

# Cal-Vantage™

## Calcium Complex

EARTHWORKS NATURAL ORGANIC PRODUCTS, INC.

**Cal-Vantage** is a breakthrough in calcium formulations. A Fivefold Matrix of plant food co-factors is included in this recipe, namely: *Calcium, Carbon, Nitrogen, Sulfur, and Boron.*

When these ingredients are used synergistically as they are in **Cal-Vantage**, plant nutrition is addressed as it was meant to be. Unlike singular calcium products, chelated or not, **Cal-Vantage** provides ingredients that are associated with the uptake of plant foods. The result is a very bioactive and available form of calcium, in combination with an ample amount of plant available boron. There are very few soils found in the turf industry that will not benefit from the increased calcium mobility that a rich product like **Cal-Vantage** can provide.

### The EarthWorks Process

Manufacturing of the liquids involves first the availability of excellent water. We begin by softening the water, followed by deionization and finally reverse osmosis. The result is water that is absent of total dissolved solids, alkalinity, carbonates and conductivity. This allows for an aqueous medium that can be fully saturated with the diversity of ingredients that go into the **Cal-Vantage** formula. The recipe is then loaded through a process called "stacking", which simply means using a formula that allows for ingredient compatibility by following a proper sequence of mixing, creating maximum saturation of the water by these nutrients. Finally, the products are micro-screened in order to create a non-plugging filtrate for trouble-free applications.

The EarthWorks Liquid Organics are the most complex formulas available. They are developed to work synergistically with each other and with other nutrient based products. Used on a "small but frequent" basis, **Cal-Vantage** will become a staple in any turf management program.

**EarthWorks™**  
Natural Organic Products

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Available in a 2 x 2.5 box, 30 and 55 gallon drums.

## LIQUID ORGANICS

### 4 Calcium Forms

Boron

Kelp Extracts

Humic Acids

Vitamin Premix

Yucca

Trace Minerals

Bio-Net

# Cal-Vantage™ Calcium Complex

**Cal-Vantage** includes four separate forms of calcium designed to improve availability and microbial breakdown and incorporates the highest quality raw materials available. The short carbon chains used in this formula and the longer carbons found in the humic and fulvic acids combine to provide a constant food source for microbes, encouraging greater availability of calcium. Few products on the market have been able to provide both calcium and boron in the same package. These two nutrients work synergistically in their ability to mobilize into the plant. **Cal-Vantage** has not only been able to combine calcium and boron, but has done so in a complex formula that includes other trace nutrients, an extensive list of liquid organics and chelating agents.

**Calcium Nitrate:** Nearly equal parts of calcium and nitrogen emulsified into a liquid substrate, providing high nutrient availability and a very low salt and burn index.

**Ammonium Thiosulfate:** Nearly equal parts of nitrogen and sulfur, needed to produce adequate quantity and quality of plant protein.

**Calcium Sulfate:** Nearly equal parts of calcium and sulfur, necessary for cell wall construction and amino acid production.

**Black Strap Molasses:** An excellent source of invert sugars, trace minerals such as iron, copper and zinc, as well as sulfur. Excellent foliar feed and soil bio-stimulant.

**Calcium Hydroxide:** A highly water-soluble calcium source with excellent availability at any soil pH level. The high percentage of active calcium is also complemented with high levels of oxygen.

**Calcium Propionate:** A feed-grade, non-caustic form of soluble calcium complexed with a good source of carbon.

**Humic Acid:** An alkaline extract of geologically concentrated humus, rich in organic acids that stimulate beneficial soil fungi, act as chelating agents for micro-nutrients and perform as sequestering agents to help fracture bonds between phosphorous and iron/calcium/aluminum.

**Fulvic Acid:** An acid extract of geologically concentrated humus that has a strong electrostatic charge enabling the chelating of nutrients, as well as being a source of micro-nutrients in a colloidal form.

**Yucca Schidigera Extract:** A botanical extract from the inner bark of the Yucca Schidigera Cactus which helps to make water wetter; also, provides polysaccharides that act as a food source for soil micro-flora.

**Ammonium Lauryl Sulfate:** An excellent wetting agent that acts as a soil penetrant, breaking hard pan and increasing capillary action of water.

**EW Mineral Plex:** Consisting of copper, boron, zinc, manganese, magnesium, cobalt, selenium, and iron chelated with RL-37, which places a charge on the trace minerals to produce a colloidal suspension.

**Silica:** A highly chelated product used to help nutrient mobility and plant stalk strength.

#### **Vitamin Complex:**

a) Ascorbic Acid: Vitamin C acts as an antioxidant in plants as it does in animals, preventing plant senescence.

b) D-Alpha Tocopherol: Vitamin E is also an antioxidant that performs as a plant membrane stabilizer and retards senescence.

c) Vitamin B-complex: A bacterial and fungal supplement for the soil biomass.

d) Vitamin B-12: Necessary for the proliferation of certain bacteria and protozoa.

**Boron:** This trace mineral is necessary to both release calcium out of the soil, as well as to assist plants in maintaining calcium levels in their tissue. It is essential for the production of plant sugars and enzymes.

**Bio-Net:** Fermentation soluble of dairy whey, and corn distillates which contain many bioactive components such as organic acids, B-vitamins, amino acids and peptides, trace minerals and enzymes.

#### **APPLICATION RATES & PROGRAMS:**

**Greens & Tees** - 2 oz. per 1000 sq. ft. per week or 4 oz. per 1000 every two weeks.  
Increase rates to 4 - 12 oz. per 1000 sq. ft. for calcium poor or sodium rich soils.

**Fairways** - 1.5 gallons per acre per month, increase rates to 2.5 gallons per acre on high sodium soils.

**Sports Fields** - 1.5 gallons per acre per month, increase rates to 3 gallons per acre on high sodium soils.

**Ornamentals** - 4 oz. per 2 gallons of water drenched into the soil. These applications should be diluted at least 50:1.

**Cal-Vantage** can be tank mixed with most turf products.  
A bench test is always recommended.

*The EarthWorks Liquid Organics  
are the key to success when  
building a healthy environment.*

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