PRIMA HUMICA

ZYMOSIS [x2]
T ECH NO LO GY

SOIL IMPROVER - BIOSTIMULATOR

- **ADJUSTES and STABILIZES the pH** soil to the desired levels.
- **DISSOLVES the SALTS** that have accumulated in soil.
- **FILLS with ORGANIC HUMIC COMPOUNDS & TRACE ELEMENTS** the weakened fields, and vertically increases fertility.
- **PROVIDES STRONG ROOT SYSTEM.**
- **ACTIVATES THE ACTION OF BENEFICIAL** microorganisms that help assimilate chemical fertilizers from plants.
- **INCREASES THE QUALITY properties of the FRUITS** (size, color, sugars, consistency).
- **APPLIES TO ORGANIC FARMING.**
- (E.R. 2092/91&834/2007&889/2008).

IDENTITY OF PRIMA HUMICA

Soil Improver – Organic fertilizer in solid form, **Europe's richest in Humic Compounds** (from **HUMOFIED LEONARDIT**), with the **lowest C/N ratio (absolute humification).**

It replaces any organic fertilizer in the market, manure, slurry, algae and any soil improvers, zeolite, plaster, sulfur, dolomite, without having the disadvantages and risks to the grower and the negative impact on soil quality, such as neutralization of beneficial microorganisms and trace elements, accumulation of salts, antibiotics, heavy metals and chlorine, creation of toxic fields, etc. It does not contain salts, hormones and antibiotics.

Application to organic crops.

CHEMICAL SYNTHESIS OF THE PRODUCT

HUMIC & ORGANIC COMPOUNDS: **68-78%** (HUMIC ACIDS 40% min.)
NUTRITIOUS INORGANIC ELEMENTS: **5% N, 3% P_2O_5, 3-5% CaO, 0,7-1% MgO, 1,2% Fe, Cu, B, Zn in ppm**

ratio **C/N = 7-8**

They are **slow release fertilizers** and can be purchased in **2 forms:**

1. **granular (4-6mm)** (application with fertilizer machines)
2. **powder & particles (0-7mm)** (application with hands).

THE RICHEST IN HUMIC COMPOUNDS.
IT TRANSFORMS DIRECTLY INTO FERTILE, EVEN THE MOST BARREN SOIL!!

EXCELLENCE OF PRIMA HUMICA

COMPARISON WITH OTHER COMPETITIVE SOIL IMPROVERS ON THE MARKET

PRIMA HUMICA contains high quality organic compounds called Humic Compounds (Humic Acids, Fulvic Acids), produced with the exclusive for Europe"**ZYMOSISx2 Tech**" Double-Humidification- Fermentation Method. **Their true value lies in their high content of Humic Acids and in Low Carbon to Nitrogen ratio C/N=7-8**, which **means ABSOLUTE HUMIFICATION and assimilation of their components**, all the details are stated in their Certified Chemical Composition. **Their action is tested and certified.**

COMPARISON WITH OTHER ORGANIC PRODUCTS

Competitive organic products in the European market consist of 'imminent', 'raw humus' or 'dry whey' (semi-decomposed organic compounds), they can be **easily identified, as they do not indicate their content in humic compounds and their C/N ratio is large (over than 20).** Their **action is limited** to an increment of porosity (for proper ventilation), soil water capacity and soil temperature, as **opposed to the 17 actions** that **PRIMA HUMICA** offers to soil and plant (in detail on the next page).

COMPARISON WITH MANURE

PRIMA HUMICA is **incomparably better** as it contains multiple times higher percentages of organic humic compounds and inorganic nutrients and is applied in **smaller quantities,** 100-300 kg/1000 m^2 instead of 2-4 tones/1000 m^2 of manure, reducing transport and application costs (labor). Furthermore, **PRIMA HUMICA** is **free of salts, hormones, antibiotics and dangerous microorganisms**, which are contained in manure irrespective of its degree of fermentation**.**

APPLICATIONS

- For **perennial crops** applications during Autumn and Winter, with dispersion can be combined with NPK granular fertilizers. Light integration helps the efficiency of **PRIMA-HUMICA**, but is not essential.
  Dosage: 1-5 Kg/tree.
- Apply on soil prior to installing the cultivation (**greenhouses, annuals or multiannuals**), during the preparation of soil.
  Dosage: 80-300 kg / acre (0,8-3 Tones / Hectare), with dispersion and incorporation.

OBSERVATIONS

The above DOSAGE is considered appropriate for semi-problematic soils as for preventive applications.

It is better for SOIL IMPROVERS and especially HUMIC ACIDS NOT to be applied in large quantities in the soil. It is much more effective when the total required amounts of soil improvers is divided throw-out the year.

According to moderate estimates the total yield of decomposed HUMIC ACIDS of **PRIMA-HUMICA** at the ground, are at least, 40 Kg per 100 kg of the product. The price of pure humic acids in the international market ranges from 3 - 5 $/Kg.

ALTERNATIVELY

PRIMA-HUMICA is also **available in dense liquid form**. Applied by mixing with the water of irrigation or in fertigation.

According to official international **research that took place for more than 2 decades by independent Research Institutes** and **High Education Institutions**, the **action** of the "**HUMIC COMPOUNDS**" of "**PRIMA HUMICA**" for the soil and plant **has been proven**, and is listed below:

Action of LEDRA'S Humic Compound «ZYMOSISx2» in the SOIL

1. They are **feeding material** of beneficial microorganisms and energy for plant vital processes (digestion, perspiration, denitrification, nitrification).
2. **Dissolve insoluble salts** of the soil - and those from the continuous fertilization with mineral fertilizers- and offer them back to the plant in assimilable form.
3. **Increase the stability and availability of nitrogen in the soil.**
4. **Release Phosphorus** from the soil by breaking silt-clay complexes of Iron (Fe) & Aluminum (Al).
5. **They have great alternative cationic capacity.** That is to retain exchangeable (assimilable) form several cations (K +, Mg ++, Ca ++), which appear in the plants and prevent their leaching.
6. **They have anionic exchange capacity** and form bonds keeping anions (NO_3^-) (SO_3^{--}) (CL^-) (OH^-) (HPO_4^{--}) in digestible form.
7. **Dissolve the clay and release trace elements.**
8. They form chelates compounds with positive metals such as Fe, Zn, Mn, making **Trace Elements assimilable by the plants, particularly in alkaline soils.**
9. **Regulate the soil pH .**
10. **Adsorb toxic organic compounds** and **heavy metals from the atmosphere**, helping to protect the natural environment and plant from toxic substances produced by microorganisms.
11. **They create agglomerates causing excellent structure**, aeration and water capacity of the ground.

Action of LEDRA'S Humic Compounds «ZYMOSISx2» in the PLANT

1. **Achieve increased crop production.**
2. **Improve fruit quality** (taste, color, nutritional value, size).
3. **They affect plant's metabolism** (respiration, enzyme activity, viscosity cell protoplasm, sugar distribution, protein synthesis, chlorophyll synthesis).
4. **Their action can be compared to the action of hormones and auxins** as they are affecting the plant's metabolism in a similar way, **by boosting it.**
5. Plants that adsorb these humic components, **increase their absorption of mineral nutrients from the soil** (particularly nitrogen and trace elements).
6. **Stimulate plant sprouting** and promote the growth of their roots, accelerating the germination of seeds (rooting) thus **ensuring successful transplantation.**
7. **Achieve earliness** as they accelerate the biological life cycle of the plant.