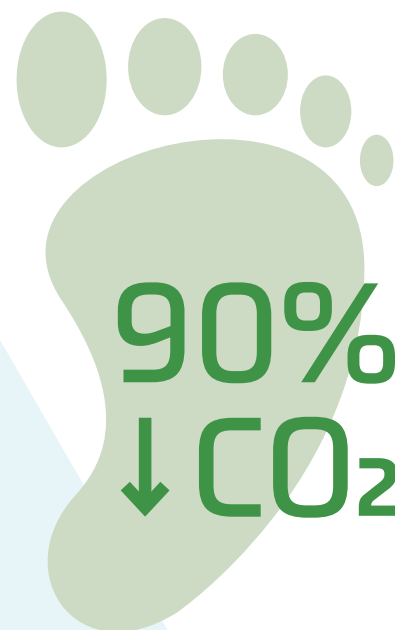




ICL cuts the carbon footprint of **POLYSULPHATE**[®] multi-nutrient fertiliser by over 90%



Polysulphate delivers major reductions in carbon emissions for farmers

ICL has reduced the carbon footprint of its naturally occurring Polysulphate multi-nutrient fertiliser by around 90% in the last five years as a result of production efficiency improvements and infrastructure changes at its Boulby Mine in North Yorkshire.

Polysulphate is already recognised as a low carbon fertiliser, but the latest reduction to 0.0029 per kg of CO₂e of product reduces this figure almost to zero and offers even greater opportunities for farmers and the wider supply chain to decarbonise agriculture, says Richard Ward.

"This reduction demonstrates ICL's ongoing commitment to playing a key role in a food and farming industry that is increasingly focused on meeting sustainability and carbon targets.



Environmental and productivity gains, alongside food supply chain benefits

"Traditional manufactured fertilisers, that are providing sulphate in the form of nitrogen sulphur products, are coming increasingly under the spotlight as major carbon contributors in the food supply chain. Polysulphate is leading the way in producing food for humans and animal consumption in a more sustainable way.

A recent paper released in the UK by Prof. David Powlson, Emeritus scientist at Rothamsted Research concluded that if all ammonium sulphate imported into the UK was replaced by Polysulphate, one simple switch of product could deliver 20% of the UK's ammonia emission targets, this equates to a 90% reduction in field use.

Global crop trials conclude that Polysulphate also delivers economic gains for farmers by improving crop yield and quality due to its high efficiency. Its nutrients, help increase the nitrogen use efficiency by plants from both nitrogen fertilisers and organic sources, whilst its prolonged release characteristics also reduce losses into water and to the air.



Renewable energy switch and more efficient working practices among improvements

"With farmers becoming more incentivised to adopt more sustainable farming practices, Polysulphate is ideally positioned against the future direction of our industry. Our goal is to help farmers increase their productivity and profits, in a more sustainable way, says Richard Ward.

"The benefits of Polysulphate are already being recognised by many growers, agricultural advisers and the wider food supply chain, with thousands of farmers now using the product, with ICL Boulby setting a new record of one million tonnes of Polysulphate produced in 2023 for distribution worldwide."



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Ongoing improvements

According to ICL UK VP and general manager Grahame Wallace, the reduction in carbon footprint of Polysulphate is the result of an ongoing program of energy improvements at ICL's Boulby Mine. The recent achievement of ISO 50001 accreditation for the site recognises that the site has established a comprehensive structure for energy management with the focus on continual improvement.

"Since the last carbon footprint calculation in 2019 we have introduced numerous changes including changing to fully renewable electricity in 2023 and removal of the combined heat and power plants (CHP).

We've also made considerable strides forward in reducing our use of diesel and introduced a range of efficiency improvements across the site and our operational processes.

The structured and consistent energy management approach, recognised by achievement of ISO 50001, has provided us a platform for reducing our energy consumption and efficiency with virtually all areas of the business having risen to the challenge of identifying ways in which our carbon footprint could be improved.

It is, however, very much an ongoing process. The recent carbon footprint evaluation has brought new vigor to the team by highlighting the success of what we have achieved whilst also providing focus of areas for improvement that we will be targeting in 2024 including replacement of air compressors across the site to provide a more energy efficient supply of compressed air. It doesn't end there as there are numerous projects under consideration that will drive the carbon footprint of Polysulphate down even further with the ultimate aspiration of achieving Net Zero! "

Proven results of Polysulphate

More and more farmers are using Polysulphate in both arable and grassland systems. ICL have conducted many trials, both globally and in the UK looking at the yield, quality and nutrient use efficiency, in addition to the environmental benefits.

On average, UK trials have indicated an increase of 10-11% yields on grassland and arable crops, with crops benefiting from better establishment and root development, and a more efficient source of sulphur as well as the other prolonged release nutrient benefits.



Oilseed rape and other brassica crops, that have a higher Sulphur requirement, have showed even greater improvement in yield, averaging 12-15% with some on sulphur deficient soils as high as 35-40%. The addition of Polysulphate enables a healthier crop and increases the production of proteins and oil content.

Potato and other vegetable crops are also popular markets and have also shown significant increases through an application of Polysulphate against other sources, again, yields increasing from 12-15% on average. In addition, there are many quality benefits such as skin finish, associated with the calcium in the product, increases in storage life and reductions in storing losses.

There is a growing trend in the use of legume crops, although legumes such as peas, beans and clover do not require nitrogen, they still require crop nutrition to maximize yields and their benefit. Sulphur will enhance the ability of these crops to fix atmospheric nitrogen as it is essential for the formation of nitrogenase, the enzyme responsible for nitrogen fixation. The growing use of legumes in grass mixes, encouraged in regenerative practice and sustainable farm incentives is another compelling reason to use Polysulphate.

The use of autumn applications of Polysulphate have also shown an additional response in yield and nitrogen uptake over winter. An additional autumn application of ICL Polysulphate multi-nutrient fertiliser in addition to conventional spring applications can increase wheat yields further by around 0.3 t/ha for example.

Polysulphate is not only better for the environment, it is also delivering farmers additional revenue and profits through increased yields. It's a win-win.