

## Dosage and use

To be used in drip irrigation or through liquid fertiliser spreader or injector in non-irrigated areas.

**Injection in woody crops or grapes:**

☞ **5 - 10 ml/plant in a 0.2% solution.**

**Drip irrigation:**

Apply from the start of growth.

☞ **First 15 days** ☞ **Maintain every 30-40 days**

☞ **30 L/ha.** ☞ **15 L/ha.**

1<sup>st</sup> application: After irrigation or transplant irrigation.

Final application: 30-40 days before the end of the cycle

☞ **Total dose: 30 - 90 L/ha.**



## Trials

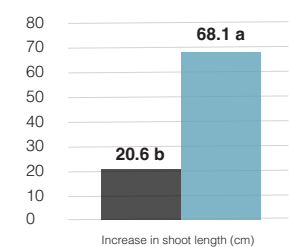
### Grapes in non-irrigated areas

#### Aim

Study the efficacy of Organosul 20S applied on less vigorous grapes that require extra growth. Evaluate the improvement in soil structure and effect on yield and quality.

☞ Faculty of Oenology, University Rovira y Virgili in Tarragona. ☞ Marselan variety. ☞ Trellis in non-irrigated area. ☞ Trials performed over two seasons in 2019 and 2020. ☞ Applied with a soil injector attached to the tank of the tractor.

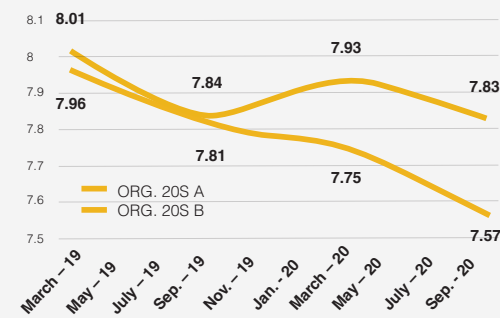
#### Shoot growth between flowering and veraison (cm)



#### Pruning weight at the end of the season (kg/grape)



#### Change in pH before and after the treatments in two areas of the treated land surface



#### Results

Progressive decrease in pH of 0.15 point per year in the rhizosphere, increasing the availability of nutrients and their absorption by the plant.

☞ Significant improvement in the vigour of plants, restoring grapes that were not very vigorous and were causing the plot to become less homogenous.

☞ Trend of improvement in grape yield and quality without major changes.



Case	Strategy	Date
Control	No fertiliser	-
Organosul 20S	1 application per year 10 L/ha (for two seasons)	April 8th 2019 May 13th 2020

## Trials

### Grapes with drip irrigation



#### Aim

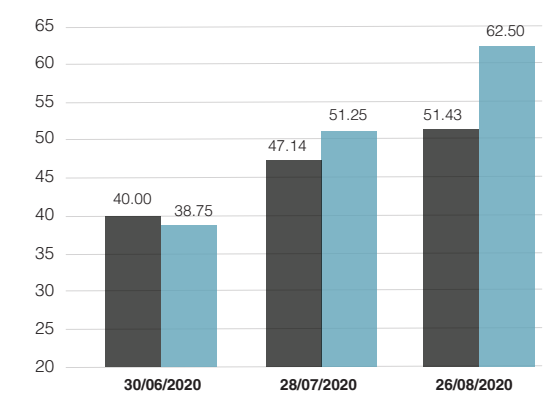
Check the effectiveness of Organosul 20S as a biostimulant for grapes to recover plants that have fallen behind in growth and to advance the harvest stage.

☞ Year 2020. Syrah variety. 2016 crop. ☞ Density: 1.600 grapevines (2.5 x 2.5m). ☞ Clay-like, lime-rich soil. ☞ Basic pH, low EC. ☞ Drip irrigation: without excess salt.

Case	Strategy	Date
1	Agricultural fertiliser (20 L/ha 15% humic acids)	Beginning of May 2020
2	Agricultural fertiliser + ORGANOSUL 20S (15 + 15 L/ha)	June 30th, July 24th 2020 (+24 days)

#### Vigour measurement of slow-growing plants

Vigour of plants chosen (100% = healthy plant)



Vigour measurement of the 8 plants chosen in each case. Plants with growth problems compared to general vigour of the plot (100%).

☞ Better recovery seen in treated plants. Greater number of leaves, healthier and greener leaves, improvement in length and growth of shoots.

☞ 12% final difference in vigour compared to control.

#### Soil sample, August 26th 2020

	Sample	ORG. 20S	%
Elec. Cond. (Ext. 1/5)	155.00	143.00	-7.7%
pH (Extract 1/2.5)	7.84	7.80	-0.5%
Active Lime	7.98	7.68	-3.8%
Available Calcium	21.00	19.90	-5.2%

#### Leaf analysis, August 26th 2020 (+33 days applic.)

	Sample	ORG. 20S	%
Nitrogen	2.60	2.75	5.8%
Phosphorous	0.14	0.14	--
Potassium	0.85	0.85	--
Sulphur	0.13	0.14	7.7%
Magnesium	0.27	0.28	3.7
Calcium	2.07	2.44	17.9%
Chlorides	146.00	61.00	-58.2%

#### Sugar level

6% increase in the sugar content of the grapes: +1.3 °Brix (+2.3 °Baume).

#### Results

☞ General soil conditions were improved (pH and EC), although the soil is still very poor in nutrients.

☞ There was an improvement in foliar nutrition and a decrease in phytotoxic elements such as chloride. This has been proven through greater vigour and an increase in the concentration of sugar in the grapes.



#### Azufre y Fertilizantes Pallarés, SAU

Pol. Ind. de Constantí, Av. Europa, 1-7  
ES-43120 Constantí, Tarragona  
T. +34 977 524 650

afepasa@afepasa.com  
afepasa.com/en



**AFEPASA**  
PALLARÉS SULPHUR  
SINCE 1893



## ORGANOSUL 20S

Product rich in plant-based organic matter and enriched with sulphur

#### Your solution for:

☑ Soils poor in organic matter

☑ Recovering weakened microbiomes

☑ Soils with high pH, salinity or sodicity problems



afepasa.com/en

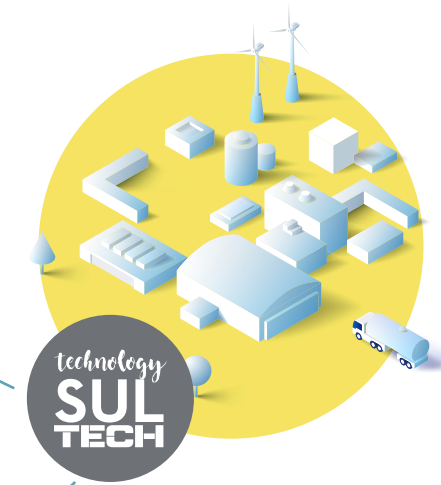


## Sultech technology

### Circular economy

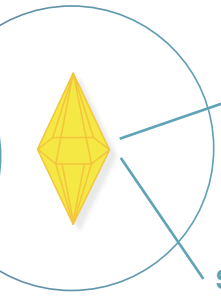


Recovered from industrial acid waste  
Does not pollute the environment with toxic waste.



### Biological sulphur recovery

The microorganisms convert different forms of sulphide into elemental sulphur.

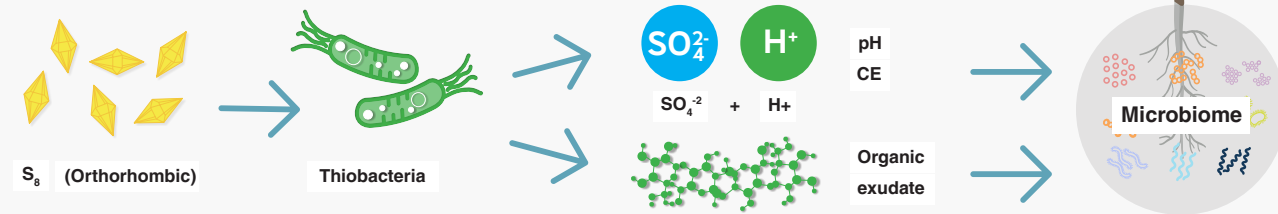
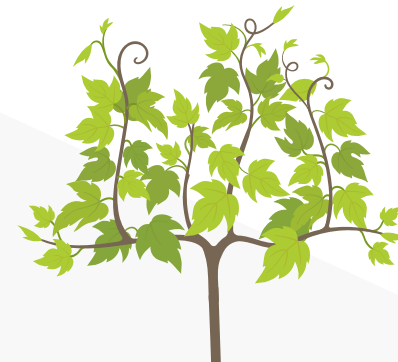


S<sub>8</sub> (Orthorhombic)

## Sulphur from microorganisms for microorganisms

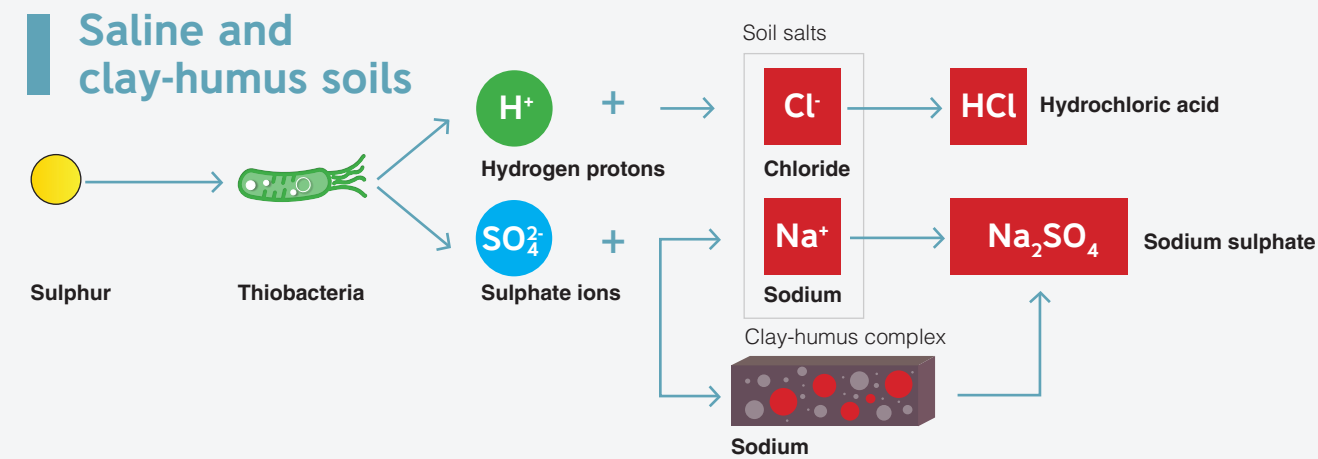
More easily digested by the Thiobacteria in the soil:

- They transform sulphur into forms that can be easily/readily assimilated.
- Faster correction of soil conditions
- They produce exudates, which improve the microbiota



## Benefits of elemental sulphur

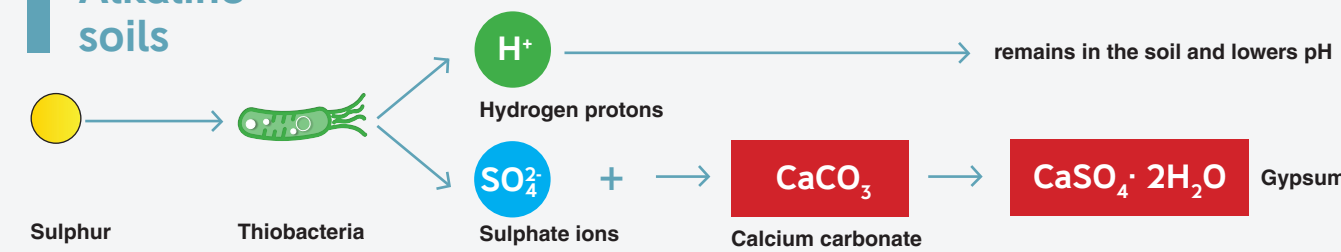
### Saline and clay-humus soils



Thiobacteria absorb sulphur and turn it into hydrogen protons and sulphate ions. When these come into contact with the soil salts and sodium saturating the clay-humus complex, they turn into hydrochloric acid and sodium sulphate and wash them from the soil.

- Reduces electric connectivity
- Washes salts from the soil

### Alkaline soils

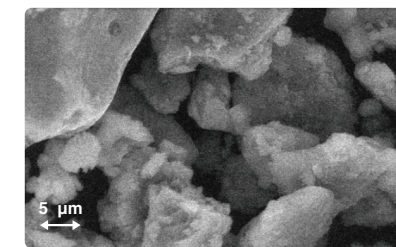


Calcium carbonate is present in soils with a high pH. When it comes into contact with sulphate ions, it becomes gypsum, which is more soluble and neutral.

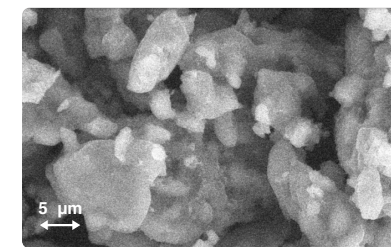
- Decrease in pH
- Decrease in excess calcium

## Advantages of Sultech vs standard sulphur

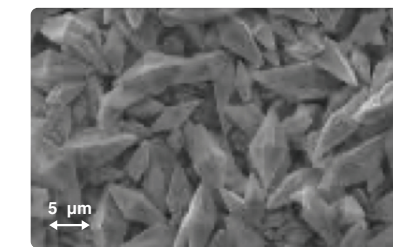
- Greater transformation speed
- Greater capacity for incorporation into the soil



**Micronised sulphur DP**  
Phytosanitary dust powder solution  
Origin: mining or refinery



**WG and SC Sulphur**  
Wettable/liquid phytosanitary product  
Origin: mining or refinery

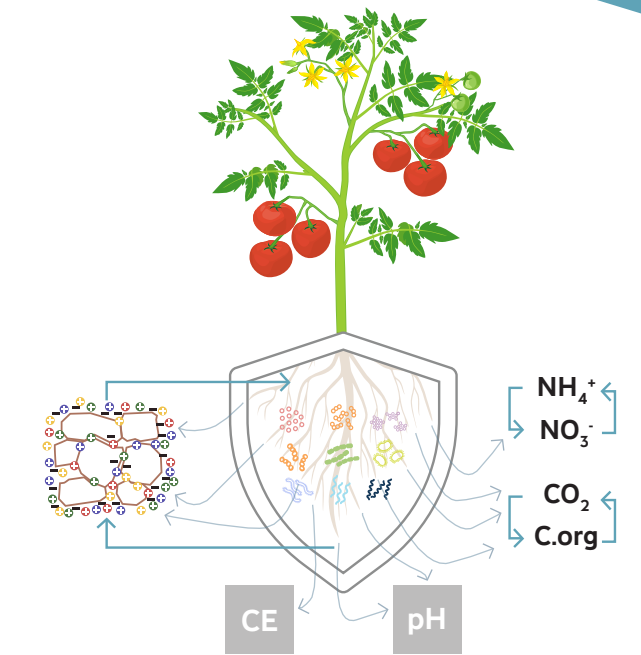


**Sultech sulphur**  
Biostimulation  
Origin: biological



## Advantages of plant-based organic acids

- Fulvic and humic acids regulate the carbon and nitrogen cycles in the soil, feeding the microbiome in soils with low levels of life.
- pH correction and short-term micronutrient chelation in alkaline soils due to their content of carboxyl, phenolic and hydroxyl groups.
- Controls salt stress, minimising damage to root cell walls in the short term.
- Increases the cation exchange capacity (CEC) and moisture retention in the soil.
- Directly stimulates the plant, facilitating the development of new roots.



## Sultech and organic matter: win-win combination

- pH reduction:** Combination of the immediate lowering effect of organic acids with the medium-term effect of Sultech Sulphur.
- EC control:** Immediate protection against salinity and the progressive washing away of phytotoxic elements.
- Microbiological stimulation:** Activation of the general microbiome and nourishment of a group of usually underdeveloped beneficial species (thiobacteria).

Change in the pH of the soil with the application of O.M. and Sultech

