DOUGLAS PLANT HEALTH

AGRICULTURE

Essential® AG 1-0-1

SOIL AMENDMENT

- Use On All Types of Agriculture, Greenhouse & Nursery Crops
- Dip Or Drench Cuttings
- For Planting, Transplanting & Sizing Up
- Soil Application Only

Net Contents:
2.5 Gallon (22.5 lbs)
9.46 Liters (10.2 kg)

P-3-LBL-ESSAGUFB-007-OR-WA-08272020

Essential® AG 1-0-1

F002873
OR

OPEN
Resealable
Label

Guaranteed Analysis:

Total Nitrogen (N) 1%

1% Water Soluble Nitrogen

Soluble Potash (K_2O) 1%

Iron (Fe) 0.2%

0.2% Chelated Iron

Derived From: Fish Protein Hydrolysate, Potassium Humate, Iron EDTA

ALSO CONTAINS NON-PLANT FOOD INGREDIENTS

7.0% . . . . . Humic Acids (derived from Leonardite)

0.002% . . . . . Wetting Agent (Yucca Schidigera)

3.0% . . . . . Glucose (Microbe Food)

PRODUCT SPECIFICATIONS:

Weight per gallon . . . . . .8.99 lbs/gal @ 68°F

Weight per liter . . . . . .1.07 kg

Essential® is a registered trademark of Growth Products, Ltd.

Product Description:

Essential AG 1-0-1 is a soil amendment derived from potassium humate, proteins, sugars and a natural wetting agent. Essential is colloidal liquid solution that provides a rich source of building blocks not found in typical nitrogen-phosphorus-potassium (NPK) fertilizers. A high concentration of humic acid replenishes soils that have been depleted of organic matter, helps alleviate soil compaction, and provides a food source for beneficial soil microorganisms. Essential is compatible with most other fertilizers and products and requires no special handling. When tank mixing Essential it is best to perform a compatibility jar test.

Storage & Handling:

Essential should be stored in room temperature warehousing and avoid freezing conditions. Essential should not be stored in direct sunlight or temperatures above 95° F 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 shake the container well before use. Agitate 30 (113 liter) and 55 gallon (208 liter) drums frequently before use.

FIRST AID	
IF SWALLOWED:	Call a poison center or doctor. Rinse mouth.
IF IN EYES:	Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.
IF ON SKIN:	Remove clothing around the area if present and easy to do. Rinse continuously with soap and water for several minutes.
IF INHALED:	Call a poison center or doctor if you feel unwell.
You may also contact 1-352-323-3500 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 classicifcation and labeling of chemicals (GHS) and are mandated by the Occupational Safety and Health Adinistration (OSHA).

Warning

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

H320 Causes Eye Irritation (Burning)

Douglas Plant Health
1550 E. Old 210 Highway
Liberty, MO 64068
(800) 648-7626
www.DouglasPlantHealth.com

DOUGLAS PLANT HEALTH

Information regarding the contents and levels of metals in this product is available on the internet at http://www.aapfco.org/metals.html

Soil Applied Only

Horticulture & Agriculture Applications		
Application	Rate	Frequency/ Notes
Greenhouse Propogation Injection Systems; Seeds, Cuttings, Plugs and Clones	Initial plug, clone, cutting, planting or seeding: 16-32 ounces per 1 gallon stock tank at 1:100. Metric: Initial plug planting or seeding, 5-10 ml per gallon total solution. 1/2-1 liter per 3.75-liter stock tank at 1:100.	Apply at appropriate rates of total solution to ensure proper soil penetration at the beginning and end of greenhouse growing and before transplanting.
Transplanting Trees, Shrubs, Perennials and Liners into Fields and Container Sizing Up	Field planting, 32-64-ounces per 40-100 gallons total solution per grow acre. Metric: 1-2 liter per 150-375 liters of total solution per acre. Container sizing up, 16-32 ounces per gallon stock tank at 1:100. Metric: 5-10 ml per 3.75-liter total solution. 1/2-2 liter per 3.75-liter stock tank at 1:100.	When planting trees, shrubs, perennials and liners into fields or in new containers, apply at appropriate rates of total solution to ensure proper soil penetration. Repeat in 7 days.
Constant Feed in Greenhouse or Field Applications After Initial Drench Applications	Constant feed in greenhouse, 1-2 ounces per gallon stock tank at 1:100. Metric: 1/3 ml to 2/3 ml per 3.75 liter total solution. Constant feed in field growing, 1-2 ounces in 1-4 gallos of water per 1,000 sq. ft. of grow area. Metric: 30-60 ml in 4-15 liters water per 100 m^2	Apply at appropriate rates of total solution to ensure proper soil penetration either in drip or directed broadcast sprays.
OR		
Weekly feed in greenhouse or field applications after initial drench applications	Weekly feed in greenhouse, 7-14 ounces per gallonstock tank at 1:100. 3 ml to 5 ml per 3.75 liter total solution. Weekly feed in field growing, 7-14 ounces in 1-4 gallons of water per 1,000 sq. ft. of grow area. Metric: 210-420 ml in 4-15 liters water per 100 m^2 grow area.	Apply at appropriate rates of total solution to ensure proper soil penetration either in drip or directed broadcast sprays.
Hydroponics, Ebb and Flood	Seeds or Plugs, mix 1-2 fl oz. per gallon of water. Metric: 4-8 ml per 3.75 liters water. Charging, 4-8 fl oz per 150 gallons. Metric: 15-30 ml per 1/2 kiloliter. Recharging, 2-3 fl oz. per 150 gallons water. Metric: 60-90 ml per 1/2 kiloliter	Soak seeds or plugs in a solution before placing them in growing trays. Charging run through system. Recharging when new water is added.

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. *Apply to soil only.
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. *Apply to soil only.
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. *Apply to soil only.
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 3rd 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. *Apply to soil only.
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. *Apply to soil only.
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. *Apply to soil only.
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. *Apply to soil only.
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. *Apply to soil only.
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. *Apply to soil only.
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. *Apply to soil only.
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. *Apply to soil only.
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 2nd true leaf stage. Apply subsequent application at 7 - 14 day intervals. Use as needed to supplement nutritional requirements. *Apply to soil only.
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. *Apply to soil only.
Root, Tuber and Corm 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 2nd true leaf stage. Apply subsequent application at 10 - 15 day intervals. Use as needed to supplement nutritional requirements. *Apply to soil only.
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. *Apply to soil only.
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. *Apply to soil only.