



FULVEX™

Trace Mineral Extract

Plant Supplement

Use with:

Any base nutrient

Available sizes:

8 oz / 1 qt / 1 gal / 2.5 gal / 5 gal



Description

Fulvex is an all natural liquid extract that combines concentrated amounts of fulvic acid, magnesium sulfate (a known plant catalyst), and a blend of over 72 trace minerals. Fulvex is beneficial for both hydroponic and soil applications. This blend is designed to work with a grower's existing nutrient feed formula to enhance nutrient availability and increase mineral uptake.

About Fulvic Acid

Fulvic acids are low molecular weight humic substances¹ created from the oxidation and degradation of organic matter. They are composed of carbon, oxygen, and hydrogen and contain large amounts of radicals² which stimulate unique and positive influences on plant metabolic processes.

This high ratio of oxygen-hydrogen gives Fulvic acids an extremely high cation exchange capacity³ (between 500 and 1,000cmol/kg) which allows them to attract and hold a vast amount positively charged nutrients such as calcium, magnesium, and iron. But what makes Fulvic acid truly unique is its ability to easily diffuse through membranes, therefore, allowing it to carry large amounts of attached nutrients directly to cell metabolic sites. Fulvic acids mix with and attach to all types of materials, both synthetic and organic and are active at both high and low pH levels.

¹ Humic substances (HS) are organic residues of decaying organic matter. They make up much of the characteristic brown color of decaying plant debris and contribute to the brown or black color in surface soils, compost heaps, peat bogs, and lignites. There are three types of humic substances, which differ slightly in acidity and chemical composition - humic acid, fulvic acid, and humin.

² Radicals (often referred to as free radicals) are atoms, molecules, or ions with unpaired electrons on an open shell configuration. Free radicals may have positive, negative, or zero charge. With some exceptions, the unpaired electrons cause radicals to be highly chemically reactive.

³ Cation exchange capacity, or CEC, refers to the quantity of negative charges existing on the surfaces of organic minerals. The negative charges attract positively charged ions, or cations, hence the name 'cation exchange capacity'. Many essential plant nutrients exist as cations including potassium (K⁺), calcium (Ca²⁺), magnesium (Mg²⁺), and ammonium (NH₄⁺). In short - the CEC describes an ability to hold and attract positively charged minerals.

Partial List of some of the 72 Minerals in Fulvex

| | | | | | |
|------------|----------|-----------|----------|------------|----------|
| Calcium | 0.12% | Zinc | 0.40 ppm | Molybdenum | 0.19 ppm |
| Magnesium | 1.00% | Sodium | 560 ppm | Iodine | 0.41 ppm |
| Phosphorus | 0.01% | Iron | 256 ppm | Cobalt | 0.04 ppm |
| Potassium | 71 ppm | Silicon | 46 ppm | Chromium | 0.11 ppm |
| Copper | 0.04 ppm | Boron | 7 ppm | | |
| Selenium | 0.03 ppm | Manganese | 6 ppm | | |

Benefits of Fulvex Include:

Natural Chelator - Attracts, holds, and carries nutrients to plants metabolic sites.

Mixes With All Fertilizers - Reacts with both organic and inorganic compounds at high or low pH levels.

Increases Seedling Success Rates - Decreases seed germination time, initiates root hair growth, and promotes root development.

Releases Minerals - Solubilizes substantial amounts of immobile minerals and can enter into complex bonds with various dissolved minerals.

Promotes Higher Crop Yields - Increased absorption of minerals increases overall growth rates, improves shoot and flower set development, and strengthens stem and crop cell walls.

Corrects Deficiencies - Allows minerals to be easily absorbed into plants vascular system to quickly correct localized deficiencies.

Protects Plants From Stresses - Aids in the relief of oxygen deficiencies, which increases the resistance to drought and other environmental stresses.

Stimulates Antibiotic Protection - Enhances the uptake and translocation of antibiotics in plants produced during the decomposition of plant residues commonly found in compost teas.

Reduces Wilting - Helps plants accumulate soluble sugar which increases osmotic pressure in the cell walls and enables them to withstand wilting.

Application rates

Hydroponics - 5-10ml/gal

Foliar Spray - 15-30ml/gal when used alone or in conjunction with a well balanced nutrient

Competing Products

| | | Hydroponic Dosage Rates | MSRP /GAL | Avg Cost/40g (lowest dosage rate) |
|---------------------|----------------|-------------------------|----------------|--------------------------------------|
| Roots Organics | Ancient Amber | 5-15ml/gal | \$45.95 | \$2.43 |
| General Hydroponics | Diamond Nectar | 5-10ml/gal | \$46.00 | \$2.43 |
| Bio Ag | Ful-Power | 10-30ml/gal | \$49.95 | \$5.28 |
| Hydrodynamics | Fossil Fuel | 20ml/gal | \$42.00 | \$8.88 |
| Grotek | LXR Gold | 8ml/gal | \$56.95 | \$4.81 |
| Botanicare | Fulvex | 5-10ml/gal | \$44.95 | \$2.37 |