BIO-CYCLE SOLUTIONS

406 AGRONOMY
GROWING FUTURES TOGETHER

Bio-Sul Premium Plus

Bio-Sul Premium Plus is a recycled, sustainable nutrient source consisting of 70% elemental sulphur and 30% compost. Sulphur is the most underused macronutrient, despite it being a key component for the production of amino acids. Sulphur (S) is essential in all crop systems, and a shortage can lead to decreases in yield and protein levels. Kickstart microbial activity in your soils and provide the sulphur that is essential to your crops.

Why Bio-Sul Premium Plus?

Improved timing: Apply Bio-Sul when it is convenient for you and eliminate the need to reapply for multiple years. Ongoing applications of Bio-Sul increases the application window further, saving you time and money. 1

Easier application: With the utilization of our trusted applicators, Bio-Sul can go down in fall or spring, even with up to six inches of snow on the ground. Broadcast Bio-Sul on top of your soil and you are done. 2

Slow acidity: Elemental sulphur requires soil bacteria to convert it to plant-available sulphate (SO_4-S). This biological process is slower than the chemical reaction in ammonium sulphate, reducing the risk of abruptly increasing soil acidity. 3

Focus on the overall nutrient plan: Handle your sulphur needs long term. Gain time to focus on the more tedious needs of nitrogen, phosphorus, potassium and micronutrients. 4

Low salt index: Application of ammonium sulphate in the seed row can increase the salt index of your soils. Because Bio-Sul is a low salt index product and is broadcast on the soil surface, it reduces the risk of seed injury or decreased seed germination. 5

Help crops reach their full potential: Canola is not the only crop that needs additional sulphur. Crops such as wheat cannot efficiently use nitrogen, phosphorus or other needed elements without adequate sulphur, leading to decreased yield and protein content. 6

Simplify and speed up seeding: Spend less time applying sulphur and more time on seeding. Because you can broadcast Bio-Sul at different times throughout the year, you can focus on seeding when it matters, simplifying a potentially hectic planting season. 7

Use smart sulphur: Bio-Sul releases in the same conditions that encourage plant growth. If there is too much or too little moisture, conversion to sulphate is delayed. For this same reason, Bio-Sul will not leach or become mobile in the soil, unlike ammonium sulphate. This sustained release reduces leaching, making it great for hills and sandy soils. 8

Save money: Bio-Sul is the most cost-efficient source of sulphur. You can save 20% to 50% in most cases, on top of a longer application cycle than ammonium sulphate. 9

It's safer: Adding compost to elemental sulphur ensures that Bio-Sul is much safer to handle than other elemental sulphur products currently on the market. 10

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WHY COMPOST?

Bio-Sul Premium Plus provides a level of safety not available with other elemental sulphur fertilizers because of the added compost. The compost also provides a huge boost to microbial activity in soil while helping to promote efficient nutrient cycling. The compost in Bio-Sul also helps to provide a consistent breakdown of sulphur between applications.

How is Bio-Sul Premium Plus different?

Elemental Sulphur must convert to a sulphate (SO4-S) to be available to plants. Because Bio-Sul is applied directly to the soil, microorganisms can quickly and easily begin oxidizing the elemental sulphur within the product. Growers can expect 25-30% conversion to sulphate in the first year after application. Subsequent applications will convert faster as a buildup of microorganisms from previous years will already be present in the soil. Particle size variation within the product allows for a sustained release as the larger particles of sulphur naturally take longer to break down into plant-available sulphate. The sustained release also helps to release immobile or tied-up nutrients like phosphorus, copper, manganese and zinc.

Nitrogen (N), phosphorus (P) and potassium (K) are critical components of a well fertilized crop. In order to achieve higher yields and more nutritious foods, crops may need sulphur (S). Many producers are losing both protein and potential yields in certain areas of their fields because they do not recognize mild to moderate sulphur (S) deficiency symptoms. Further, mistakenly applying more nitrogen (N) will reduce yields more!

Why Elemental Sulphur?

ES and gypsum have long been used in environments prone to leaching. One of the advantages of ES is that only the portion of sulphur that has converted to SO4-S can be lost. Any ES remaining is still available to plants once some of it converts to useable sulphate again. Consistently wet conditions, where ammonium sulphate would be lost to leaching or runoff, cause the bacteria that converts ES to useable sulphate go dormant, keeping ES in the ground. In high soil pH regions, ES can be used in large amounts to drive down soil pH. The amount that is required to affect soil pH is dependent on soil buffering capacity (texture, pH, free lime). Typically it will fall in the range of 200-800lbs/ac every three or four years to amend the whole A-horizon. The P, Ca and micronutrients all become highly available and protected from tie-up in close proximity to a particle of S, allowing the roots of crops to access the nutrients.

In the case of land with high sodium (Na) levels where there are hardpan areas, surface puddling, large soil lumps or surface crusting that seedlings cannot grow through, S will work to convert the immobile Na++ into water soluble NaSO4. This encourages the Na to move more freely through the soil, moving it away from the surface. This works well in irrigated fields where the irrigation water is bringing in excess Na.

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