



ESSENTIAL[®] PLUS 1-0-1

100% NATURAL ORGANIC ROOT AND PLANT STIMULATOR

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

GUARANTEED ANALYSIS: F106

Total Nitrogen (N)	1%
1% Other Water Soluble Organic Nitrogen	
Soluble Potash (K ₂ O)	1%
Calcium (Ca)	0.1%
Magnesium (Mg)	0.5%
Sulfur (S)	1.0%
Iron (Fe)	0.29%

Derived From: Kelp (*Ascophyllum nodosum*), Fish Hydrolysate, Plant Extracts, Simple and Complex Sugars, Iron Sulfate, Magnesium Sulfate, Yucca

ALSO CONTAINS NON-PLANT FOOD INGREDIENTS

7%	Humic Acid (derived from Leonardite)
10%	Cellulose Fiber
0.1%	Kelp Extract
2%	Carbohydrates
0.0025%	Natural Wetting Agent
1.2%	Lignin
3%	Mono / Disaccharide
2%	Ash Content
13.17 mg/ lb.	Riboflavin (B2)
0.314%	Vitamin (B6)
0.001%	Gibberellic Acid
0.01%	Natural Rooting Substance
2.75%	Total L-Amino Acids
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 5.5

PRODUCT DESCRIPTION:

Essential Plus is a 100% natural organic product derived from potassium Humate, 21 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 a rich source of organic building blocks not found in typical nitrogen-phosphorus-

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

potassium (NPK) fertilizers.

Essential Plus provides a safe alternative to chemical hormones. It is ideal for use at 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, 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 to reduce and neutralize salts in high salt soils. The active humic acid in Essential Plus retains nutrient 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 100% Organic and is classified safe for the applicator and the environment.

APPLICATION RECOMMENDATIONS:

Essential Plus needs no mixing and will not settle out of solution. It can be applied through any type of fertigation system, drip irrigation or spray equipment. Use Essential Plus on all types of softwood cuttings, hardwood cuttings, vegetable plugs, bedding plants, perennials, small and large transplants and for seed germination.

Essential Plus is an easy, labor saving alternative to IBA dip. Simply use as a drench when planting cuttings. (Rates below)

Foliar Feeding: Apply this product through overhead, microjet, center pivot sprinkler irrigation. Essential Plus 1-0-1 gives you dual efficiency since the nutrients will be absorbed by both the leaves and roots. For tender plants and greenhouse foliar spray applications use one-half the rate (PPM) you would normally use for drip irrigation feeding. Follow rates for "Injection Systems". For Hand spray use 1 1/4 oz to 2 1/2 oz per gallon of water. Spray to full coverage.

MIXING / COMPATIBILITY:

Since Essential Plus contains a high percentage of solids, mix or shake well before use. Essential Plus is made from natural organic



products and is therefore safe to handle and use. Essential Plus is compatible with all fertilizers and chemical pesticides.

HANDLING & STORAGE:

Essential Plus should be stored in normal warehouse conditions. Do not store in direct sunlight or above 100° F for long periods of time. Replace cap after using. Never leave container open to air. Essential® is a registered trademark of Growth Products, Ltd.

Cuttings For All Types of Herbaceous, Softwood, Semi-Hardwood, & Hardwood Cuttings		
Application Method	Rate	Frequency / Notes
Drench Rate	Mix 1 - 2 oz per gallon of water (8 - 16 ml per liter water)	Drench trays after sticking. Repeat in 5 - 7 days for two applications.
Dip Rate	For a 1:30 ratio, mix 1 oz per 30 oz of water (16 ml per L water)	Dip basal end of cuttings, individually or in bunches, for 5 seconds

Injection System Ratio		
Set Injector Ratio At	1:100	1:200
Essential Per Gallon of Stock Water	32 fl oz. (1 L)	64 fl oz.(2 L)

Plant Care & Propagation For All Types of Greenhouse & Nursery Crops		
Application	Rate	Frequency / Notes
Plant Maintenance	32 oz per 100 gal of water (250 ml per 100 L water)	Drench monthly
Stress Recovery	2 oz per gal of water (16 ml per liter water)	Apply every 2 weeks until visible response
Neutralize Salts, Repair Phytotoxicity Damage	64 oz per 100 gallons of water, or 2 oz per 1,000 ft² of pot area (500 ml per 100 L water, or 60 ml per 100 m²)	Apply every two weeks for 2 applications

Hydroponics Applications		
Application	Rate	Frequency/ Notes
Hydroponics, Constant Feed, Ebb and Flood	Seeds or Plugs: Mix 2 fl oz per gallon of water. (30 ml per liter water)	Soak seeds or plugs with a solution before placing them in growing trays.
	Charging: 8 oz per 150 gallons of water (240 ml per 550 L water)	Run through system
	Recharging Rate: 3 oz per 150 gallons of water (85 ml per 550 L water)	Replenish every time water is added

Horticultural and Agricultural Applications		
Application	Rate	Frequency/ Notes
Seeding	Drench: 2 oz per gallon of water (16 ml per liter water)	Drench seed trays or plug trays until thoroughly soaked at time of seeding
	Seed Soak: 12 oz per 100 lbs of seed (360 ml per 50 kg of seeds)	Spray directly on seed prior to sowing
Sizing-Up & Transplanting	2 - 4 oz per gallon of water (15 - 30 ml per liter water)	Drench plant trays, liners or pots before or after planting
Field Transplants of Plugs	Mix 32 oz per acre in a minimum of 100 gallons water (250 ml per 100 liters water)	Apply at time of transplant by soaking before planting or drenching root ball after planting.
Bare Root or Containerized Trees, Woody Vines, & Berries	Mix 32 - 64 oz per acre in a minimum of 100 gallons water (250 - 500 ml per 100 liters water)	Apply at time of transplant by soaking before planting or drenching root ball after planting.
Vegetable & Herb Plugs	Mix 2 oz per gallon of water (16 ml per liter water)	Apply at time of transplant. Re-apply every 14 - 28 days
Freshly Grown Herbs	Mix 2 - 4 oz per gallon of water (16 - 30 ml per liter water)	Apply at time of transplant. Re-apply every 14 - 28 days
Neutralize Salts	Mix 64 oz per acre in a minimum of 100 gal water (500 ml per 100 liters water)	Apply every two weeks for 2 applications
Tissue Culture	1.6 oz per 10 gal of water (50 ml per 40 L water)	Drench plug trays until thoroughly soaked

Crop Application Recommendations

Crop	Rate	Application Timing / Intervals
Bananas	32 - 64 fl oz per acre (2 - 5 liters per hectare)	Apply at 2 - 3 week intervals. 20 - 30 applications per year.
Berries , such as (but not limited to): Blueberry, Blackberry, Raspberry, Strawberry	32 - 64 fl oz per acre (2 - 5 liters per hectare)	Apply prior to bloom. Repeat at fruit set to early fruit color. Repeat every 14 - 21 days until harvest.
Bulb Vegetables , such as (but not limited to): Onions, Garlic, Shallots	32 - 64 fl oz per acre (2 - 5 liters per hectare)	Apply 3 times each season starting when first early-set is 3 inches, then at midseason, and then 2 - 3 weeks prior to harvest.
Citrus , such as (but not limited to): Grapefruit, Lemons, Limes, Oranges, Pomelo, Tangelo, Tangerines	32 - 64 fl oz per acre (2 - 5 liters per hectare)	Apply early spring and on flush growth. Apply at pre-bloom to increase fruit set. Apply post bloom to 3 rd petal fall to increase fruit size and cell elongation. Repeat in 30 days and when nitrogen needs are evident. Can be applied with crop protection sprays.
Cole Crops , such as (but not limited to): Broccoli, Cauliflower, Cabbage, Brussels Sprouts, Collards	32 - 64 fl oz per acre (2 - 5 liters per hectare)	Apply at early head formation and repeat 14 - 21 days later.
Cucurbits , such as (but not limited to): Cucumber, Cantaloupe, Squash, Pumpkin, Melons	32 - 64 fl oz per acre (2 - 5 liters per hectare)	Apply at early bloom and repeat approximately 4 weeks later.
Field Crops , such as (but not limited to): Barley, Corn, Oats, Peanut, Rice, Soybean, Sugar Beet and Wheat.	32 - 64 fl oz per acre (2 - 5 liters per hectare)	Apply at flag leaf emergence or before flowering and repeat 14 - 21 days after pollination.
Fruiting Vegetables , such as (but not limited to): Peppers, Tomato, Eggplant, Okra, Tomatillo	32 - 64 fl oz per acre (2 - 5 liters per hectare)	First application at early bloom. Repeat at fruit set and again 15 to 30 days later. Apply 3 to 4 weeks prior to harvest to strengthen canopy and reduce sunburn.
Grapes , such as (but not limited to): Wine and Table Grapes	32 - 64 fl oz per acre (2 - 5 liters per hectare)	Apply at shoot growth to promote full canopy. Reapply at bloom to set fruit, and then again after bloom when nitrogen is needed.
Grasses Grown for Seed, Sod Production, Pasture, Forage and Alfalfa	32 - 64 fl oz per acre (2 - 5 liters per hectare)	Apply in early spring for good growth, then apply monthly and again after harvesting.
Herbs and Spices , such as (but not limited to): Coriander, Basil, Chives, Dill, Rosemary, Sage & Mint	32 - 64 fl oz per acre (2 - 5 liters per hectare)	Apply after planting and reapply after harvesting.
Leafy Vegetables , such as (but not limited to): Lettuce, Celery, Spinach, Parsley, Radicchio	32 - 64 fl oz per acre (2 - 5 liters per hectare)	Apply after transplanting, thinning, or at 2 nd true leaf stage. Apply subsequent application at 7 - 14 day intervals. Use as needed to supplement nutritional requirements.
Legumes and Pulses , such as (but not limited to): Beans, Green Beans, Snap Beans, Lentils, Peas	32 - 64 fl oz per acre (2 - 5 liters per hectare)	Apply shortly after first flower appears. Repeat 10 - 14 days later.
Root, Tuber and Corn Vegetables , such as (but not limited to): Carrot, Potato, Sweet Potato, Beets, Ginger, Radish, Ginseng, Turnip	32 - 64 fl oz per acre (2 - 5 liters per hectare)	Apply after transplanting, thinning, or at 2 nd true leaf stage. Apply subsequent application at 10 - 15 day intervals. Use as needed to supplement nutritional requirements.
Tree Fruits and Nuts , such as (but not limited to): Almond, Apple, Apricot, Cacao, Cherry, Coffee, Filbert, Nectarine, Olive, Peach, Pear, Pecan, Pistachio, Plum, Prune, Quince and Walnut	32 - 64 fl oz per acre (2 - 5 liters per hectare)	Apply first application at green tip, pink bud, bud swell or early bloom. Apply at 30 day intervals up to harvest for improved sizing. Apply post harvest in 1 or 2 applications. Apply as needed to supplement nutritional requirements.
Tropical / Sub Tropical Fruits , such as (but not limited to): Avocados, Coffee, Dragon Fruit, Durian, Mangos, Papaya, Pineapples, Rubber Trees	32 - 64 fl oz per acre (2 - 5 liters per hectare)	Apply on new major growth and on successive flushes. Spray monthly until harvest. Do not apply during bloom.