



ESSENTIAL[®] ORGANIC 1-0-1

OMRI LISTED FOR ORGANICALLY GROWN CROPS, HERBS & PLUGS

- 100 % Natural & Organic
- Stimulates Fertilizer & Micronutrient Uptake
- Contains a Natural Sticker / Spreader
- Improves Nutrient Release & Water Holding Capacity

GUARANTEED ANALYSIS:

Total Nitrogen (N)	1%
1% Other Water Soluble Nitrogen	
Soluble Potash (K ₂ O)	1%
Calcium (Ca)	1.0%
Magnesium (Mg)	0.5%
Sulfur (S) Combined	1.0%
Iron (Fe)	0.29%
Derived From: Kelp (<i>Ascophyllum nodosum</i>), Plant Extracts, Simple and Complex Sugars, Iron Sulfate, Magnesium Sulfate, Yucca	

ALSO CONTAINS NON-PLANT FOOD INGREDIENTS

Humic Acid (derived from leonardite)	7%
Mono / Disaccharides	3%
2% Carbohydrates	2%
Ash Content	2%
Lignin	1.2%
Kelp Extract	0.1%
Natural Rooting Substance	0.01%
Gibberellic Acid	0.001%
Wetting Agent (<i>Yucca Schidigera</i>)	0.0025%
Riboflavin (B2)	0.003%
Vitamin (B6)	0.314%
Total L-Amino Acids	2.75%
0.53% Glycine	0.08% L-Phenylalanine
0.39% L-Glutamic Acid	0.07% L-Isoleucine
0.35% L-Aspartic Acid	0.04% L-Histidine
0.26% L-Alanine	0.02% L-Methionine
0.19% L-Proline	0.01% L-Tyrosine
0.17% L-Leucine	Trace% L-Carnosine
0.16% L-Lysine	Trace% L-Citrulline
0.16% L-Serine	Trace% L-Cystine
0.12% L-Arginine	Trace% L-Beta-Alanine
0.10% L-Threonine	Trace% L-Taurine
0.10% L-Valine	

Weight per gallon	8.99 lbs.
pH	5-6

PRODUCT DESCRIPTION:

Essential Plus is a 100% natural organic product derived from potassium Humate, 20 natural L-amino acids, enzymes, simple & complex sugars, vitamins, kelp extracts, carbohydrates, cellulose, lignin, hydrolyzed organic proteins and a natural wetting agent. Each ingredient has been selected to provide

- Improves Cation Exchange Capacity in Soil
- A Food Source for Beneficial Soil Microbes
- Improves Root Development and Seed Germination
- Contains a Natural Wetting Agent

a rich source of organic building blocks not found in typical nitrogen-phosphorus-potassium (NPK) fertilizers.

Essential Plus provides a safe alternative to chemical hormones. It is ideal for use from plug production to ensure seed germination and good rooting. When used at the time of plug transplant to the field, Essential Plus will help eliminate transplant shock and provide better establishment.

The ingredients will add organic matter to depleted soils reducing the effects of compaction and improving water penetration and nutrient holding capacity. Essential Plus provides an important food source for beneficial soil microbes. The high carbon content creates an environment suitable for beneficial microorganism growth. Essential Plus corrects soil alkalinity and is ideal on high salt soils to reduce and neutralize salts. The active humic acid in Essential Plus retains nutrients ions from leaching through soils and holds them in a form readily available for plant uptake. Essential Plus is rich in organic materials that have a high absorption and exchange capacity for nutrient cations. Humic acid will help mobilize phosphates that have been tied up in soils. Essential Plus is safe for the applicator and the environment.

SUGGESTED USES & APPLICATIONS:

TRANSPLANTING & SEEDING

Field Transplants of Plugs: For use as a rooting / transplant solution, apply Essential Plus at the rate of 32 ounces per acre in a minimum of 100 gallons of water at time of transplanting.

Seeding: To use as a seed treatment, soak seeds with a solution of 2 ounces of Essential Plus per gallon of water. Apply Essential Plus directly to seedbed at the rate of 16 ounces per acre.

Bareroot or Containerized Trees, Woody Vines, and Berries

Mix 32 ounces of Essential Plus in a minimum of 100 gallons of water per acre at time of transplant and drench root ball.

GREENHOUSE DRENCH APPLICATIONS

Seeding: Soak seeds with a solution of 2 oz of Essential Plus per one gallon of water before placing them in growing trays, or drench at same rate after seeding the media.

For Propagation of Vegetable and Herb Plugs: Mix 2 oz. per

gallon of water. Run through PPM unit or apply through system as a drench. Re-apply every 14 - 28 days.

Propagation of Freshly Grown Herbs: Mix 2-4 oz. per gallon of water. Run through PPM unit or apply through system as a drench. Re-apply every 14-28 days.

HYDROPONICS

Such as Cucumbers, Tomatoes, Lettuce, Herbs, and Spices

For herbs and leafy crops, soak seeds/plugs with a solution of 4 oz of Essential Plus per one gallon of water before placing them in growing trays. Once they are in the trays, use 1 fl oz per 30 gallons water in nutrient tank (7.3 ml / 100 liters). In a closed recirculation system, Essential Plus should be added during each water change.

In open systems, apply 16 oz per 100 gallons of nutrient mix (126 ml / 100 liters). Apply the solution with Essential Plus at the end of the watering cycle so that Essential Plus stays in the system longer. Repeat the application every 14 to 21 days, or by checking the quality of the roots.

For tomato crops, mix 4 oz per two gallons of water. Once per month, apply at least two feedings in the day.

FOLIAR SPRAY & DRIP IRRIGATION

The following recommendations may be used for broadcast sprays, band-spray, and drip irrigation systems. Fill half the spray tank with water, begin agitating and gradually add recommended amount of Essential Plus with remainder of water and spray solution. Dilution rates will be determined by the nature of the crop, the equipment used and other compounds mixed with this product. Higher dilution rates are recommended for best crop coverage. Product can be applied in 500-5000 L water/Ha (50-500 Gal water/Acre) for ground sprayers or 100-200 L water/Ha (10-20 Gal water/Acre) for low volume ground sprayers or aerial applications. The foliar spray should be applied as a fine mist, with low fluid velocity until the foliage is wet. For best results, apply in early morning or late evening; do not spray just before or after rainfall or sprinkler irrigation.

CUTTINGS <i>For All Types of Herbaceous, Softwood, Semi-Hardwood, & Hardwood Cuttings</i>		
Application Method:	Rate	Frequency / Notes
Drench Rate:	Mix 4 oz per gallon of water	Drench trays after sticking. Re-apply at callus formation or in 4 weeks

AGRICULTURAL & HORTICULTURAL APPLICATIONS		
Application	Rate	Frequency/ Notes
Sizing-Up & Transplanting	4 oz per gallon of water	Drench plant trays, liners or pots after planting
Field Transplants of Plugs	Mix 32 oz per acre in a min. of 100 gallons water	Apply at time of transplant
Bareroot or Containerized Trees, Woody Vines, & Berries	Mix 32 oz per acre in a min. of 100 gallons water	Apply at time of transplant by drenching root ball
Vegetable & Herb Plugs	Mix 2 oz per gallon of water	Re-apply every 14-28 days
Freshly Grown Herbs	Mix 2-4 oz per gallon of water	Re-apply every 14-28 days
Seeding	Drench: 2 oz per gallon of water	Drench seed trays or plug trays until thoroughly soaked at time of seeding
	Seed Soak: 12 oz per 100 lbs of seed	Spray directly on seed prior to sowing
Hydroponics, Constant Feed, Ebb and Flood	Charging: 8 oz per 150 gallons of water	Run through system
	Recharging Rate: 3 oz per 150 gallons of water	Replenish every time water is added

CROP CARE <i>For all types of Field, Vegetables, and Fruit Crops.</i>		
Application:	Rate	Frequency / Notes
Crop Care & Fertilization	Mix 32 oz per acre in a min. of 100 gal water	Apply monthly
Stress Recovery	Mix 64 oz per acre in a min. of 100 gal water	Apply every 2 weeks until visual response
Neutralize Salts, Repair Phytotoxicity Damage	Mix 64 oz per acre in a min. of 100 gal water	Apply every two weeks for 2 applications
Visit www.growthproducts.com for supplemental spec sheet that contains specific crop recommendations		

INJECTION RATIO		
Injector Ratio	1:100	1:200
Essential Per Gallon of Water	32 fl oz. (1 L)	64 fl oz.(2 L)

VEGETABLE CROPS	APPLICATION METHOD	RATE	APPLICATION TIMING / INTERVALS			
			1ST	2ND	3RD	ADDITIONAL
Beans, Peas	Broadcast-Spray	64 fl oz / Acre 2.33 L / Ha	At 4-6 leaf stage	At first-bloom		At first pods
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha				
Carrots, Onions, Leeks, Turnips	Broadcast-Spray	64 fl oz / Acre 2.33 L / Ha	2-3 weeks after emergence	At root enlargement		Every 14 - 28 days until harvest
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha				
Broccoli, Brussels Sprouts, Cauliflower, Cabbage	Broadcast-Spray	64 fl oz / Acre 2.33 L / Ha	Begin at 4-5 leaf stage	Every 14 days later		At head initiation
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha				

Corn, Sweet	Broadcast-Spray	64 fl oz / Acre 2.33 L / Ha	Begin at 2-6 leaf stage	At 50-70 cm or 20-30" growth	Just prior to tasselling	
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha				
Cucumbers, Pickles	Broadcast-Spray	64 fl oz / Acre 2.33 L / Ha	At first 4 true leaves	First pre-bloom	14 days later	Within 48 hours of each picking
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha				
Eggplants, Sweet and Hot Peppers, Melons, Squash	Broadcast-Spray	64 fl oz / Acre 2.33 L / Ha	Apply at 6-8" of growth or 15- 20 cm	Pre-bloom stage	At fruit set	Within 48 hours of each picking
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha				
Greens, Collards, Endive, Kale, Kohlrabi, Mustard Greens, Spinach, Lettuce	Broadcast-Spray	64 fl oz / Acre 2.33 L / Ha	Apply at 4 leaf stage	Apply regularly every 14- 28 days		
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha				
Potatoes	Broadcast-Spray	64 fl oz / Acre 2.33 L / Ha	At tuber set	14 days later	At early bloom	
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha				
Tomatoes	Broadcast-Spray	64 fl oz / Acre 2.33 L / Ha	Apply at 6-8" or 15-20 cm growth	At first pre- bloom	At first fruit set	Within 48 hours of each picking
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha				

FRUIT	APPLICATION METHOD	RATE	APPLICATION TIMING / INTERVALS				
			1ST	2ND	3RD	4TH	ADDITIONAL
Apples, Pears	Broadcast-Spray	64 fl oz / Acre 2.33 L / Ha	Green tip (tight cluster)	Pre-bloom/ pink bud	Full bloom	Early fruit	Every 21 days
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha					
Citrus	Broadcast-Spray	64 fl oz / Acre 2.33 L / Ha	Early bloom	Petal fall	With summer spray	With fall spray	6-8 weeks prior to harvest
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha					
Grapes	Broadcast-Spray	64 fl oz / Acre 2.33 L / Ha	At 8 - 12" or 20-30 cm cane	At 18- 24" or 45-60 cm cane	Full bloom	Berry set / early shattering	2-3 weeks later
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha					
Stone Fruit	Broadcast-Spray	64 fl oz / Acre 2.33 L / Ha	Pink or white bud	Full bloom	Early fruit formation	3 weeks later	3 weeks later
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha					
Nut Trees	Broadcast-Spray	64 fl oz / Acre 2.33 L / Ha	Pink or white bud	Full bloom	Early fruit formation	3 weeks later	3 weeks later
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha					
Strawberries, Blueberries, Caneberries, and Cranberries	Broadcast-Spray	64 fl oz / Acre 2.33 L / Ha	Prior to transplanting or early spring growth	At first pre- bloom	At first fruit set	Every 3-4 weeks to mid point in harvest season	
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha					

*For treatment of individual trees or vines, divide rate per acre by number of trees and vines per acre.

HERBS	APPLICATION METHOD	RATE	APPLICATION TIMING / INTERVALS		
			1ST	2ND	3RD / ADDITIONAL
Sage, Rosemary, Thyme, Peppermint, Basil, Dill or Parsley	Broadcast- Spray	64 fl oz / Acre 2.33 L / Ha	Prior to transplanting or early spring growth	14 days later	Within 48 hours of each harvest
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha			
	Greenhouse Drench	2 - 4 oz per Gallon			

FIELD CROPS	APPLICATION METHOD	RATE	APPLICATION TIMING / INTERVALS	
			1ST	ADDITIONAL
Beets, Sugar	Broadcast- Spray	64 fl oz / Acre 2.33 L / Ha	At 6-8 leaf stage	Then at 14 - 28 day intervals
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha		
Corn	Broadcast- Spray	64 fl oz / Acre 2.33 L / Ha	At 2-6 leaf stage	Between flower initiation and final bloom
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha		
Cotton	Broadcast- Spray	64 fl oz / Acre 2.33 L / Ha	Begin at pinhead square	Then at 14 - 28 day intervals
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha		
Peanuts	Broadcast- Spray	64 fl oz / Acre 2.33 L / Ha	Begin 30 days after planting	Then at 14 - 28 day intervals
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha		
Rice	Broadcast- Spray	64 fl oz / Acre 2.33 L / Ha	At 2-5 leaf stage or panicle initiation	Then at 14 - 28 day intervals
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha		
Sorghum	Broadcast- Spray	64 fl oz / Acre 2.33 L / Ha	At 2-6 leaf stage	Then at 14 - 28 day intervals
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha		
Soybeans	Broadcast- Spray	64 fl oz / Acre 2.33 L / Ha	At 3-7 trifoliate leaf stage	Then at 14 - 28 day intervals
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha		
Wheat	Broadcast- Spray	64 fl oz / Acre 2.33 L / Ha	Start of tillering in the fall and/or spring	Then when 2 - 3 leaves form on main stem
	Band-Spray, & Drip Irrigation	32 fl oz / Acre 1.16 L / Ha		

CAUTION: Keep out of reach of children. In case of contact with eyes, flush immediately with copious amounts of water. Contact a physician. Do not take internally.

Manufactured in the USA By:

