

Fertilizers: production-lines & products

SBS organic-mineral fertilizers

SBS has been selling machinery for the production of sulphur & bentonite since 1995 worldwide (23 full production-lines). Recently, SBS fine-tuned the production-line with a continuous production process (Patented) to produce new organic-mineral fertilizers (Patented). These new types of organic-mineral fertilizers are based on sulphur and organic “waste” (such as orange-waste or oil-pomace waste) and they recover the organic-base of the soils.

To scientifically study this new type of fertilizers, a research & development agreement was signed back in 2014 with the **Mediterranea University of Reggio Calabria - Agronomic Department** and since then scientific tests with outstanding scientific results have been achieved and published.



Combination of Green economy & Circular Economy

The organic waste materials in the organic-mineral fertilizers (from 5% to 10%) allow the products to be classified as:

- **Green & Circular Economy products:** because the organic waste material is recycled and also Sulphur is a recycled element from oil refinery;
- **Organic-mineral products:** because there is NO chemical transformation, but only physical processing in combining Sulphur + bentonite + organic waste.



Organic-mineral fertilizers will be customized & localized to the specific location with scientific tests before local production.

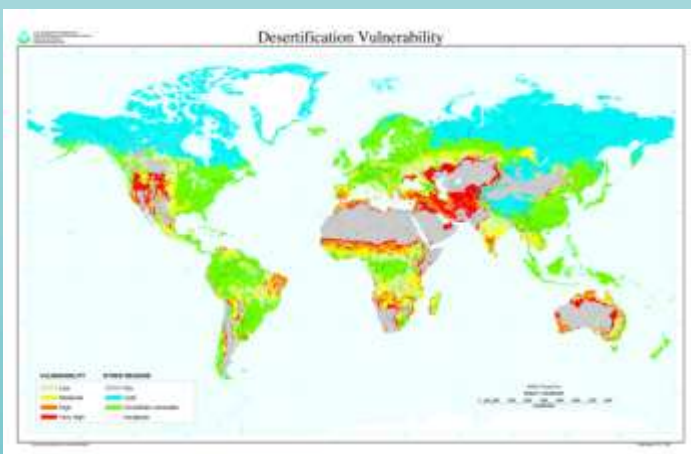
Fertilizers

Organic-mineral fertilizers: desertification of agricultural land

The heavy use of chemical fertilizers for decades has led to serious problems in agricultural soil in many Countries, specifically:

Salinization / Alkalinization

The $pH > 7$ is detected in soils contaminated by salts of irrigation water (China has problems with salinization of 23% of irrigated land, Pakistan 21%, India 11% and Mexico 10%), consequence of this is **Desertification**.



6 Desertification Macro-Areas:

every year in the world around 1,500,000 hectares of cultivable land are lost

Organic mineral fertilizers: 2 Patents

SBS (leveraging its experience in this sector) is able to design and build turn-key full production lines for organic mineral fertilizers based on sulphur which, when mixed with organic material, is able to supply the nutrients necessary for the good growth of plants, lowering the pH of alkaline soils and reducing sodium levels in the soil, with the aim of recovering the agricultural activity of soils characterized by high salinity and alkalinity.

Patents owned by SBS Steel Belt Systems SRL

**PATENT FOR
FERTILIZER
PRODUCTS :
n°
IT0001413993**



**PATENT FOR
FERTILIZER
PRODUCTION-
LINE : n°
IT0001413992**



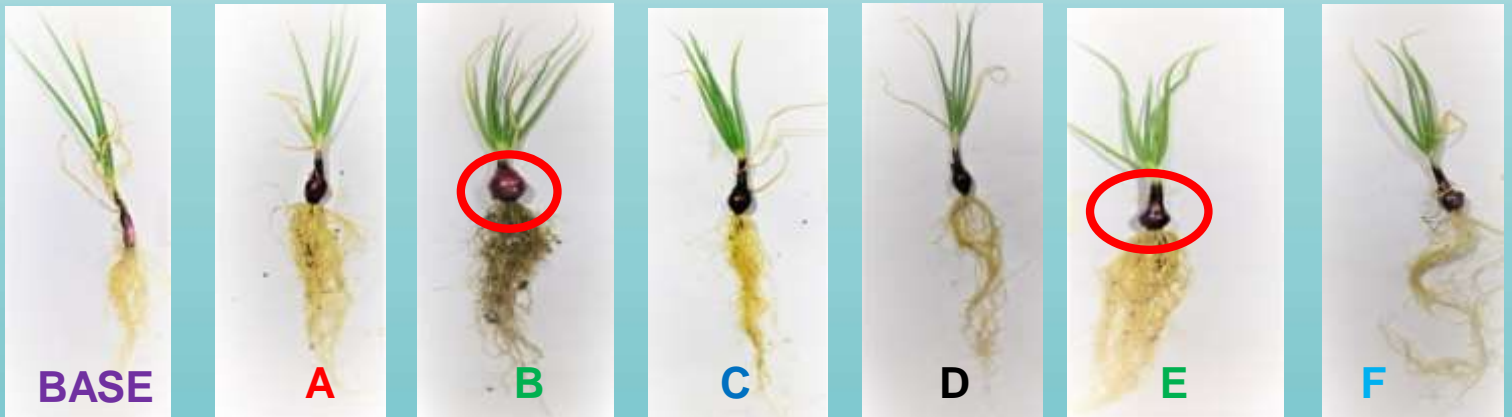
Scientific support provided by:
University of Reggio Calabria "Mediterranea" (Italy) –
Department of Agrarian & Forestry System Management

Fertilizers

Organic-mineral fertilizers: advantages verified in scientific tests

- ✓pH lowering of alkaline and saline soils;
- ✓Improvement of soil chemical and physical characteristics;
- ✓Increase of the amount of organic substance;
- ✓Germination stimulation of plant seeds;
- ✓Product quality improvement

**Org-mineral fertilizers
replace chemical
fertilizers and deliver a
productivity up to +30%**



BASE comparison

*B= Sulphur +
Bentonite + Orange*

*E= Sulfur + Bentonite +
Orange residue +
Composted
Municipal Waste*

SBS Business Model for Organic-mineral Fertilizers

SBS business is **Global** (projects are implemented worldwide), **Innovative** (new products, new machinery and better processes are continuously implemented), **Sustainable** (aligned to the concept of Circular Economy, recycling and recovering waste products).

SBS transfers its know-how to Countries with soil under desertification: selling full production lines + industrial samples of organic-mineral fertilizers + scientific know-how in customization & localization of fertilizers:

