



A Proprietary Blend of Activated BioChar & Freshwater-Sourced Humate

***“The Beauty Above comes from the Science Below”***

*Our soil amendments create healthy, living soils that promote healthy green trees, lawns & landscapes*

### Introducing VITAL Blend:

Our soil amendment blends pure activated **BioChar** made from renewable southern yellow pine with **Humates** obtained from completely decomposed ancient plant life. The fixed carbon from the **BioChar** in our blend has a very high carbon value (83% plus content) because of the advanced pyrolysis process that uses extremely high temperatures and no oxygen. The freshwater-sourced **Humate** portion of the blend comes from naturally occurring humic shale and contains a high amount of active carbon.

We blend these two ingredients to create an all-natural, organic soil enhancer that is so concentrated - its application rate is less than 50-60% compared to other products on the market - that saves money and time.

**VITAL Blend** has very low salt content and provides a full spectrum of micronutrients that are immediately bioavailable to plants and soil microbes.

### VITAL Blend Features: VITAL Blend Benefits:

#### **Extremely High Porosity:**

The BioChar is created through an advanced pyrolysis with a final step that fractures and opens up surface area (pores)

- The pores in our BioChar act as a “reef” in the soil to create living spaces for the microorganisms and to stockpile micronutrients for slow-release food storage.
- The porosity enhances fertilizer & other amendment usage by preventing leaching and aiding the “release” for longer lasting results.
- The open spaces in our activated BioChar remove (remediate) excessive salts, toxins, and heavy metals from the soil.

#### **Made from Renewable Southern Yellow Pine:**

The pyrolysis process used to create our BioChar occurs very fast, at extreme temperatures, and in the absence of oxygen

- The wood structure of our BioChar enhances the porosity and increases its water-holding capacity which helps plants during drought conditions.
- Because our BioChar is so stable; it has very low ash content (less than 3%), and will not collapse on itself during shipping.
- The single-sourced plant “feedstock” produces high quality Biochar that maintains product consistency and does not have toxins or heavy metals, unlike low quality char sources (such as grasses, yard/field residues, animal waste, etc.).

#### **BioChar works synergistically with the Humate:**

Synergy - VITAL Blend is a proprietary combination of our Humate and BioChar

- The Humate provides a high-energy, carbon food source and micronutrients to the soil microorganisms housed in the “reef” (pore spaces) provided by the BioChar.
- The soil structure is significantly improved by both components of the blend.
- The combination of BioChar & Humate produces a pH value just below 7.0.
- The VITAL Blend is concentrated so the rate used is at least half of other products; resulting in faster, cheaper, and more efficient applications.

#### **Humate improves soil quality and increases soil microbiology:**

Humate naturally chelates minerals and is an organic surfactant (wetting agent)

- The plant-derived Humates deliver more than 70 micronutrients, enzymes, minerals, humic/fulvic/ulmic acids, amino acids, and bio-stimulants.
- Our Humate is an organic surfactant and lowers water’s surface tension.
- The fulvic acid in our Humate is a natural chelator and helps plants easily assimilate nutrients - redirecting the plant’s energy for enhanced growth.
- Dr. Elaine Ingham of Soil Foodweb, Inc. performed tests on soil enhanced with Humates and found an increase in bacteria by 45%, in protozoan (amoeba & flagellates) by 1000-5000%, and in nitrogen by over 100% in only seven (7) days!



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### **It's time to really "GO GREEN"**

- VITAL Blend uses sustainable methods: the BioChar is made from renewable southern yellow pine and our high-grade Humate is obtained by low impact extraction of humic shale.
- By incorporating our activated BioChar into the soil, applicators sequester carbon and reduce their carbon footprint.
- Our Humate is certified organic and OMRI listed.
- Our BioChar is a USDA Certified Biobased Product.

### **Nature + Science = VITAL Blend**

#### ***Adding our VITAL Blend to soils will have long lasting results –***

The process we use to make our activated BioChar is a high yield pyrolysis, leaving only the fixed carbon which has a minimum half-life of 1000 years.

#### ***Bioavailable nutrients for plants from plants –***

The Humate is an organic, freshwater-sourced mixture only found in completely decomposed, ancient plant life as opposed to some animal-based products that have too many salts and heavy metals.

### **TURF - Lawn • Golf • Athletic**

#### **Topdressing with VITAL Blend creates turf that:**

Healthy Grass	will have greater root depth and higher seed germination rates, especially when paired with (organic) fertilizers
Heavy Use Areas	is able to withstand overuse because of the "auxin-like" bio-stimulants in the Humate
IPM for Grass	has healthy soil microorganism that can deter external pathogens and insects
Drought Resistance	has greater water holding capacity due to the BioChar's porosity and the increased soil biology creates better soil aeration
Time & Costs	needs less fertilizer, less bulk, less watering, less time & costs

### **TREES & LANDSCAPE**

#### **Adding VITAL Blend to the topsoil helps trees & landscape:**

Newly Planted	establish newly transplanted trees & shrubs quicker and increase their % survivability
Can Be Blended	by improving amendments already being used (i.e.: compost, mulch, etc.) - VITAL Blend is completely decomposed and will not "rob nutrients" from the soil to continue to decompose like compost
Drought Resistance	by acting as a moisture buffer and holding water in the soil for both plants and soil microorganisms
Tree Decline	reduce or reverse tree decline due to age or environmental factors

### **RETAIL GARDENS & NURSERY**

- Plants will require less fertilizer & watering
- Will grow faster to a marketable size
- Green alternative to peat moss or compost

### **SALT REMEDIATION**

- The porosity of our BioChar can limit and/or remediate salt damage that occurs from deicing in the winter
- The increased soil life can remediate salt as well as toxins and heavy metals

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