

# PRODUCT DATA SHEET

Product: **Sanbio® PLANTA**

## DESCRIPTION

PLANTA is a premium immunity activator and growth stimulant used in fertigation, stress control and increase of productivity on all crops. PLANTA with its powerful formulation acts in the plant cells and by that it triggers the defensive and vegetative processes in the plant. PLANTA increases the tolerance and resistance towards environmental and pathological stress by activating the whole plant physiological system. PLANTA activates the metabolism that results in enhanced development of root system, shoots, leaves, fruits, improved mobilization and assimilation of nutrients, vegetative growth, early flowering and maturation, improved fruit quality and long storage life.

## MAIN ADVANTAGES

The advantages of PLANTA are:

- Improving crop yield, quality and storage parameters
- Increasing environmental stress tolerance
- Higher resistance against infections and pests
- Microbiological enhancement of soil fertility
- Better utilization of nutrients and water
- Better growth under extreme conditions.

## COMPOSITION

Activated\*) biopreparation containing: Magnesium Sulphate Heptahydrate (MgSO<sub>4</sub>·7H<sub>2</sub>O), Algae extract (*Ascophyllum nodosum*), mixture of high concentrated living microorganisms \*\*) : concentration 2.3 Billion CFU/g, species: Mycorrhiza (*M. spp*, *M. Glomus intraradices*), Bacillus (*B. subtilis*, *B. lichenformis*, *B. megaterium*, *B. amyloliquefaciens*), Pseudomonas (*P. trivialis*), Trichoderma (*T. harzianum* T58);

\*) processed by SANBIO Biocatalytic Stimulation Technology

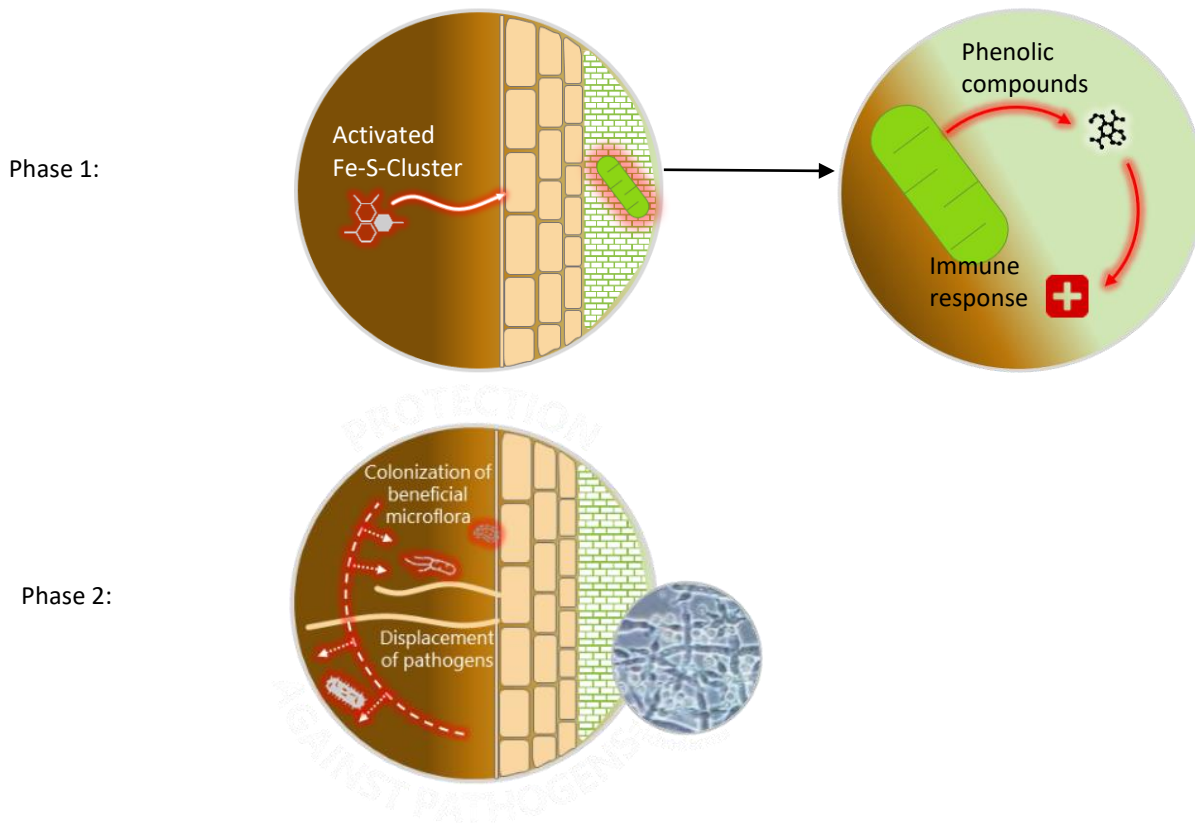
\*\*) see legal statement

## DECLARATION

Organic-mineral fertilizer MgO+SO<sub>3</sub> (13+27.5) + Microorganisms // Activator

## MODE OF ACTION

PLANTA combines the core functions in one product: plant nutrition, growth stimulation, stress control and natural crop protection. The effectiveness of the ferti-activator PLANTA in powder form is based on the activation of the raw materials by the SANBIO Biocatalytic Stimulation Technology supported by the innovative biopreparation of natural microorganisms. The mechanism of electrical stimulation of plant cells makes the difference of PLANTA versus conventional products acting on chemical mechanisms only.



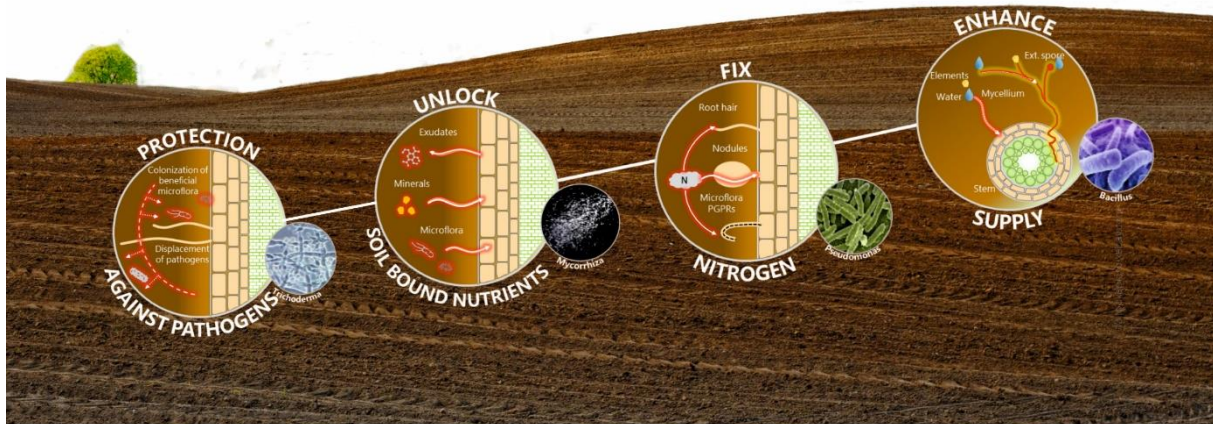
**RAPID ACTION.** The powerful formulation leads to an instant adsorption through the roots and fast transport into the plant cells. There, PLANTA triggers the defensive and vegetative processes.

**CROP POWER.** PLANTA enhances the formation of chlorophyll content which intensifies photosynthesis, accelerates growth and increases biomass.

**GROWTH CONTROL.** The activation of whole plant physiological system boosts the excretion of phytohormones (Gibberellin, Cytokinin, Auxin, Ethylene). These catalysts intensifying metabolic processes and enhancing vegetative growth.

**FULL ACCESS.** The rapid and significant development of root mass ensures good access, transport and assimilation of essential nutrients, elements and water. Optimal nutrition can save artificial fertilizers and water.

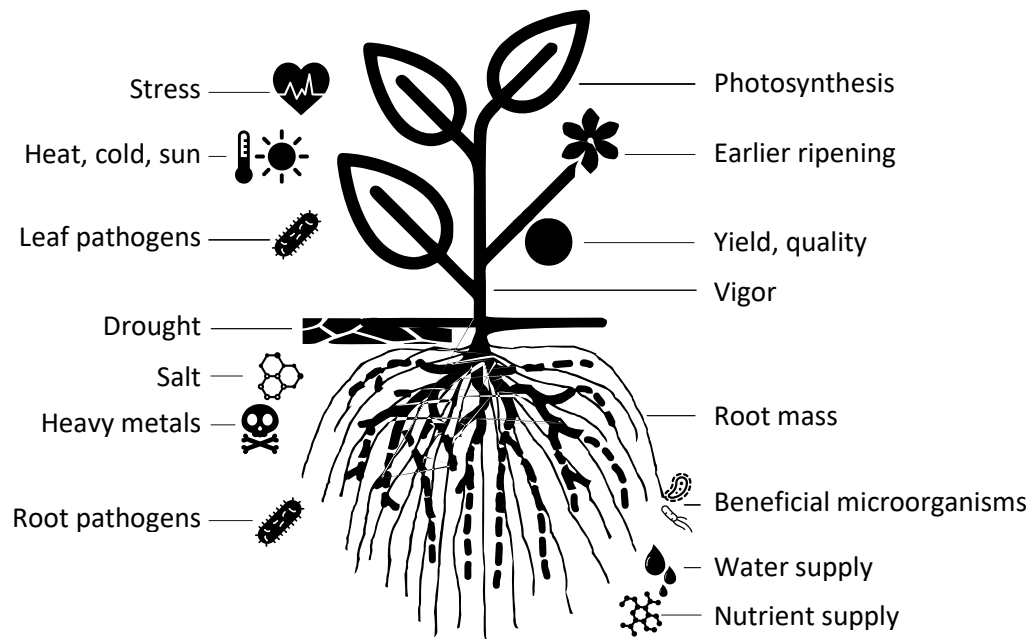
**ENHANCED MICROBIOM.** PLANTA contains an innovative high concentrated biopreparation of natural microorganisms. The selected strains (Bacillus, Pseudomonas, Trichoderma, Mycorrhiza) are isolated from natural environment. The augmentation of microbial activity – intensified by SANBIO processing – leads to intensive symbiotic interaction between microorganisms and roots. Furthermore, it enriches the soil life for higher fertility, especially soil structure, moisture, habitate and pH value.



**PERFECT NUTRITION.** The enhanced metabolism of the microorganisms unlocks and solubilises soil bounded phosphorous, fixes nitrogen and provides the nutrients in plant available form by ion exchange process. Furthermore, the microorganisms increase the content of humus by decomposition of cellulose and other crop residues.

**STRONG AND VITAL.** PLANTA is equipped with a two stage natural stress control system: 1. Displacement of antagonists and pathogens by root colonialization of the useful microorganisms. 2. Introduction of resistance: electrical stimulation of plant cells leads to selective excretion of phenolic compounds, control of peroxidase activity and acceleration of immune response to pathogen attack. The activation of immune system on cellular level (immune response) enhances the tolerance towards abiotic stress factors and resistance towards biotic stress factors. The plant is able to adapt herself to disorders (soil toxicity, salinity) and unfavourable conditions (heat, cold, frost, drought, flood). The integrated biological protection system reduces the impact of fungal infections, pathogens and pest attack. As a result, a profitable growth is possible even under extreme conditions, loss can be minimized. PLANTA works systemically, preventively and curatively with associated natural mechanisms.

**QUICKER. BIGGER. BETTER.** PLANTA accelerates the plant vigor (early flowering, ripening, harvest), and increases the yield significantly. The fruits show improved quality (appearance, sugar content, taste) and storage parameter (shelf time, stability).



## COMPOSITION

Parameter	Unit	Result
Magnesium sulphate heptahydrate (MgSO <sub>4</sub> ·7H <sub>2</sub> O)	% w/w	60
Algae extract ( <i>Ascophyllum nodosum</i> )	% w/w	30
Mixture of living microorganisms: → Concentration: 2.3 Billion CFU/g → Species:	% w/w	10
<ul style="list-style-type: none"> <li>▪ Mycorrhiza (<i>M. spp</i>, <i>M. Glomus intraradices</i>)</li> <li>▪ Bacillus (<i>B. subtilis</i>, <i>B. licheniformis</i>, <i>B. megaterium</i>, <i>B. amyloliquefaciens</i>)</li> <li>▪ Pseudomonas (<i>P. trivialis</i>)</li> <li>▪ Trichoderma (<i>T. harzianum T58</i>)</li> </ul>		

## PHYSICO-CHEMICAL PARAMETERS

Parameter	Unit	Result
Appearance	-	Powder
Color	-	Grey
Dry matter	% w/w	71.4
Organic dry matter OS	% w/w	49.8
pH value	at 20.7°C	6.7
Solubility in water at 20°C	g/l	300
Density	g/cm <sup>3</sup>	1.5

## ELEMENTS

Parameter	Unit	Result
Boron B	% w/w	0.004
Calcium oxide CaO	% w/w	0.880
Iron Fe	% w/w	0.036
Potassium oxide K <sub>2</sub> O	% w/w	0.600
Magnesium oxide MgO	% w/w	13.000

Manganese Mn	% w/w	0.009
Phosphorus oxide P <sub>2</sub> O <sub>5</sub>	% w/w	0.300
Sulphur trioxide SO <sub>3</sub>	% w/w	27.500

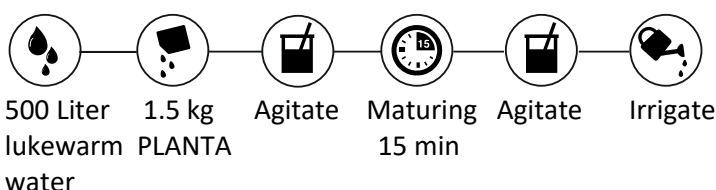
## DIRECTIONS OF USE

**PLANTA** is designed for use in the cultivation of all types of agricultural and horticultural crops.

## FERTIGATION:

Crops	Application time	Single rate
<b>Soil-grown agricultural crops</b> Cereals, Pulses, Vegetables and Melons, Fruits, Nuts, Oilseeds, Sugars and Starches, Fibres, Beverages, Narcotics, Spices, Condiments, Rubber Forages, Green and Green leaf manure, Lawns	<u>First application</u> should be done in the early growth period (tillering, 3-5 leaves visible, stem elongation). <u>Subsequent applications</u> can be done optional during the shoot phase until end of flowering phase.	1.5 kg/ha
<b>Trees</b>	<u>First application</u> should be done in the early growth period at white/colored bud stage. <u>Subsequent applications</u> can be done optional during the shoot phase until end of flowering phase.	1.5 kg/ha/1m crown-height
<b>Substrate</b>	Prior sowing	0.75 kg/m <sup>3</sup>

**OPTIMAL WORKING SOLUTION:** Fill tank with 500 Liters of water. Add 1.5 kg of PLANTA. Agitate well. Wait 15min for maturing. The working solution should be applied promptly. Maintain agitation throughout the fertigation process.



**OPTIMAL NUMBER OF TREATMENTS:** 1-2.

**FERTIGATION:** Use working solution of total application rate of 500L/ha. Apply onto ground close to the plant. For soil-grown plants use every fourth fertigation cycle. For soilless cultures use several time during growth. Wait at least 14 days between two applications.

**ROOT SOAK:** Bare roots from trees or plants can be soaked in a working solution of 1.5% before plant out.

**SOIL DRENCH:** Apply soil drench around the root base of trees and plants or seedbeds in a 1-1.5% working solution.

**SEED PRIMING:** Soak seeds for 24 hours in a working solution of 15% with a total application rate of 5L/100kgs seed at room temperature. Re-dry prior sowing. Seeds must be sown within 1–2 days after priming.

**COMPATIBILITY:** Mixing with most fertilizers is possible. It is recommended to conduct a small mixing test before use. Do NOT apply PLANTA with plant protection agents at the same time. Wait 14 days to use PLANTA in that case.

### STORAGE

Store cool and dry. Temperature range +5...40°C. Protect from sunlight and frost.



### SAFETY

Read SDS carefully.

Keep out of reach of children and animals.

Wear protection gloves and eye protection.

Avoid breathing dust/mist/spray.

Wash with water thoroughly after handling.



### PACKAGE

1 kg sachet (PET/ALU/PE 12/12/75 sachet with tear-notch)

### SHELF TIME

36 months in unopened packages. Opened packages should be stored tightly closed.

### APPROVALS



Organic certified

The product meets following regulations:

Country	Standard	Link
Germany	Demeter Germany Demeter International FiBL Inputs list for the organic agriculture in Germany Gäa Germany Naturland Germany Reg. (EC) 834/2007	→ <a href="http://www.betriebsmittelliste.de/de/bm-l-suche.html">http://www.betriebsmittelliste.de/de/bm-l-suche.html</a> (enter company name)
EC	EC 834/2007, EC 889/2008	→ <a href="http://www.inputs.bio">www.inputs.bio</a> (enter company name)
USA	American Regulation NOP (National Organic Program)	→ <a href="http://www.inputs.bio">www.inputs.bio</a> (enter company name)

Tunisia	Liste des Engrais et Amendements du sol autorisés à être utilisés en Agriculture Biologique en Tunisie	→ <a href="http://www.ctab.nat.tn">www.ctab.nat.tn</a>
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## COUNTRY OF ORIGIN

Federal Republic of Germany

## PRODUCER

SANBOS GmbH, Geraer Strasse 14, D-06712 Gutenborn-Drossdorf, Germany

T: +49.3441.539873, F: +49.3441.539874, [info@sanbio.eu](mailto:info@sanbio.eu), [www.sanbio.eu](http://www.sanbio.eu)



[www.sanbio.eu](http://www.sanbio.eu)



<https://www.youtube.com/channel/UCcP8e0Ev1wGnI93x44IGfMg>

**LEGAL STATEMENT:** Certain statements may not be applicable in all geographical regions. Product associated claims may differ based on government requirements. Product composition and availability may vary by country. Please contact SANBOS GmbH for further information.

## OTHER INFORMATION

Certain statements may not be applicable in all geographical regions. Product associated claims may differ based on government requirements. Product availability may vary by country. Please contact SANBOS for further information.

SANBIO® is the registered trademark of SANBOS GmbH, Germany.

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**SANBOS GmbH**  
 Geraer Str. 14  
 D-06712 Gutenborn  
 OT Drossdorf  
 Germany  
**Phone: +49.3441.539873**  
**Fax: +49.3441.539874**  
[www.sanbos.com](http://www.sanbos.com)

Joerg MEYER, Dipl.-Ing. (Univ.)  
 General Manager  
 SANBOS GmbH  
 Germany