

# Sea 3™

## Liquid Soil Amendment

EARTHWORKS NATURAL ORGANIC PRODUCTS

### **A COST EFFECTIVE FAIRWAY AND SPORTS TURF BIO-STIMULANT**

**Sea 3™** is a unique liquid Organic fertilizer formulated from three distinctive sea based nutrient sources, fish meal, kelp meal and sea water extracts. **Sea 3™** is designed to feed the plant with nutrients that are stabilized with a host of carbon sources that allow the nutrients to stay in soil solution longer and allow the plant to take them up more completely. Carbon is the food stuff for microorganisms in the root zone that provides them the energy to freely multiple. As these microbes multiply, they release nutrients tied up in the soil. **Sea 3™** provides layers of carbon from sources like kelp meal, fish meal, humic acids, and worm compost extracts. These raw materials are all rich in trace elements, cytokinins, gyberillins as well as macro nutrients all of which are available to the plant. This availability allows the plant to fight off common stress associated with growing grass and landscape plants in harsh enviroments. The bulk of the sodium has been removed from the sea water but all the minerals, as many as 90, and multiple biological byproducts found in the sea remain and become an important part of feeding the plant and microbial population in the soil.

**EarthWorks Liquid Organic Fertilizers** provide nutrients that turf grass needs but also supplies soil conditioning benefits as well as microbial stimulants as a bonus. These Liquid Organics are highly engineered products designed to help the plant better perform, reduce heat stress and build the strongest root system possible.

**REDUCES HEAT STRESS  
PROVIDES COMPLETE FERTILITY  
RICH IN MINERALS  
POWERFULL BIO-STIMULANT  
STIMULATES GREEN UP**

**EarthWorks™**  
Natural Organic Products

1500 Uhler Rd.  
Easton, PA 18040  
**800-732-8873**  
Fax: 610-250-7840  
[www.soilfirst.com](http://www.soilfirst.com)

Sea Kelp

Fish Meal

Sea Water

Worm Tea

Humates

# Sea 3™

The **Sea 3™** formulation is a nutrient dense mix of both terrestrial and ocean derived ingredients that can assist in providing a biological foundation for any horticultural pursuits. The following are a list of ingredients in the Sea-3™ formula and their particular attributes:

**Ocean Water:** sea water that has gone through a patented proprietary process to remove most of the sodium chloride, leaving the dozens of other elements found in the ocean intact. These elements are in ionic form for rapid availability to plant roots & leaf tissue.

**Soluble North Atlantic Kelp:** Seaweed is a treasure house of minerals & also contains plant growth modulators, namely auxins & cytokinins that provide a natural hormone effect, helpful in cell division, heat stresses, disease & insects & sugar production.

**North Pacific Fish Emulsion from Wild Salmon:** Fish emulsion comes from many sources; farmed, fresh water, heat & pressure extracted and so on. The fish emulsion utilized in Sea-3™ originates from the nutrient rich remains of North Pacific wild salmon. It is enzymatically digested using a cold process that leaves behind amino acids, vitamins & minerals in an undamaged state. Additionally, this source of fish is a rich source of essential fatty acids.

**Vermicompost Tea (Worm Tea):** Earthworms are part of the soil's digestive system. Castings or manure from worms are second to none in providing biologically available nutrients to plants. They are highly concentrated in microbes, hormones, fulvic/humic acids, vitamins & minerals; & as compost, worm castings are very stable. Our vermicompost comes from two sources: Red wigglers that digest swine manure; African night crawlers that digest peat moss & ground cereals. Different species of worms acting upon completely different substrates to provide the widest spectrum of metabolites & micro-organisms in the worm manure.

**Micronized Humates (HumaCarb™):** Unlike conventional humic acid extracts, HumaCarb™ is a standalone product. Most humic acid extracts are derived from a harsh alkali extraction process, the strong alkali's used render the humic fractions to be incompatible with acid ingredients because they'll react, causing a precipitation. They can contribute to elevating the pH of the finished tank mix, which could interfere with foliar absorption or penetration. Humates contain fulvic acid (the most reactive fraction of humates) and ulmic acid, as well as the non-reactive carbon known as "humin." The micronization process incorporates the entire humate compound by reducing the raw material to a particle size of (1) micron or less allowing the humic acid fractions to be compatible at all tank mix pH's. Humic substances perform as chelators of many nutrients assisting on translocation of elements into plants, as well as fracturing complexed or tied-up compounds such as phosphate complexes of calcium, magnesium, iron and aluminum.

**Dyna-Sol™:** Organic colloidal surfactants are utilized to create a well suspended and very uniform liquid. This permits all the ingredients to solublize, to create a homogenized mixture that is able to be dispersed very minutely across the plant leaf surface for maximum absorption & uptake.

**Fusion™** a proprietary fulvic acid leachate which is a unique process of mining humic shale that is a concentrated source of water soluble minerals & pre-historic plant tannins. This material is then stacked, turned and in effect "composted" for at least 18 months, prior to being mixed with de-ionized water. The resulting amber liquid is not only a great source of minerals, but fulvic acids as well, which performs as an effective catalyst & chelating agent for the other ingredients in this formula.

**APPLICATION RATES & PROGRAMS:** One gallon per acre monthly but can be used every two weeks in times of stress. Can be used in injection systems.

Available only in 55 drums and 250 gallon totes.

***Agitate well before use.***

Store in cool dry place do not allow product to freeze.

***Sea 3™ can be mixed with all EarthWorks products and many common pesticides and fertilizers but a compatibility bench test is recommended.***

**EarthWorks™**  
Natural Organic Products