

# ICL Update

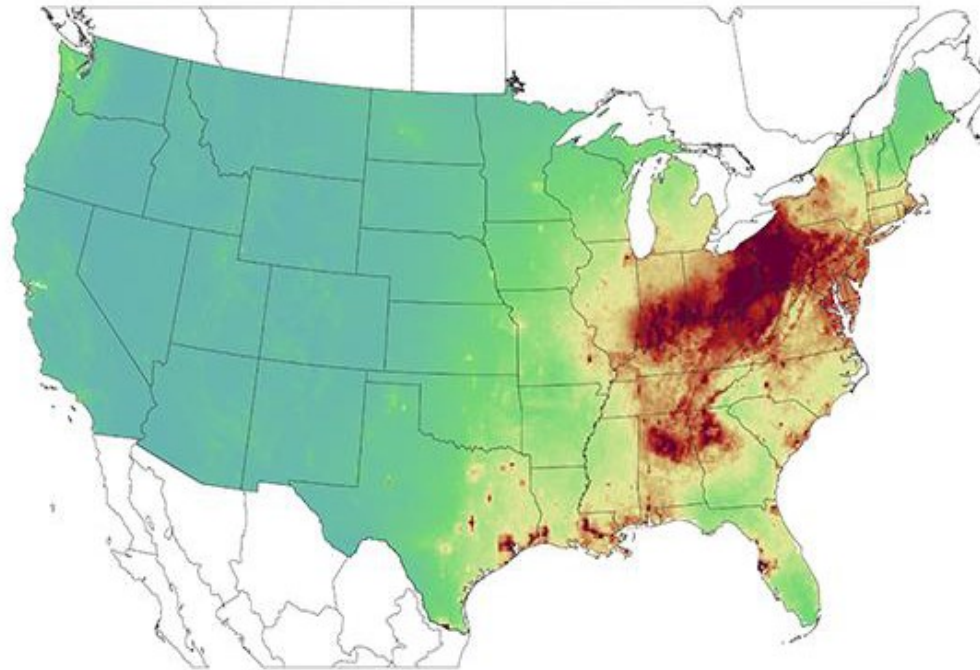


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February 2024

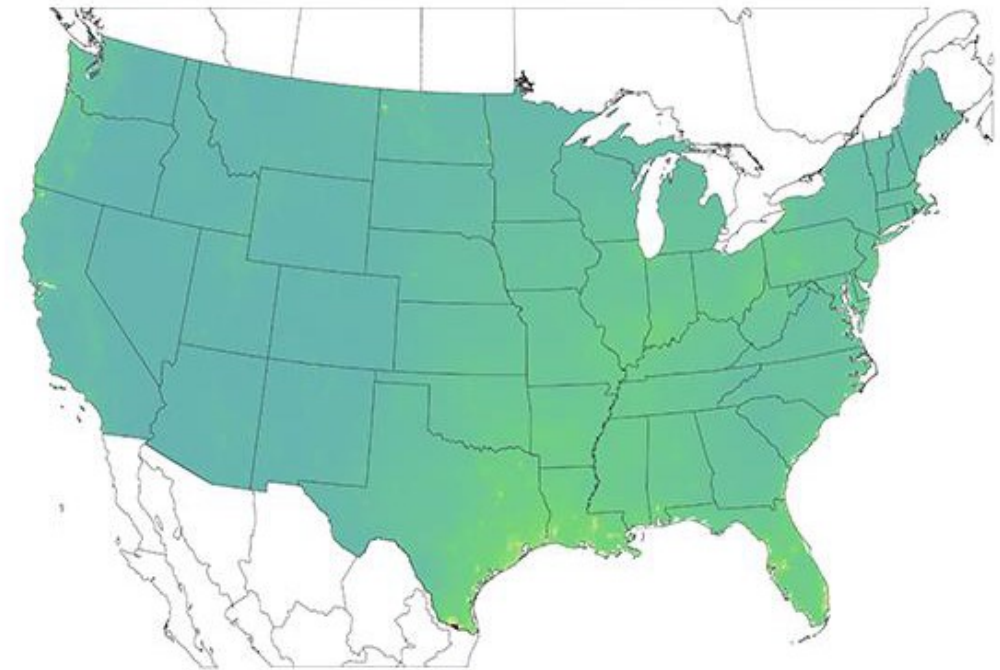


# Three-Year Average of Total Sulfur Deposition

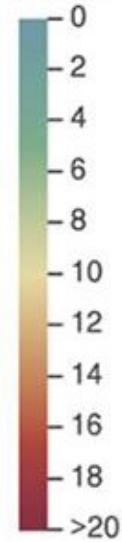
2000–2002



2018–2020



Total S  
(kg-S/ha)



## What happen?

Regulations altering the composition of fuels and other pollution controls improve air quality and lower the amount of sulfur components available in the atmosphere

## Historically

Sulfur compounds available in the atmosphere from industrial processes was deposited in large quantities in the Eastern US and taken up by plants to meet the plant S needs

## Today

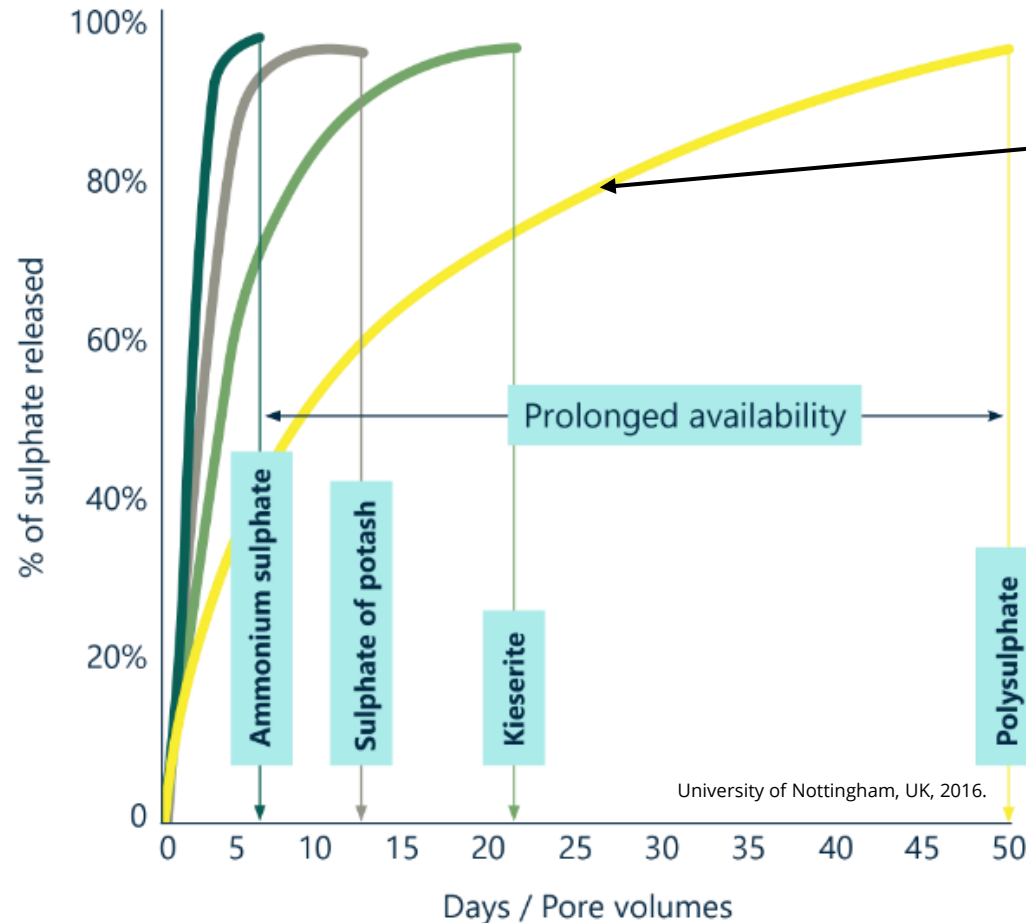
Lower amount of sulfur are deposited in the soil to meet the plant S needs. Fertilization program that includes S are needed to meet the plant need.

Source: CASTNET/CMAQ/NADP  
USEPA, 2021

# What Separates Polysulphate from the Pack ?

All nutrients in sulphate ( $\text{SO}_4^{2-}$ ) form readily available for plant uptake

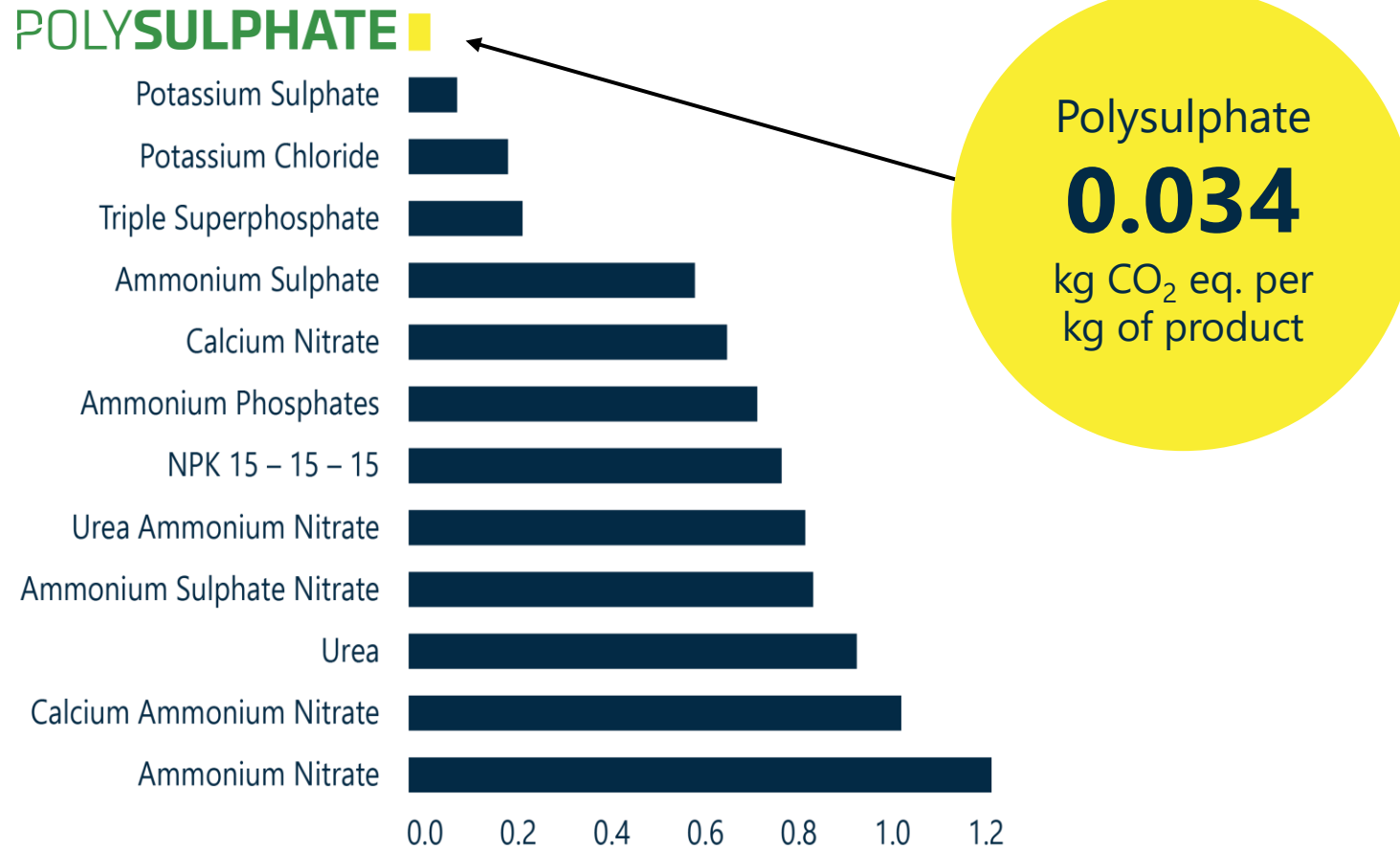
1. Slow-release mineral fertilizer that has the capability to provide a sufficient and continuous supply of S.
2. Natural multi-nutrient mineral with every granule composed of sulfate-based K, Mg and Ca that is low chloride, very low salinity index, and safe to apply with the seed.
3. Natural mined mineral (Polyhalite) approved for organic agriculture that helps to improve nutrient efficiency, soil structure, root development, water infiltration, and seed emergence.



More nutrient into the plant with lower rate of application.

# The carbon footprint of Polysulphate

**Polysulphate has a lower carbon footprint than other common fertilizers.**



The carbon footprint associated with production of Polysulphate has been compared with the results compared to similar products.



Fertilizer carbon footprint at plant gate (kg CO<sub>2</sub>-eq/kg product\*)

\*This study was completed in November 2019 by Filkin & Co EHS Limited based on data provided by ICL Boulby.



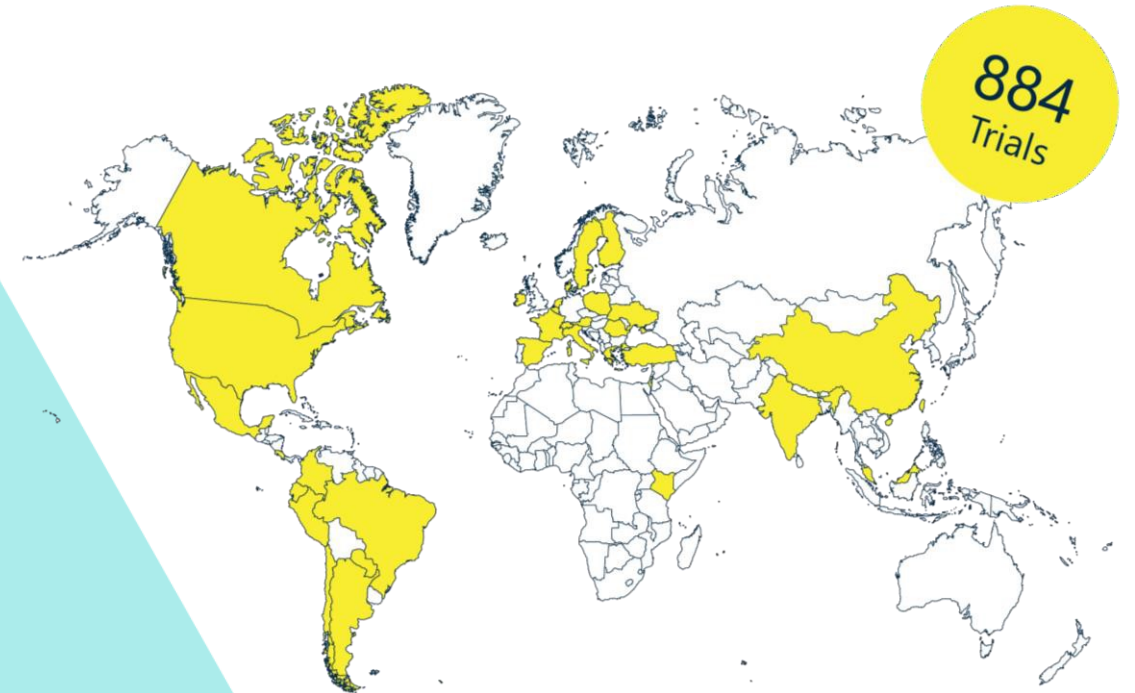
Research on five continents is showing that these major crops all benefit from Polysulphate fertilizer

Agave	Chinese-cabbage	Leek	Potato
Alfalfa	Chrysanthemum	Lilium	Rice
Almonds	Clover	Melon	Rocket salad
Apples	Cocoa	Oats	Sesame
Avocado	Coffee	Oil palm	Soybean
banana	Corn	Oil seed rape	Strawberry
Barley	Cotton	Olive	Sugarbeet
Beans	Cucumber	Onion	Sugarcane
Black pepper	Eucalyptus	Oranges	Sunflower
Blueberry	Flax	Papaya	Sweet potato
Broccoli	Garlic	Pastures	Tea
Brussels sprouts	Grapes	Peas	Tobacco
Cabbage	Grass	Pepper	Tomato
Canola	Groundnut	Pineapple	Turmeric
Carrot	Fescue	Pistachio	Endives
Cassava	Kiwi	Pomegranate	Watermelon
Chickpea		Pomelo	Wheat

67  
crops

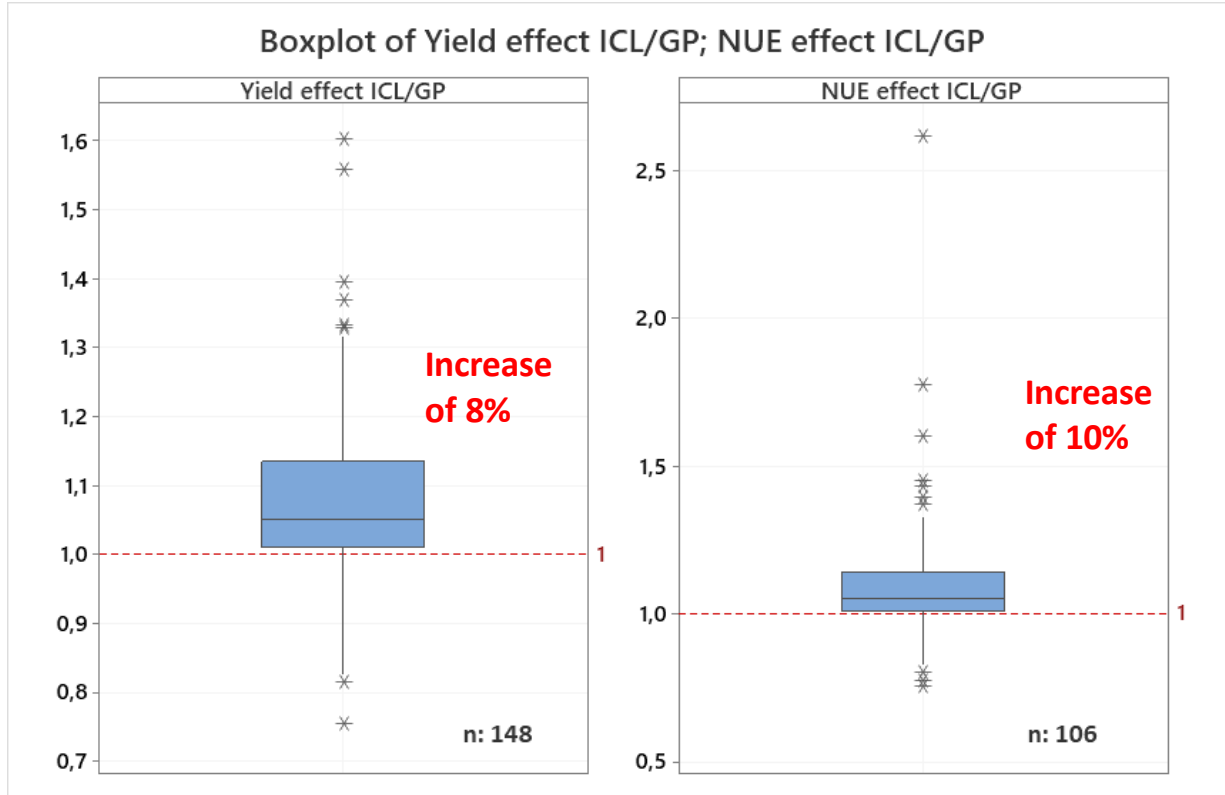
34  
countries

## Polysulphate around the world



# Meta-analysis

Yield and N-PFP



# Bioz Diamond

- **Benefits to soil**

1. **Physical:** Promotes air, water and structure for rooting
2. **Chemical:** Promotes bioavailability and utilization of nutrients
3. **Biological:** Promotes nutrient cycling and root health



**Brazil**

Trials – 1126

Increase productivity – 13.4%

**USA**

Trials – 8

Increase productivity – 4%



**Brazil**

Trials – 379

Increase productivity – 9%

**USA**

Trials – 2

Increase productivity – 6%



**Brazil**

Trials – 127

Increase productivity – 11.4%



**USA**

Trials – 3

Increase productivity – 4%



**Brazil**

Trials – 256

Increase productivity – 17%

**USA**

Trials – 3

Increase productivity – 2% (consistent 2 bu/A increase)



**Brazil**

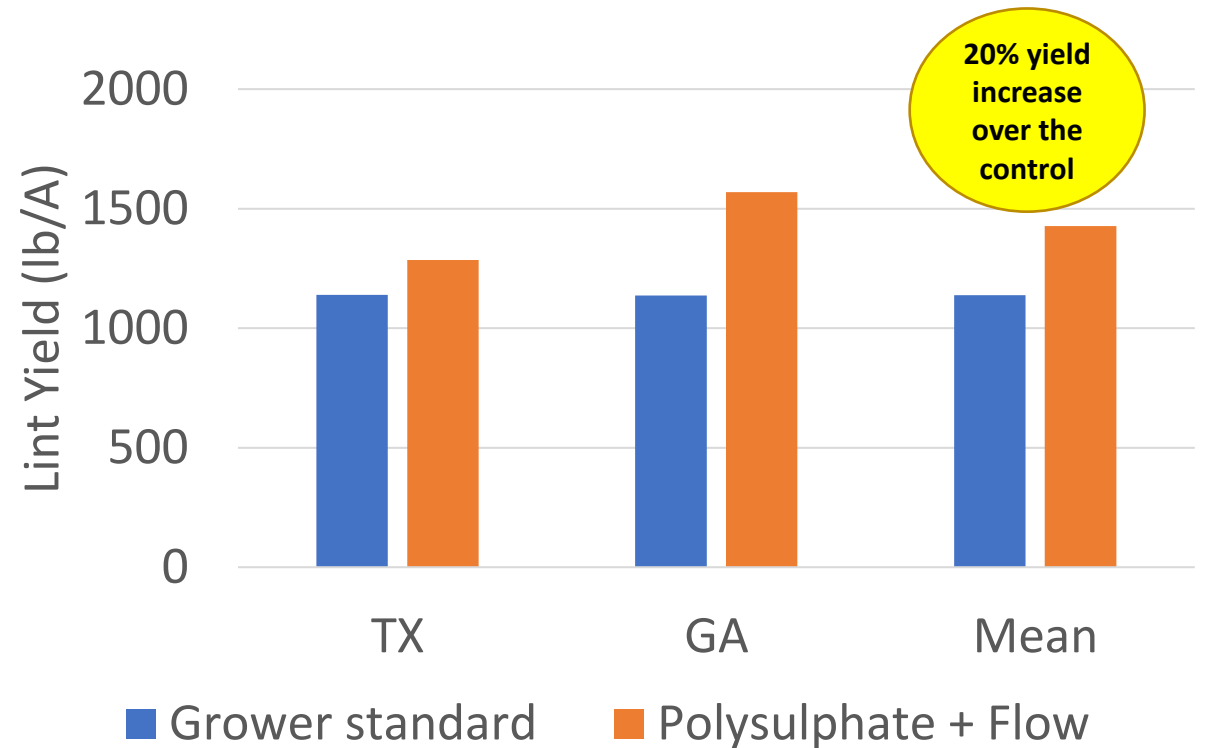
Trials – 277

Increase productivity – 18%



# Nova FLOW™ 5-10-20

- Nova FLOW™ (5-10-20 11S, 9Mg, 0.5 B) is a highly soluble alternative to magnesium and potassium nitrate with N-P-K, plus magnesium, sulfur, and boron.
- Designed for foliar applications, this high-quality source of Mg is ideal for late-season reproductive stage applications, when tissue magnesium is needed most.
- Supports reproductive growth, sugar movement, and grain and fruit fill.







Thank you

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

**Poly**   
sulphate  
E-Learning



# Agronomy



# What nutrients does Polysulphate provide?



**48%  $SO_3$**   
An essential  
constituent of  
all proteins



**14%  $K_2O$**   
Secures yield  
and quality



**6%  $MgO$**   
For high  
photosynthesis



**17%  $CaO$**   
For strong and  
healthy crop