

Humates

*Essential For
Farmers, Gardeners
& Organic Growers*

HortiMax 

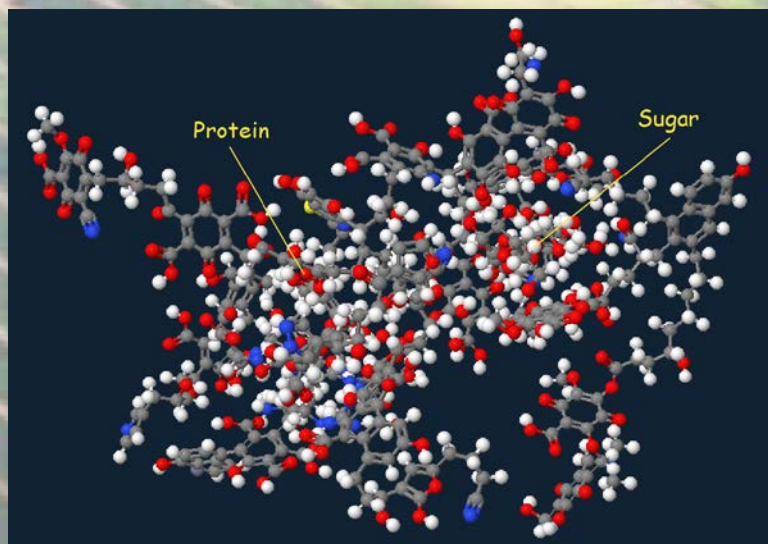
Humates & Organic Soils



It's the quality of the soil that matters the most in growing crops. Everyone knows that a plant thrives best in humus rich and moist loamy soil, giving out succulent fruits, vegetables and grains in abundance when well catered.

Unfortunately, the vast majority of today's conventional farmlands are mostly depleted of their essential nourishing elements, have lost the larger portion of their humus and the biological flora & fauna are drying out.

Alarming news reports have become common: lakes dying from Blue Algae caused by over fertilisation of the surrounding farmlands and turfs; the acidification and salts saturation of the soil cascading to soil erosion, which depletes the land of its top soil and silts up rivers; farmers always on the edge of bankruptcy, while fertilizer and fuel prices are exponentially growing. Going back to Organic growing seems the only hope if one wants to live from one's land in a sustainable and economical practice, prosper well in one's locality and pass on a valuable legacy to future generations.



Humates are the essentials construction blocks of a well balanced soil which supports the underground flora and well being of your plants.

Humates are naturally occurring carbons, matured by Mother Nature over millions of years, and are found in highly oxygenated concentrations in Leonardite deposits.

The underground micorrhizae and the bacterial population uses these Fulvic and Humic carbon based ring & chain structures to build complex molecules which synergistically transport water, sugars, proteins, enzymes, minerals and oligo-elements to the hungry plant.

This achievement is possible because the Humate structuring behaviour chelate's, meaning that it surrounds and holds into itself the transported molecules that nourish the plant.

We are grateful to the Emeritus Dr Robert E Pettit from the University of Texas for providing us with a [Comprehensive Paper](#) on the benefits of using Humates in Organic Agriculture.

“ The most Bio-active and plant responsive components of a fertile soil are Humates. The decision to replace and maintain adequate levels of Humates in the soil will have a more positive economic and ecological impact on a grower that any other decision he makes about growing a crop. ”



Think Sustainability, Think Humates !

Humates Helps Consistently to Increase and Maintain Yield

The one thing that stands out the most in all testimonials on the benefits of using Humates is the overwhelming increase of the production yield. The plantation is healthy and it shows. There are extensive academic reports as well as a great number of successful Organic Growers which support these yield enhancement claims ...



[Pertuit & al – Clemson University, USA](#)

Amendment of Humates along with a complete fertilizer increased tomato seedling plant height 40 %, doubling its total leaf area, shoot and root fresh weight, shoot dry weight and a four-fold increase of its root dry weight.

[Yolcu & al – Gumushane University, Turkey](#)

Addition of Humates increased Ryegrass Hay yield by 24 %. With Humates, the hay's crude protein content was 80 % greater than the control while its mineral content increased considerably.



[Wang & al – Cooperative Research Center, Australia](#)

The addition of Humates to soil along with a Phosphorous fertilizer significantly increased the amount of water soluble P, strongly retarded the formation of occluded P, while increasing P uptake and Wheat yield by 25 %.

[Tenshia & al - Tamil Nadu Agricultural University, Coimbatore](#)

The addition of Humates along with the recommended dose of NPK in the form of urea increased the N intake of Tomato plants by 28 %, P intake by 20 % and K intake by 21 %. At harvest a 16 % increase of the fruit yield was measured.

[Hopkins & al – University of Idaho, USA](#)

Averaged across 3 years and P rates, Humates application increased total marketable potato yield by 18 %.

[Nazli & al – Faculty of Agriculture, Turkey](#)

Humates have positive impacts on plant growth both with Organic and Inorganic fertilizers. Our 2 year study on Silage Maize concluded with a 24 % yield increase and a 33 % increase in Crude Protein yield.

[Brant & al – University of Florida, USA](#)

After a 2 year field experiment, Citrus trees treated with Humates exhibited higher water uptake and were greener, while the new planting had double stem diameter compared to control.

[Sanli & al – Faculty of Agriculture, Turkey](#)

Humates applications in a Potato field increased the number of tubers per plant by 22 %, marketable tuber yield by 38 % and total tuber yield by 15 % compared with the control.

[Ece & al – Faculty of Agriculture, Turkey](#)

Remarkably, the Climbing Bean yield in the half of the recommended fertilizer dose trial, enhanced with Humates, where higher by 13 % compared with the control.



Using Humates, the Greater Income may cover expenses Three-fold !

Humates Help Obtain Higher Brix Levels ...

Home gardeners, commercial growers and their customers alike will notice and be thrilled by the greater quality and taste of their Fruits, Grains, Nuts, Vegetables and Flowers. Higher Brix levels, a measure of the Proteins & Sugars content, as well as a greater quality of Essential Oils are attainable using Humates.

[Ferrara & al – University of Bari, Italy](#)

Foliar application of Humates on Grape vines has increased Brix levels nearly 7 % and berry yield 6 %.

[Shehata & al – Cairo University, Egypt](#)

The total marketable Strawberry yields were significantly increased in plots treated with Humates.

... by Enhancing the Soil's Structure ...

The synergetic effect of Humates with the micorrhizae increases glomalin production that helps creating a soil with a moist and fluffy structure. A humus rich soil breathes better. It lets the atmospheric Nitrogen and water vapor seep into it, where the symbiont bacteria can fix and offer it to the plant.

[Glomalin - Wright – USDA Sustainable Agricultural Systems Lab](#)

[Nitrogen Sources – Dorn – University of Nebraska](#)

... and Underground Biological Life

The underground life is booming in a humus rich soil. The Bacterial population, the micorrhizae, insects and importantly worms, excreting their super-fertilizing Vermi-compost, are all thriving alike in that unique soil.

[Tikhonov & al – Faculty of Soil Science, Russia](#)

Humates input stimulated 66 strains of intestinal bacterial symbiont from the Earthworm's digestive track.

Humates Help Drought Tolerance and Efficient Water Use

A humus rich soil acts as a sponge, holding water for when it's needed by the plant. When Humates are present, rainfall water is readily absorbed and kept for future use.

Humates help, holding greater than 7 times more water underground in the form of humidity than clay.

By the air conditioning effect of the porous ground, the soil's temperature is kept low enough, even in the drought period, so the plant doesn't dry-up. It can maintain its sweating to stay cool.

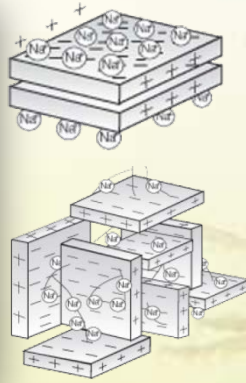
During the 2012 Field trials in drought-stricken Ohio and Kansas, corn production on the Humates treated fields averaged 4 times more than the untreated ones.

With Humates

Without Humates



Humates Helps Restraining Soil Erosion



A great deal of money is lost to surface water soil erosion. For instance, when the precious Nitrates are compounded to salts, they can easily leach, along with silt, into streams since they are not bondable to clay.

Adding Humates re-arranges the clay particles configuration so that the soil becomes porous, more permeable and breathing better, while holding the inputs of nourishing chelated elements available for a longer period of time.

Humates Help in Fixing the Urea Spreading



Humates, since they chelate so well, are also great in mitigating foul odors and loss, by evaporation, of the precious Ammonia when urea is spread on the field. The chelated Nitrogen & Phosphorus compounds remains underground and bio-available.

[Ahmed & al – Putra University – Malaysia](#)

All our mixtures significantly reduced volatile Ammonia losses, by as much as 50 %, from Urea spreading. The soil's NH_4 content was noticeably increased as well as its Ca, K and Mg levels compared with Urea alone.

Humates has also been successfully used to absorb the volatile Ammonia from Chicken, Duck, Swine and Horse beddings.

Now say ... which side of this Soy field has benefited from Humates ?



Our Offer ... Humates from

black^{leaf}earth



Solids ~ Available in 50 lbs Woven Poly Bag as well as a Ton Tote Bag

Powder	80 % Humates, about 60 Mesh particle size
Super Powder	80 % Humates, about 200 Mesh particle size
Mini-Granules Fine	80 % Humates, ½ to 2 mm grain size
Mini-Granules Coarse	80 % Humates, 1 to 3 mm grain size
Mini-Granules Blend	80 % Humates, ½ to 3 mm grain size
Dry Soluble 80	93 % Humates, 4 % P & 13 % K, Completely Water Soluble
Organic - Dry Soluble 80	93 % Humates & 19 % K, Completely Water Soluble

Liquids ~ Available in 17 liter Pail as well a 1,000 liter Liquid Tote

Liquid Fulvic	1 % Fulvic, Ready to Use
Concentrated Liquid Fulvic	3 % Fulvic, Ready to Use or Mix 1 : 3 with Water
Organo Liquid Hume	12 % Humates, Ready to Mix 1 : 100 with Water
Organo Liquid Hume Ultra	24 % Humates, Ready to Mix 1 : 200 with Water



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