



EnviroPerfect Solutions

EPS Humic Acid

Benefits of EPS Humic Acid

Improves soil structure

- Prevents high water and nutrient loss in light, sandy soils.
- Increases aeration of soil and water retention in heavy and compact soils.
- Prevents soil cracking, surface water runoff, and soil erosion.
- Improves soil workability.

Regulates soil pH.

Improves nutrient and water uptake

- Enhances nitrogen uptake.
- Re-solubilizes nutrient elements (N, P, K, Fe, Zn and other trace elements) into forms available to plants.
- Improves water-soluble inorganic fertilizer retention in the root zones and reduces leaching.

Stimulates plant growth

- Increases plant enzymes and their production.
- Encourages growth and proliferation of desired micro-organisms in soil.
- Increases germination and viability of seeds.
- Enhances natural resistance to disease and pests.

Increases quality & yield

- Improves quality of yields (i.e. protein in wheat as high as 16.8%).
- Increases yield (up to 50%)

Reduces fertilizer and water consumption

- Increases water-holding capacity of soil and thus helps to resist drought.
- Reduces water consumption by as much as 50%.
- Reduces fertilizer and pesticide requirements by up to 30% or more.

Overall improvement

- Drought tolerance.
- Vitamin and mineral content.
- Storage and shelf life.

FAQ about Humic Acids

What are the sources of Humic Acids?

Humic acids are complex molecules that exist naturally in humic matter found in soils and are an excellent natural and organic way to provide plants and soil with a concentrated dose of essential nutrients, vitamins and trace elements. A source of Humic Acids is found in soft brown coal referred to as Leonardite. Black Earths' *Humalite* is a weathered type of sub-bituminous coal that is similar to lignite / leonardite, but of better quality. It has lower ash and toxic metals, and it has higher content of humic and fulvic acids.

What do Humic Acids do?

Humic Acids stimulate and promote plant development, resulting in higher yields. Humic Acids improve the structure of soil and increase water retention, seed germination, root growth and quality of yields. For soils to remain fertile, humus must either be replaced or added. Applying Humic Acids does this and increases the natural fertility process in the soil.

How is this accomplished?

One of the most important features of Humic Acids is their ability to make nutrients more readily available to the plants during the growing process. Humic Acids produce three types of effects on soil and plants: they physically modify the structure of soil; they chemically change the fixation properties of the soil; and they biologically stimulate the plant and the activities of microorganisms. *Liquid Organo Hume* is negatively charged with a very high CEC which allows for the uptake of positively charged N,P, & K. They then can be converted to a form that can be taken up by the plant. Another characteristic of *Liquid Organo Hume* is its high concentration of the smaller molecule, Fulvic Acid which allows for even greater efficiency of nutrient transport to the plant, through the leaf, when used as a foliar spray.

Are Humic Acid Products Fertilizers?

No, they are not fertilizers, but complement normal fertilizers and a well-balanced fertility program. Humic Acids do not supply nutrients in the conventional sense, but increase their availability. They are not a solution in themselves, but part of a balanced program. When Humic Acids enter plants at early stages of development, they result in increased cell division & root development. Plant stress is decreased, increasing the disease resistance properties and improving the over all quality of yields.

What crops will Humic Acids help?

Tests have shown that Humic Acids benefit all types of agricultural crops and horticultural plants. As in nature, results will vary according to soil and weather conditions. In general, results are observed in the first growing season. You will see an improvement every year as the soil fertility increases with regular application of Humic Acids.

Will Humic Acids harm the soil?

Humic Acids are organic and free of any harmful substances. They will not contaminate the groundwater or soil and are environmentally safe. In addition, Humic Acids reduce the availability of toxic substances in the soil, prevents nitrates and pesticides from leaching into the ground water and reduces the amount of fertilizer required. The negative charged *Liquid Organo Hume* breaks up salts which have been tied up in the soil from over fertilization throughout the years. It is also an effective means in erosion control.

When & how can Humic Acids be applied?

Liquid Organo Hume should be applied in the spring by side banding at time of seeding; sprayed at 4 leaf stage and the fall. It is strongly suggested that seed be inoculated prior to planting to improve germination rate. When applied in the fall, *Liquid Organo Hume* accelerates the decomposition and breakdown of dead foliage.