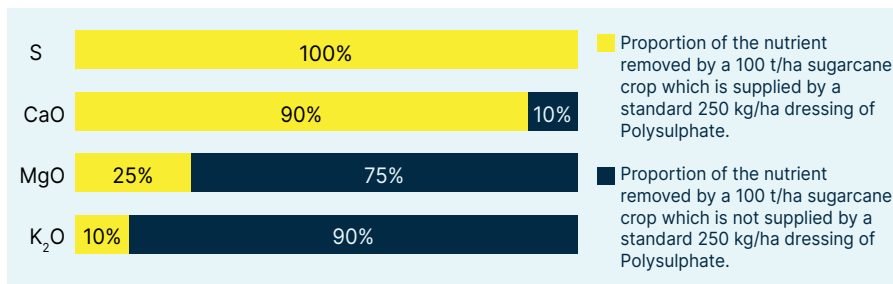


## Estimated nutrient offtakes (removal) by sugarcane (stalk)

Nutrient	Average offtakes (kg/t)	Average offtakes (kg/ha)
	Sugarcane stalk	100 t/ha sugarcane stalk
K <sub>2</sub> O	3.4	340
MgO	0.5	50
CaO	0.4	40
S	0.3	30

Sources: Adapted from data given by Kingston, 2000. International symposium on sugarcane physiology, STAB, Brazil.

## Proportions of nutrients supplied by Polysulphate fertilizer at 250 kg/ha to a 100 t/ha sugarcane crop



## Expected benefits

- High yield
- Better juice quality
- improved sugar recovery
- Increased nitrogen use efficiency
- Improved Nitrogen & Phosphorus uptake



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

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S

17.5%

K<sub>2</sub>O

12.5%

MgO

5%

CaO

15%

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