

Terra-Sorb Radicular **Advanced**

Free amino acids from a vegetative
source for soil fertilization
L-Isomer

The fastest solution to get rid of plant stress
frost - high temperature - salinity problems, diseases, etc.



Introduction :-

Bioiberica is unique in its own way of analyzing the protein molecule into amino acids by enzymatic hydrolysis of proteins. It is characterized by the fact that it breaks down the bonds between amino acids without breaking these acids, and each amino acid performs its required function within the plant. While the other amino acids extracted by (chemical - thermal) methods contain less composition of these acids, and thus their functions inside the plant are less.



Composition :-

Composed of	(W/V)	Unit	Source
Free amino acids in L-Isomer position	11.5	%	Vegetative
Nitrogen Total	5.8	%	Vegetative
Nitrogen Organic	1.8	%	Amino acids
Nitrogen Ammonium	4	%	Ammonium Hydroxide
Density	1.15	g/ml	-
PH	5.3	PH	-

Usage :-

- 1) It is used to treat the roots with fertilization and irrigation water when the plant is exposed to shocks such as frost, extreme thirst, high salinity and rain.
- 2) And after the plant was exposed to poisoning from insecticides, fungicides, or as a result of spraying herbicides.
- 3) To increase productivity and raise the quality of the crop.
- 4) It can be added with different fertilizers, and it is not preferable to mix it with fungicides.
- 5) It can be added with fertilizers used to treat the deficiency of nutrients, growth regulators and natural stimulants as it supports the absorption of nutrients.
- 6) The cell uses the amino acids in the (**L-isomer**) position to produce proteins, while the amino acids in the (**D-isomer**) position are produced in the cell wall of bacteria, and therefore the amino acids in the (**L**) position are used to produce protein and are therefore the best for plants.



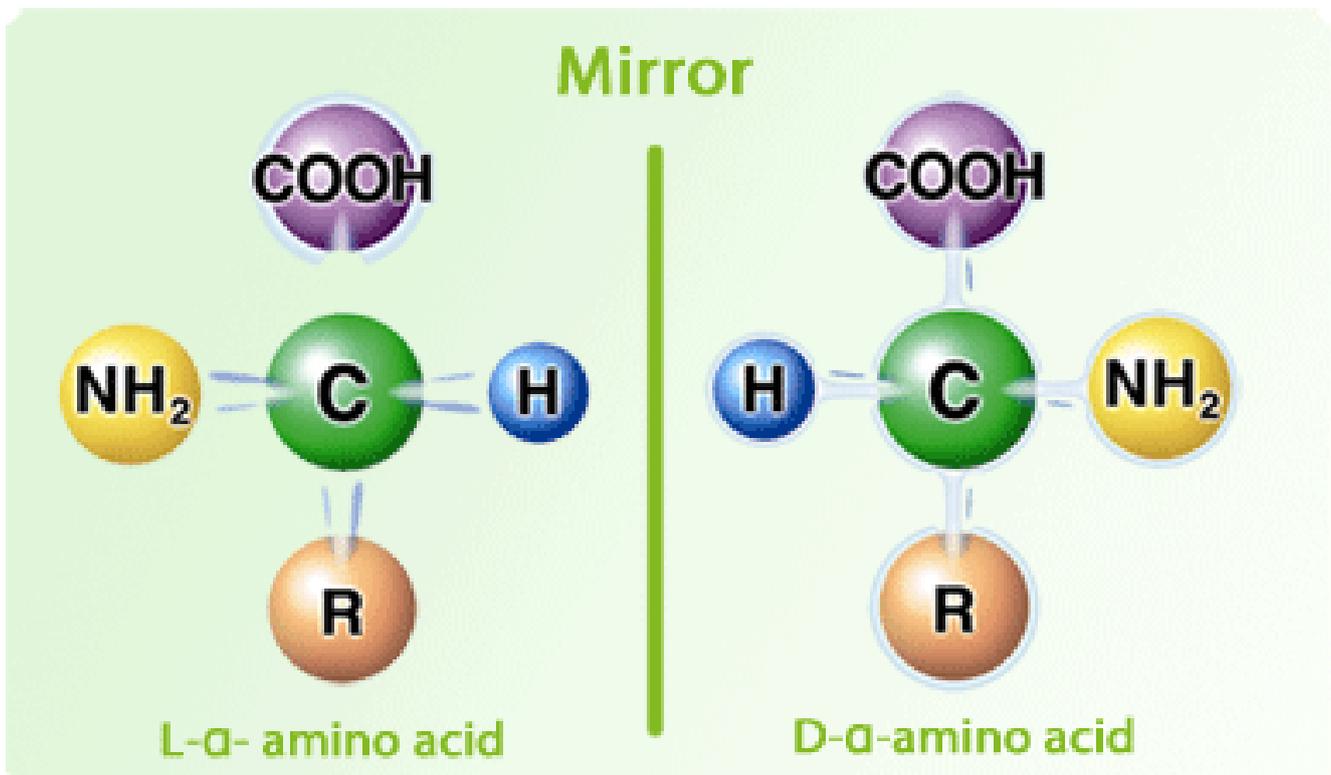
Advantages of using terra-sorb radicular advanced :-

- 1) It is recommended to use it as a treatment for the problems that occur to the plant as a result of the stress it is exposed to, for example (frost - high temperatures - salinity problems, diseases, etc.).
- 2) Exposure to extreme cold paralyzes enzymatic activity and leads to a decrease in the fluidity of cellular membranes, so that the process of transporting water and nutrients can be affected, and the plant can stop its production. If the temperature is severe and sudden, the plant may be at risk of freezing, which leads to the formation of ice crystals inside the cell, It will cause severe dehydration of the cells later.
- 3) If exposure to extremely high temperatures is damaged, the action of enzymes and protein reduction is inhibited, which leads to an increase in the fluidity of cell membranes, meaning that the permeability of dissolved substances from the cell wall increases and also increases with it the heat resulting from plant respiration related to the process of photosynthesis, which leads to paralysis in growth.
- 4) Treatment of water stress that can occur both due to lack of water or exposure to drought or due to excessive irrigation and suffocation of the roots or when the amounts of water lost by transpiration are greater than the amounts of water absorbed by the plant. Drying, closing of stomata, and decreased ability to photosynthesize.
- 5) Compensate the plant for the material damages resulting from weather factors such as (wind or cold), which lead to the breakage of parts or all of the plant and consequently the resulting losses in production.

Advantages of using terra-sorb radicular advanced :-



- 1) The amino acid or ammonia is the main protein and peptide building part of the plant
- 2) In addition to building cells and repairing tissues, amino acids are the main building material for antibodies to combat infection with fungi, bacteria and viruses, and are also involved in building enzymes, hormones and nuclear proteins such as RNA and DNA.
- 3) Terra-sorb consists of 18 amino acids from a vegetable source, and it is the most suitable for plants because it is in the form of free amino acids, which is the form that enzymes inside the plant recognize and form protein from. The higher the percentage of free amino acids in the product, the higher the quality of the product.



The only amino acids that are included in the synthesis of protein are those that are present as

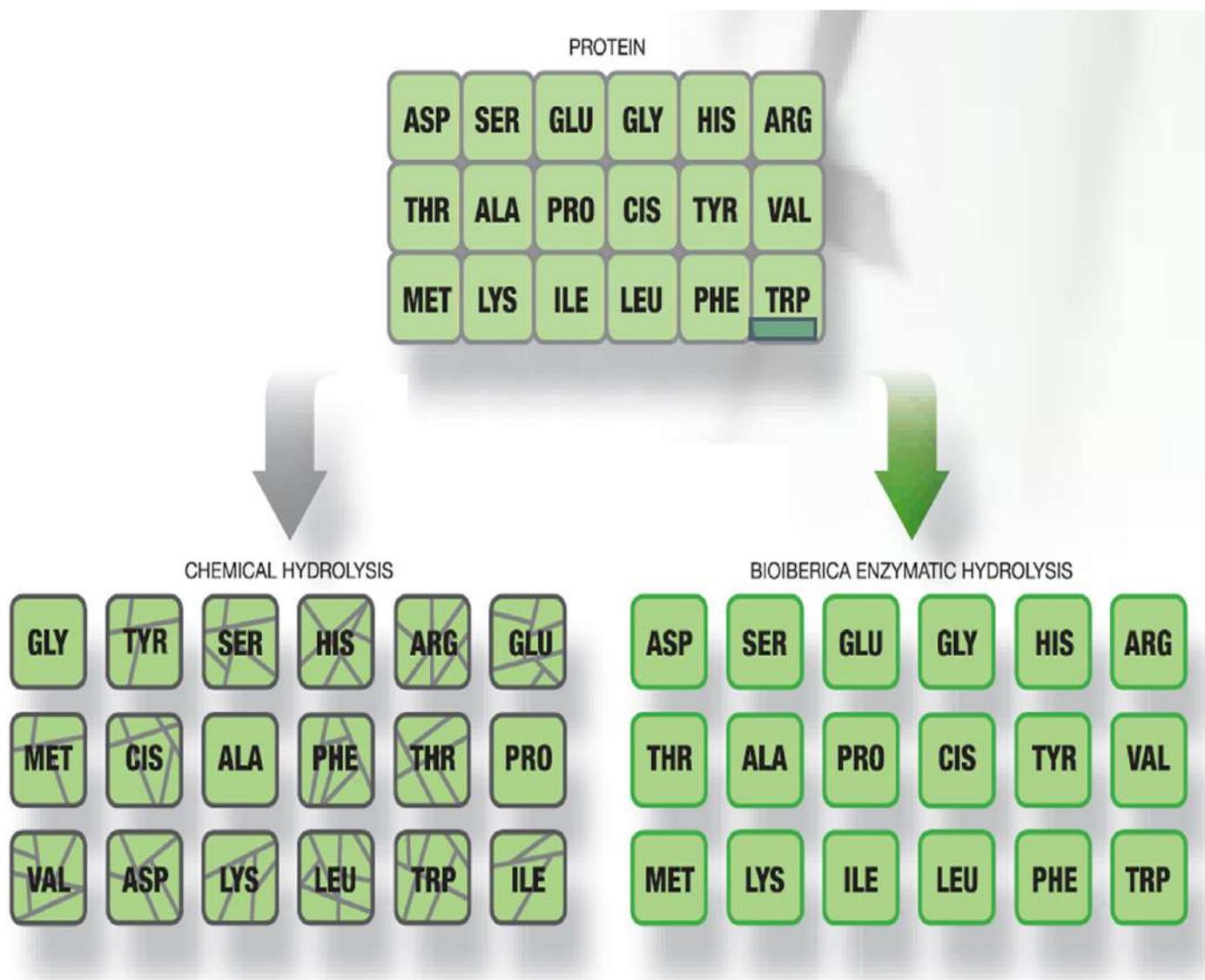
L-isomer



Benefits of plant amino acids:

Amino acids in position (L-isomer) that make up proteins in all living organisms, (alanine, cysteine, phenylalanine, aspartic acid, glutamic acid, histidine, isoleucine, leucine, lysine, methionine, proline, serine, tyrosine, threonine, tryptophan, valine)

All these amino acids are present in Terra-sorb, thanks to its production process, which depends on the process of enzymatic degradation, thus preserving the extracted amino acids from breakage, unlike other extraction methods that use chemicals, where the breakdown of amino acids occurs, and their efficiency and final results on plants are reduced.





Function	Amino acids
Radicular development	Methionine and Arginine
Resistance to stress conditions	Proline, Valine, Serine, Lysine, Glutamic Acid and Cysteine.
Hormone precursors	Tryptophan and Methionine
Flavour precursors	Alanine, Glycine and Proline
Colour precursors	Phenylalanine.
Increase of pollen's germination rate	Proline and Glutamic Acid
Increase of seed's germination rate	Proline
Photosynthesis and chlorophyll reinforcement	Alanine, Glycine, Lysine, Glutamic Acid and Proline.
Osmoregulation	Proline
Stomatal opening	Alanine, Glutamic Acid, Lysine, Proline and Methionine

Dosages and Usage

Plant	Dosage	Notes
Watermelon, Melon, cucumber and Squash	2 L/1000 m ²	At 4 leaf stage and flowering and fruit set
Cabbage, Cauliflower and lettuce	2-1.5 L/1000 m ²	After transplanting (4 leaf stage) vegetative stage
Tomato, eggplant and pepper	2-1.5 L/1000 m ²	At transplanting & vegetative and flowering stage
Citrus	1.5 L/1000 m ²	At vegetative & flowering and 4-6cm fruit length
Olive	1-1.5 L/1000 m ²	At vegetative & flowering and fruit stage

Packing :-

Terra-Sorb Radicular is available in 5 Liter Gallon