

# roots<sup>®</sup>

# Fertilizer for Flowers

**ROOTS<sup>®</sup> Fertilizer for Flowers 12-16-12** is a water soluble microbial inoculant and fertilizer formulated specifically for flower beds and gardens. It contains NPK fertilizer and select micronutrients, plus beneficial rhizosphere bacteria that colonize the root zone, and promote soil fertility through fixation of nitrogen, solubilization of phosphorus, and biodegradation of organic matter, releasing soluble minerals.

#### DIRECTIONS FOR USE:

**Mix Rate:** Add 1 tablespoon per gallon of water and mix well. One pound of Roots<sup>®</sup> Fertilizer for Flowers 12-16-12 makes approximately 35 gallons and covers about 350 square feet.

**Flowers and Ornamental Plants:** Mix with water and apply by spray or drench to soil saturation. The bacteria in this product are not effective by foliar application.

**For Potted Plants:** Apply a volume of solution approximately equal to a quarter of the pot volume.

**For Garden Plants:** Apply at a rate of 1 gallon per 10 square feet. Irrigate after treatment to rinse the product into the soil.

**Hose End Sprayer:** Fill cartridge with dry product to 2/3 capacity or less, counting dry tablespoons as you fill. Each tablespoon covers 10 square feet. Connect to hose and spray over area as evenly as possible until all the product is gone. For even application, use a sprayer with a siphon and set dial on a medium setting. Avoid fine misting. Continue applying water to rinse the product into the soil. Repeat: For best results, repeat application every 2 to 4 weeks.

APPLICATION	APPLICATION RATES			COVERAGE
	RATE	WATER VOLUME	METHOD OF APPLICATION	
Flower beds, roses, bedding plants, gardens, ground covers, trees and shrubs	3 pounds	75 gallons*	Drench or spray soil and follow with irrigation	1,000 Sq. Ft.
Potted plants	4 teaspoons	1 gallon	Drench soil	1/4 of pot volume

\*For area treatments, water volume is suggested. Use more or less water as desired.

**HEALTH AND SAFETY:** In case of allergic reaction(s), treat symptoms and contact physician. Avoid breathing dust or spray mist. Wash hands after handling.

#### KEEP OUT OF REACH OF CHILDREN

**STORAGE:** Store in a dry location. Avoid prolonged storage under conditions of high humidity to prevent hardening.

#### Hazard Statements

Contains an oxidizer. May intensify fire.

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation.

#### Precautionary Statements

Keep away from heat/sparks/open flame/hot surfaces, from clothing, and other combustible materials. No smoking.

Take precautions to avoid mixing with combustibles.

Avoid breathing dust.

Wash hands and exposed skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear protective gloves/protective clothing/eye protection/face protection.

Wear fire/flame resistant/retardant clothing.

IF SWALLOWED: Rinse mouth. Immediately call of POISON CENTER or doctor/physician.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF eye irritation persists, get medical advice/attention.

IF skin irritation occurs: Get medical advice/attention.

In case of major fire involving large quantities, evacuate area.

Use extinguishing media suitable to local circumstances and the surrounding environment.

Options include water spray, dry chemical, carbon dioxide, Halon, or fog.

Dispose in accordance with all federal, state and local regulations.

#### WARRANTY

**NOTE** To the extent consistent with applicable law, Buyer assumes all responsibility for safety and performance if this product is not used according to the directions.

**Net Wt. 8-Lbs. (3.63-kg)**

Expiration Date:

LebanonTurf

## 12-16-12 Biological Fertilizer and Microbial Inoculant for Flowers

- Soil drench for flower beds, garden beds and potted plants
- Contains beneficial rhizosphere bacteria

GUARANTEED ANALYSIS	
Total Nitrogen (N) .....	12%
3.1% Ammoniacal Nitrogen	
3.3% Nitrate Nitrogen	
5.6% Urea Nitrogen	
Available Phosphate (P <sub>2</sub> O <sub>5</sub> ) .....	16%
Soluble Potash (K <sub>2</sub> O) .....	12%
Copper (Cu) .....	0.05%
0.05% Water Soluble Copper (Cu)	
Iron (Fe) .....	0.15%
0.15% Chelated Iron (Fe)	
Manganese (Mn) .....	0.15%
0.05% Chelated Manganese (Mn)	
Zinc (Zn) .....	0.06%
0.06% Chelated Zinc (Zn)	
Derived from: Ammonium Phosphate, Urea, Potassium Nitrate, Copper Sulfate, Iron EDTA, Manganese EDTA, Zinc EDTA.	
<b>ALSO CONTAINS NON PLANT FOOD INGREDIENTS</b>	
<b>SOIL/PLANT AMENDING INGREDIENTS</b>	
<b>Active Ingredients</b>	
Rhizosphere Bacteria .....	11.1 Million cfu/g
2.5 Million cfu/g <i>Bacillus licheniformis</i>	
2.5 Million cfu/g <i>Bacillus megaterium</i>	
550,000 cfu/g <i>Bacillus polymyxa</i>	
2.5 Million cfu/g <i>Bacillus pumilus</i>	
2.5 Million cfu/g <i>Bacillus subtilis</i>	
550,000 cfu/g <i>Paenibacillus azotofixans</i>	
Humic acids (derived from Leonardite) .....	1.6%
<b>MICROBIAL NUTRIENTS</b> .....	26.7%
24.3% Maltodextrin	
1.8% Seaweed Extract ( <i>Ascophyllum nodosum</i> )	
0.6% Yeast Extract	
<b>INERT INGREDIENTS</b> .....	71.7%
66.0% Fertilizer Ingredients	
3.0% Polyethylene glycol	
2.0% Precipitated Silica	
0.7% Non humic acid components of Leonardite extract	F699

Information regarding contents and levels of metals in this product is available on the internet at <http://www.regulatory-info-lebsea.com>



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Manufactured by: Lebanon Seaboard Corporation • 1600 E. Cumberland St. Lebanon, PA 17042 • 800-233-0628 • (717) 273-1685 • Made in the USA • [www.LebanonTurf.com](http://www.LebanonTurf.com)

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For technical assistance and information about our products visit [www.LebanonTurf.com](http://www.LebanonTurf.com)

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