

**IMPROVED**



# BioNUTRIENTS TOTAL-PAK 3-0-3

## INJECTABLE FOR TREES & ORNAMENTALS WITH MYCORRHIZAL TECHNOLOGY

- CONTAINS ENDO & ECTOMYCORRHIZAE
- BENEFICIAL RHIZOSPHERE BACTERIA & YEAST
- SLOW RELEASE NITROGEN & MICROPACKAGE

- ORGANIC SUPPLEMENTS TO BOOST ROOTING
- USE WHEN TRANSPLANTING - AVOID SHOCK
- ENSURE NEW PLANTINGS SURVIVAL

**GUARANTEED ANALYSIS:**

F106

Total Nitrogen (N) .....	3%
3% Slowly Available Water Soluble Nitrogen*	
Soluble Potash (K <sub>2</sub> O) .....	3%
Boron (B) .....	.01%
Copper (Cu) .....	.05%
Iron (Fe) .....	.5%
Manganese (Mn) .....	.5%
Magnesium (Mg) .....	.5%
Molybdenum (Mo) .....	.0005%
Zinc (Zn) .....	.02%

**Derived From:** Ferrous Sulfate, Condensed Plant Proteins, Fish Protein Hydrolysate, Potassium Humate, Sodium Molybdate, Boric Acid, Copper EDTA, Manganese EDTA, Zinc EDTA, Chelating Agent: EDTA

F106

\*3% slowly available Nitrogen derived from plant protein

**ALSO CONTAINS NON PLANT FOOD INGREDIENTS:**

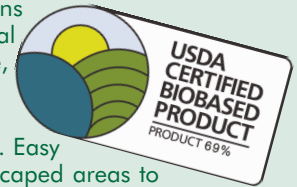
17% .....	Humic Acid (derived from Leonardite)
10% .....	Kelp Extract ( <i>Ascophyllum nodosum</i> )
50% .....	Maltodextrin
1.5% .....	Natural Wetting Agent ( <i>Yucca schidigera</i> )
Bacillus subtilis .....	1.5 x 10 <sup>6</sup> CFU per gram
Bacillus licheniformis .....	4.5 x 10 <sup>5</sup> CFU per gram
Bacillus amyloliquefaciens .....	1.5 x 10 <sup>6</sup> CFU per gram
Bacillus pumilus .....	1.5 x 10 <sup>6</sup> CFU per gram
Pseudomonas putida .....	5 x 10 <sup>4</sup> CFU per gram
Pseudomonas fluorescens .....	5 x 10 <sup>4</sup> CFU per gram
Yeast ( <i>Saccharomyces cerevisiae</i> ) .....	8.8 x 10 <sup>4</sup> CFU per gram
Endomycorrhizal spores total .....	71.4 spores per gram
Glomus intraradices .....	1.76 x 10 <sup>1</sup> spores per gram
Glomus mosseae .....	1.81 x 10 <sup>1</sup> spores per gram
Glomus aggregatum .....	1.81 x 10 <sup>1</sup> spores per gram
Glomus etunicatum .....	1.76 x 10 <sup>1</sup> spores per gram
Ectomycorrhizal spores total .....	4.14 million per gram
Pisolithus tinctorius .....	2.65 x 10 <sup>5</sup> spores per gram
Rhizopogon villosulus .....	4.85 x 10 <sup>5</sup> spores per gram
Rhizopogon amylopogon .....	5.29 x 10 <sup>5</sup> spores per gram
Rhizopogon fulvicleba .....	4.85 x 10 <sup>5</sup> spores per gram
Rhizopogon luteolus .....	4.85 x 10 <sup>5</sup> spores per gram
Scleroderma cepa .....	9.7 x 10 <sup>5</sup> spores per gram
Scleroderma citrinum .....	9.26 x 10 <sup>5</sup> spores per gram

\* Colony Forming Units

**PRODUCT DESCRIPTION**

BioNutrients Total-Pak contains the top performing Endo and Ecto Mycorrhizae that are able to propagate in a broad range of soil temperatures and conditions including northern climates and in

soil pH of 7 and above. It also contains seven prolific Rhizosphere beneficial bacteria, a micronutrient package, biologically active 8



soil conditioners, natural wetting agent and rich organic supplements. Easy to apply on existing trees and landscaped areas to reduce stress of trees, large ornamentals and other landscape materials. Mycorrhizae will improve uptake of nutrients and minerals. Bacilli strains produce a variety of enzymes, PGRs and metabolites that aid in the breakdown of organic fertilizers and

**Tree and Ornamental Applications and Rates**

Application	Rate	Notes
<b>Tree &amp; Shrub</b>	Initial Application: 1 to two 8 oz. packs per 50 to 100 gals. water. (One to two 227 gram packs per 200 to 400 liters water) Maintenance: One 8 oz. pack per 50 to 100 gals. water. (One 227 gram pack per 200 to 400 liters water).	Soil injection, drench or spray per 1,000 sq.ft. (100 m sq.)
<b>New Plantings, Ornamental Plants, Potted Plants</b>	One 8 oz. pack, per 50 to 100 gals. water. (One 227 gram pack per 200 to 400 liters water).	Drench or spray to saturate soil per 1,000 sq. ft. (100 m sq.)
<b>Pre-Digging and Transplants</b>	Three 8 oz. packs per 100 gals water. Three 227 gram packs per 400 liters water).	Drench prior to digging and immediately after planting.
<b>Flower Beds</b>	Two 8 oz. packs per 50 to 100 gals water. (Two 227 gram packs, per 200 to 400 liters water).	Drench or spray to saturate soil.

organic matter. Bacilli rapidly colonize the root's surface (niche occupation) and stimulate root growth, maintain healthy root system and crowd out invading pathogens.

**APPLICATION RECOMMENDATIONS:**

Mix one to two 8 oz. packet of Total-Pak in 50 to 100 gallons of water. For ground area method, measure below drip line of tree. Use standard soil injection equipment. Pump requirements of between 100 - 200 psi is needed for good coverage. Be sure to calibrate your equipment by using a pre-measured container and time how long it takes to fill the container using the feeding needle.

**ROOT INJECTION RATES:**

Total-Pak should be injected into the top 4" to 8" inches of soil where feeder roots extend. Start application approximately 2-3 feet from tree trunk. Extend the same distance beyond drip line. Lay out a grid pattern. Spacing should be every 2 1/2 ft. A minimum of 1 quart of tank mix should be applied per hole. Be sure to measure the tree DBH in order to calculate the total amount of

Trees, Deciduous, Evergreen, Fruit & Nut, Shrubs & Palms			
Caliper DBH	Root Ball Diameter	Rate Tank Mix per Tree	# of Injection Sites
2 inch	24"	1.5 gal.	6
3 inch	36"	2 gal.	8
4- 5 inch	48-50 "	3 gal.	12
6 inch	60"	4 gal.	16
7 inch	70"	5 gal.	20
8 inch	80"	6 gal.	24

mix needed. For difficult, compacted soils it is desirable to add a natural wetting agent such as Hydro-Max. BioNutrients are compatible with all Growth Products liquids.

FIRST AID	
<b>IF SWALLOWED:</b>	Call a poison center or doctor if you feel unwell: Rinse mouth.
<b>IF IN EYES:</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor.
<b>IF ON SKIN:</b>	Remove contaminated clothing and wash skin with plenty of soap and water. If skin irritation occurs, get medical advice/attention.
<b>IF INHALED:</b>	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).	
<b>STORAGE:</b> Keep container tightly closed. May be stored in unheated area, but keep from freezing. Store in areas inaccessible to children and pets.	
<b>DISPOSAL:</b> Dispose of contents/container in accordance with local/regional/national/international regulations. Do not reuse container.	

**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.

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  
 H320 Causes Eye Irritation  
 H335 May Cause Respiratory Irritation

Manufactured in the USA By:

