

IMPROVED



ESSENTIAL® PLUS 1-0-1

100% NATURAL ORGANIC SOIL AMENDMENT *And* ROOT STIMULATOR *With* 21 L-AMINO ACIDS

- REJUVENATES SOIL STRUCTURE
- FOOD SOURCE FOR MICROBIAL ACTIVITY
- STIMULATES ROOT & PLANT GROWTH

F106

GUARANTEED ANALYSIS:

Total Nitrogen (N)	1%
1% Other Water Soluble Organic Nitrogen	
Soluble Potash (K ₂ O)	1%
Iron (Fe)	0.29%

Derived From: Potassium Humate, Fish Hydrolysate, Plant Extracts, Simple and Complex Sugars and Iron Glucoheptonate.

ALSO CONTAINS NON-PLANT FOOD INGREDIENTS

7%	Humic Acid (derived from Leonardite)
10%	Cellulose Fiber
0.1%	Kelp Extract (<i>Ascophyllum nodosum</i>)
0.1%	Kelp Extract (<i>Ecklonia maxima</i>)
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)
0.01%	Natural Rooting Substance
4.45%	Total L-Amino Acid
0.77%	L-Glutamic Acid
0.42%	L-Proline
0.40%	L-Leucine
0.37%	L-Aspartic Acid
0.32%	L-Alanine
0.28%	L-Arginine
0.25%	Glycine
0.23%	L-Valine
0.21%	L-Lysine
0.21%	L-Serine
0.18%	L-Threonine
0.16%	L-Phenylalanine
0.16%	L-Isoleucine
0.15%	L-Tyrosine
0.13%	L-Histidine
0.11%	L-Cystine
0.10%	L-Methionine
Trace%	L-Carnosine
Trace%	L-Citrulline
Trace%	L-Beta-Alanine
Trace%	L-Taurine

PRODUCT SPECIFICATIONS:

Weight per gallon	8.99 lbs.
Weight per liter	1.07 kg
pH	5-6

- CONTAINS 21 NATURAL L-AMINO ACIDS
- CONTAINS MORE NUTRIENTS THAN ANY OTHER COMPETITIVE PRODUCT

PRODUCT DESCRIPTION:

Essential is a 100% natural organic product derived from plant and vegetative products that provides a rich carbon source of organic matter. Essential is pasteurized and homogenized to be a homogeneous solution. Each ingredient has been selected to provide all the various stages of organic decomposition (from fast decomposers to more complex forms of carbon requiring complex decomposition). Essential contains 21 L-amino acids that promote nutrient absorption, and stimulate the plants essential metabolic activities. It also becomes an available food source for soil microorganisms. High concentrates of active, soluble humic acid, humus and cellulose fiber will help to replenish soils depleted of organic matter. Essential will improve poor or sub-soil conditions and compaction. Essential will improve plant physiology with sugars, 21 amino acids and nutrients that are not available in N-P-K fertilizers.



FOOD SOURCE FOR MICROBIAL ACTIVITY:

Beneficial microorganisms need organic matter as a food source to survive and increase their population. Essential has a high carbon content that slowly decomposes, restoring organic matter back into the soil. This is especially important in over-worked urban settings such as golf courses, estates, corporate sites, and other manicured landscape settings.

ENHANCES PLANT PHYSIOLOGY:

Turf, trees, ornamentals, nursery and greenhouse stock need more than just N-P-K fertilizers to remain in superior health. Essential contains vitamins, enzymes, carbohydrates, sugars, amino acids and two kelp sources: *Ascophyllum nodosum* and *Ecklonia maxima* for maximum root branching and length development. These nutrients are absorbed and utilized by the plant to enhance growth, vitality and stress resistance. Essential contains natural plant growth biostimulants that encourage cell division, root development and seed germination.

REJUVENATES SOIL STRUCTURE:

Essential contains high percentages of active, soluble humates, plant extracts, cellulose fiber and a natural wetting agent which are critical to maintain healthy soil. By adding organic matter back into soils that have been depleted, even the most difficult soil conditions can be improved. These ingredients also reduce compaction and improve cation exchange capacities.

APPLICATION RECOMMENDATIONS:

Essential is 100% soluble for spray foliar feeding, soil injection, or use in irrigation systems. Essential may be mixed with other technical materials and sprayed in one application, saving labor. Essential can be used on all types of turf grass, shrubs, trees, evergreens and flowering plants, as well as organically grown food crops.

Transplants		
B & B Plantings	2 oz per gallon of water (15 ml per 1 L water)	Repeat in 30 days.
Bare Root Plantings	32-64 oz. in 100 gallons of water (1-2 L per 100 L water)	Drench 2-5 gal. (250-500 ml per 17-19 L) water of mix around planting

Turf Applications Per 1,000 Sq. Ft. (100 m ²)				
Turf Variety	Normal Maintenance	Sandy Soils	Clay Soils	Newly Seeded
Cool Season	3 oz. 90 ml	5 oz. 150 ml	5 oz. 150 ml	4 oz. 120 ml
Warm Season & Transitional	4 oz. 120 ml	6 oz. 170 ml	6 oz. 170 ml	5 oz. 150 ml

Trees, Shrubs & Ornamentals:	
Foliar Spray	24 oz. in 100 gallons of water. Thoroughly spray to point of run-off. (709 ml in 400 L water)
Root Injection	Maintenance: 32 oz of Essential per 100 gal water. Inject over 3,000 ft ² area (250 ml per 100 L water over 300 m ²)
	Corrective: 64 oz of Essential per 100 gal water. Inject over 3,000 ft ² area (500 ml per 100 L water over 75 m ²)
Soil Drench	32-64 oz per 100 gallons water. For smaller applications mix 3 - 5 ounces per gal of water. Thoroughly drench soil around area. (88 - 147 ml per 4 L water)

SUGGESTED USES:

USGA Spec Tees & Greens: Essential should be part of the regular maintenance program to increase the organic matter content in soils and feed beneficial soil microorganisms. Essential should be used on newly built tees and greens to increase the cation exchange capacity. Regular use of Essential will improve the ability of sandy soils to hold nutrients. Essential will improve seed germination and stimulate root growth.

Clay Soils: Calcareous soils often lead to compaction and nutrient availability problems because of the lack of organic matter. Essential's high concentration of organic matter and natural wetting agent can penetrate encrusted soil and begin restoration. Apply Essential throughout the entire growing season. Immediately apply after aeration or top dressing has been applied.

Lawn Care and Landscaping: Essential should be used in conjunction with a regular fertilization program or as a stand-alone product when a natural organic program is required. Essential

Turf Applications		
Application	Rate	Frequency/ Notes
Greens & Tees	3 oz. per 1,000 FT ² (88 ml per 100 m ²)	Apply every 14 days throughout growing season
Fairways	4 oz. per 1,000 FT ² (118 ml per 100 m ²)	Apply monthly throughout growing season
Sports Turf	4 oz. per 1,000 FT ² (118 ml per 100 m ²)	Apply monthly throughout growing season
New Seeding & Overseeding	3 oz. per 1,000 FT ² (88 ml per 100 m ²)	Apply at time of seeding and then every 14 days for 4 applications
Hydroseeding	6 oz. per 100 gal water (47 ml in 100 L water)	Mix into hydroseeding tank mix
Sod Installation	4 oz. per 1,000 FT ² (118 ml per 100 m ²)	Apply at time of sod installation and then every 6-weeks throughout growing season
Lawn Care	4 oz. per 1,000 FT ² (118 ml per 100 m ²)	Apply monthly throughout growing season

should be applied to all renovated areas and construction sites, where soil has been removed or adequate top soil is lacking.

Tree Care: Established trees and ornamentals in urban settings are often deprived of renewable organic matter during the course of grooming. Essential can be used for year-round tree care, to enhance liquid and soluble fertilizer programs. Essential should be used in the summer to reduce stress problems. All newly transplanted trees and ornamentals should have Essential applied. Transplants need additional care to promote root development and enhance the uptake of usable nutrients and storage of carbohydrates. Essential will decrease transplant shock and stimulate root growth. In excavation areas and construction sites Essential should be applied at double the normal maintenance rate. Use to avoid renovation problems such as compaction and lack of microbial activity that result in plant stress and death.

STORAGE & HANDLING:

Essential should be stored in normal warehouse conditions. Stored out of direct sunlight or temperatures above 95° for long periods of time. Replace cap after using. Never store exposed to the air. Since Essential contains a high percentage of solids it is important to mix or shake well before use. Essential is made from natural organic products and is therefore safe to handle and use. Essential is compatible with all fertilizers and technical products.

FIRST AID	
IF SWALLOWED:	Call a poison center or doctor if you feel unwell: Rinse mouth.
IF IN EYES:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor.
IF ON SKIN:	Remove contaminated clothing and wash skin with plenty of soap and water. If skin irritation occurs, get medical advice/attention.
IF INHALED:	Call a poison center or doctor if you feel unwell.
You may also contact 1-800-992-5994 day or night for emergency treatment information. If medical advice is needed, have product container or label at hand (P101), Keep out of reach of children (P102), Read label before use (P103).	
STORAGE: Keep container tightly closed. May be stored in unheated area, but keep from freezing. Store in areas inaccessible to children and pets.	
DISPOSAL: Dispose of contents/container in accordance with local/regional/national/international regulations. Do not reuse container.	

The following precautionary statements and pictograms are based on The Globally Harmonized System of Classifications and Labeling of Chemicals (GHS) and are mandated by the Occupational Safety and Health Administration (OSHA)

WARNING



H316 Causes Mild Skin Irritation (or Dermatitis in Some Individuals Upon Prolonged Contact)
H320 Causes Eye Irritation (Burning)

Condition of Sale and Warranty: Growth Products, Ltd. warrants that the product conforms to its chemical description and is reasonably fit for the purpose stated on the label only when used in accordance with label directions under normal conditions of use. Handling, storage and use of the product by Buyer or User are beyond the control of Growth Products, Ltd. and Seller. Risks such as crop injury or other unintended consequences resulting from, but not limited to, weather or soil conditions, presence of other materials, disease, pests, drift to other crops or property, or failure to follow label directions will be assumed by Buyer or User. **IN NO CASE WILL GROWTH PRODUCTS, LTD. OR SELLER BE HELD LIABLE FOR CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES RESULTING FROM THE HANDLING, STORAGE OR USE OF THIS PRODUCT.**

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