

## **Alpha Three Complex® Mycorrhizae, Biosol®, and Menafee Humate® Facts**

### **Mycorrhizae**

Mycorrhizae fungi greatly accelerate plant growth and benefit their health. Mycorrhizal (my-core-rise-ul) fungi excrete powerful chemicals that dissolve mineral nutrients, absorb water, retard soil pathogens, and glue soil particles together into a healthful porous structure. In return, the mycorrhizal fungi receive sugars and other compounds from the plant for their own nutrition. Applying a mycorrhizal product to established or newly transplanted plants can result in a wide range of benefits to the plant's health, such as increased nutrient uptake, increased resistance to insect pests and diseases, reduced fertilizer use, increased accumulation of phosphorus, and increased transplant survival.

After the mycorrhizae colonize the roots of a plant, the fungus then grows throughout the surrounding soil and forms an extensive cobweb-like network that explores a larger soil volume than normal roots. These special fungi can increase the ability of the roots to access nutrients in narrow spaces (small areas between soil particles) because they are smaller (1/10 the diameter) compared to roots. The ability of mycorrhizae to enter small areas can increase root absorption of nutrients by sixtyfold in some cases. A fungus colony can produce more than a kilometer of new mycelium in 24 hours! Landscapes containing healthy populations of mycorrhizal fungi require less water because tiny fungal hyphae can access reservoirs of water in small spaces within the soil that roots themselves are too thick to enter.

### **Biosol® 7-2-1 and Biosol® 6-1-1**

Biosol, also known as dry mycelium, is a by-product from the manufacture of penicillin. Biosol has a balanced nutrition ratio and supplies the plant with micro- and macronutrients throughout the whole growing period. Biosol enriches the soil, enhances the volume of positive microbes, and promotes the formation of humus, all of which results in a healthier, stronger, greener turf, trees, shrubs and plants. Biosol stimulates the micro-organisms in the soil and is used as a primary and maintenance fertilizer and can be applied as one to two fertilizations per year.

Biosol is long lasting & will not burn. It holds 3 - 4 times its weight in water thereby serving in water conservation. Biosol increases humus growth 5x's faster than normal fertilizer. It forms a more complex root system for plants and reduces ph or salt concentrations in soil. The canopy of tree and shrubs is increased and Biosol increases the "shear strength" wear and tear of turf. It also reduces iron chlorosis in turf.

Biosol reduces fungal diseases in the turf. Plants and turf are more disease and insect resistant. It increases the health of the soil, increases the rooting and improves the biological quality and taste of food. Biosol feeds plants and is responsible for higher crop yields in a natural way.

Biosol makes plants hardier and increases their tolerance to freezing and frosts. BIOSOL 100% NATURAL ORGANIC FERTILIZER

## **Menafee Humate®**

Humates are highly biodegraded and compressed remains of ancient plant and animal materials. They are mined from rich deposits located in northwest New Mexico.

They provide an available long chain carbon material to the soil structure. This carbon matrix thus promotes enhanced soil microbial activity for both indigenous bacteria and those added to the soil, especially mycorrhizae. This aids in the formation of a balanced soil structure for proper plant development.

Humates also aids in decomposition of residual plant material, especially thatch. They provide a full spectrum of organic acids that are essential to plant development.

Used in conjunction with a balanced fertility program, quality humates will (a) enhance the overall performance of the fertilizers to a point that an actual reduction of basic N-P-K per 1,000 square feet may be appropriate over time; (b) enhance the development of root systems (mycorrhizae); (c) enhance success of seed germination and overall plant development; (d) enhance overall plant health, resistance to stress, and appearance.

**Alpha Three Complex® is available at:**

## **Alpha Organics**

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