



Patented
technology

BLUE-S



**HIGH BORON AND SULPHUR
FORMULATION WITH MICRONUTRIENTS**

BLUE-S

BLUE-S is a unique foliar gel product with a very low pH that combines high concentrations of boron and sulphur with other micronutrients such as zinc and molybdenum. It is fully and instantly soluble in water.

The established synergy between sulphur and boron in GROGREEN Blue-S allows the combined application of both nutrients through a single fertilizer source. Therefore, the high content of boron and sulphur in a low pH formula should ensure the supply of optimum rates of both elements to crops, avoid physical mixing and minimize application cost while improving farmer income.

BLUE-S has obvious advantages compared to the most readily used Boron sources available: highly soluble form of boron with superior quality in a very low pH gel product, applicable to all types of crops. Other boron sources are characterised by a low solubility while other ones cause an unfavorable high solution pH resulting in a low foliar efficiency.

Why use BLUE-S

- High concentration of boron uniquely combined with sulfur in a low pH formula
- Complete and instant solubilization in water allowing better and easier dosage
- Improving efficiency of agrochemicals due to low pH
- Gel formula that acts as a buffering agent in alkaline/hard water conditions
- Compatible with most pesticides
- Increasing yield and quality
- Reducing deficiencies of boron and sulphur
- Reducing cost of handling, transportation, and storage, while improving farmer income.
- Enhancing the use efficiency of NPK and micronutrients by supporting nutrient transport throughout the plant and increasing absorption and retention of nutrients
- No phytotoxicity risk on foliage

pH (2% solution): 2.7

Density: +/- 1.3 kg/liter.

Specifications	W/W	W/V
Total nitrogen (N), soluble in water	4.30 %	5.60 %
<i>Organic nitrogen (N), soluble in water</i>	<i>1.40 %</i>	<i>1.80 %</i>
<i>Ureic nitrogen (N-NH₂), soluble in water</i>	<i>2.90 %</i>	<i>3.80 %</i>
Sulphur Trioxide (SO ₃)	10.30 %	13.40 %
Boron (B), as boric acid, soluble in water	4.80 %	6.24 %
Boron (B), as boron monoethanolamine, soluble in water	3.30 %	4.29 %
Copper (Cu), chelated by EDTA, soluble in water	0.005 %	0.006 %
Iron (Fe), chelated by EDTA, soluble in water	0.150 %	0.195 %
Manganese (Mn), chelated by EDTA, soluble in water	0.066 %	0.086 %
Molybdenum (Mo), as sodium salt, soluble in water	0.285 %	0.370 %
Zinc (Zn), chelated by EDTA, soluble in water	0.026 %	0.034 %

Especially suited for field crops such as oilseed rape, soybean, sugar beet and cereals, potatoes, vegetables and horticulture crops.



Packaging size: 200g, 1 kg, 5 kg

Recommendations

The general application rate varies between 2 – 5 kg/ha, with an average concentration of 250 - 300 g/ 100 liter water. Never exceed a concentration of 0.5% (or 500 g/100 liter water).

Foliar Spray

Crop	Dosage rate	Timing
Cereals	3 kg/ha	At 3 leaf-stage – tillering (GS 21 - 29).
Corn	3 kg/ha	Before flowering.
Sunflower	4 - 5 kg/ha	At 10 – 12 leaf stage before flower bud apparition.
Sugar Beet	3 kg/ha	At 4 – 6 leaf stage. Repeat at row closure with 3 – 4 kg/ha.
Cotton	2 – 3 kg/ha	At the apparition of first flowers. Repeat if needed and with the same dose with 20 – 30 day intervals.
Potato	2 kg/ha	At 4 – 6 leaf stage; repeat with 2 kg/ha before maturity.
Oil seed rape	4 kg/ha	In autumn at leaf development – Rosette formation (Stage B), repeat in Spring at free buds (Stage D2).
Vegetables: (tomato, cucumber, melon, ...)	3 kg/ha	At the end of the vegetative growth before flower opening. Repeat with the same dose during the fruit development stage.
Fruit trees: (apples, pears, peaches, cherries, ...)	3 - 5 kg/ha	Perform a first application of 3 kg/ha during the bud swelling stage; repeat with the same dose during the fruit growth. Perform a post-harvest application of 5 kg/ha before leaf fall.
Citrus	3 - 4 kg/ha	On spring shoots; repeat with 3 kg/ha after the physiological drop, and then 4 kg/ha at post-harvest.
Grapes	3 - 5 kg/ha	Applications may start with 3 - 5 kg/ha on new shoots in case of boron deficiency. Repeat with the same dose on flowers before opening, then at the véraison stage. Perform a post-harvest application of 5 kg/ha.
Olives	3 - 4 kg/ha	In spring on flowers before opening; repeat with the same dose after fruit setting. Perform a post-harvest application of 4 – 5 kg/ha.
Ornamentals	2 - 3 kg/ha	At the beginning of the growth cycle. Repeat on regular basis with 15 – 20 day intervals.

Mixing and application

Fill half of the spray tank with clean water, add the required amount of BLUE-S, complete the filling and apply without delay. Add first in the sprayer when mixing with other agrochemicals or fertilisers. Avoid spraying when temperature is high or when the plant is under any kind of stress. For best results, spray in the early morning or late evening when a certain amount of moisture is present in the plant. Spray with low pressure and avoid run-off.

Mixture with agrochemicals in the tank

Water pH is a critical factor in the effectiveness of many plant protection products and growth regulators. Under alkaline conditions, alkaline hydrolysis occurs degrading the pesticide to inactive forms. The degradation of a pesticide can be measured in terms of its half-life (reduction of the active ingredient content by 50%).

As a general rule, herbicides, insecticides, and fungicides perform best in slightly acidic water, pH 4–6.5. The pH of the solution can influence how long a pesticide molecule remains intact, its stability and effectiveness. Buffering agents prevent pesticide hydrolysis during mixing in the tank.

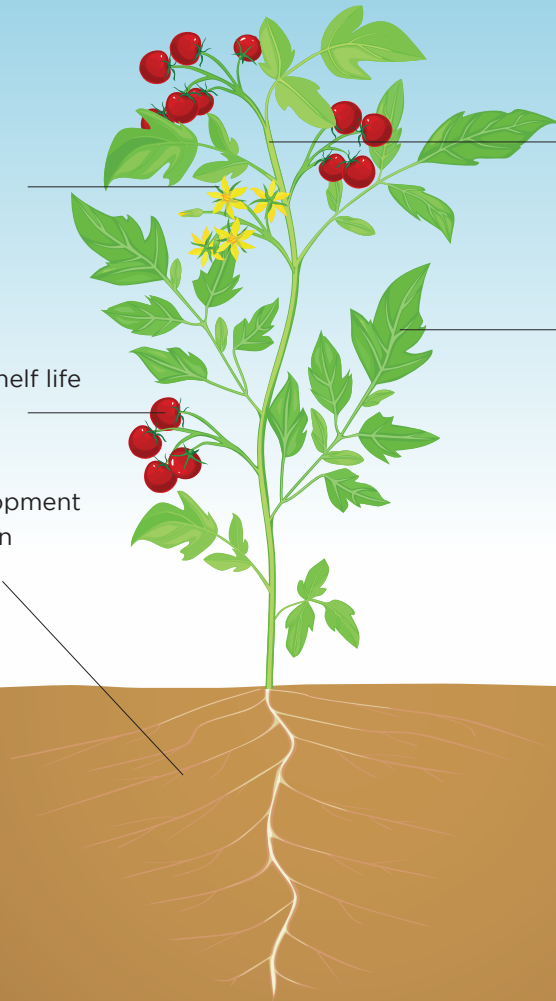
BLUE-S can be used as a buffering agent in order to preserve the stability and enhance the efficacy of plant protection products and growth regulators in hard water conditions due to the acidic pH.

Functions of boron in plants

- Flower production
- Pollination

- Seed setting
- Fruit quality and shelf life
- Plant productivity

- Lateral root development
- Root hair formation
- Nitrogen fixation
- Ion uptake



- Cell wall and membrane structural integration
- Ion fluxes across the membrane
- Plasmalemma bound enzymes
- Cell division and elongation
- Protein formation

- K transport towards leaf stomata
- Opening and closing of stomata
- Chlorophyll content
- Photosynthesis

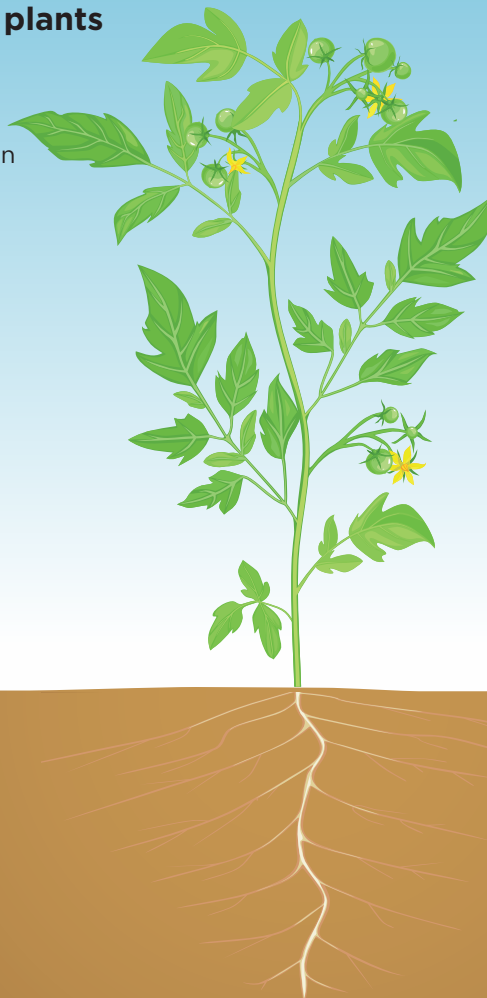
- Phenolic and nitrogen metabolism
- Nucleic acid metabolism
- Plant respiration
- Sugar and nutrient transport
- Regulation of hormone levels

Functions of sulphur in plants

- Photosynthesis
- Carbohydrate production

- Formation of amino acids, vitamins and enzymes

- Reduces leaching of other nutrients



- Natural protection against pathogens and pests

- Improves quality
- Improves taste

- More yield per kg of nitrogen





Lima Europe NV

Doelhaagstraat 77/1,
2840 Rumst - Belgium
info@lima-europe.com
www.lima-europe.com