

ECTO & ENDO INOCULANT

# DIEHARD™ Injectable



**“The Industry's First Complete Injectable Inoculant”**

## Product Features

**Endomycorrhizal Fungi  
Beneficial Bacteria**

**Humic Acid**

**Sea Kelp**

**Amino Acids**

**Horta-Sorb® Water Management Gel**

**Trichoderma**

**Yucca Plant Extracts**

**Vitamin B Complex**

**Lasting Residual**

**Convenient Pre-Measured Bags**

## Product Benefits

### IMPROVES

**Survival  
Rooting  
Flowering  
Water Absorption  
Nutrient Availability  
Yields and Production  
Client Satisfaction  
& Goodwill**

### REDUCES

**Plant Losses  
Fertilizer Use  
Need Of Pesticides  
Heat Stress Damage  
Irrigation Frequency  
Losses From Drought  
Conditions**

## Compatibility

**Species:** All plants that associate with endo- and ectomycorrhizal fungi.

**Fungicides:** Non-systemic fungicides normally have no effect. Foliar applied fungicides normally have no effect. Systemic fungicides may be applied 2 weeks before or after use of product. Fungicide use according to label instructions do not extinguish mycorrhiza, they only inhibit development temporarily.

## Non Plant Food Ingredients

<i>Endomycorrhizal Fungi</i>	278 Propagules per gram <i>Glomus mosseae</i> , <i>Glomus intraradices</i> , <i>Glomus claroideum</i> , <i>Glomus etunicatum</i> , <i>Glomus clarum</i> , <i>Glomus deserticola</i> , <i>Glomus microaggregatum</i> .
<i>Ectomycorrhizal Fungi</i>	14,537,445 spores per gram to include: <i>Pisolithus tinctorius</i> (12,502,203), <i>Rhizopogon</i> (2,035,242).
<i>Trichoderma</i>	1,599,119 CFU'S per gram <i>Genus Trichoderma</i> : (7 strains) <i>Trichoderma hamatum</i> , <i>Trichoderma harzianum</i> , <i>Trichoderma reesei</i> .
<i>Bacillus, Pseudomonas &amp; Streptomyces</i> Species	464,317,181 CFU's per gram <b>Genus Bacillus:</b> <i>B. megaterium</i> , <i>B. subtilis</i> , <i>B. amyloliquefaciens</i> , <i>B. azotoformans</i> , <i>B. licheniformis</i> , <i>B. pumilus</i> , <i>B. Firmus</i> , <i>B. coagulans</i> , <i>Geobacillus stearothermophilus</i> , and <i>Paenibacillus polymyxa</i> , <i>Paenibacillus Durum</i> . <b>Genus Pseudomonas:</b> <i>P. putida</i> , <i>P. fluorescense</i> , <i>P. Aureofaceans</i> . <b>Genus Streptomyces:</b> <i>S. lydicus</i> , <i>S. griseus</i> , <i>S. coelicolor</i> .

### OTHER INGREDIENTS

Root Promoting Vitamins	B, B2, B3, B6, B7, B12, C, K, Biotin, Fulvic Acid
Amino Acids	<i>L-Alanine, L-Argine, L-Aspartic Acid, L-Cystine, L-Glutamic Acid, L-Glycine, L-Histidine, L-Isoleucine, L-Leucine, L-Lysine, L-Methionine, L-Phenylalanine, L-Proline, L-Threonine, L-Serine, L-Tryptophan, L-Tyrosine, L-Valine.</i>
Soluble Sea Kelp	13.0% <i>Ascophyllum nodosum</i>
Humic Acids	20.0% Derived from Leonardite
Sol. Yucca Extract	6.0% <i>Yucca schidigera</i>

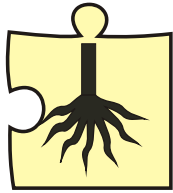
## Directions For Use

Mix with 100 gallons of water. Decant, if necessary.

### Established Trees:

- 1. Root Injection:** Inject in a 2 1/2 to 3 foot grid pattern from the trunk out to the drip line and beyond if possible. Apply 1-2 quarts of solution per injection site. Use up solution by the end of the day.
- 2. Drip Tape and Microjet:** Decant product before adding to mix tank. Apply at the rate of one pound per acre every six months supplemented every 3 months with BioRush® at two pounds per acre. Irrigate after application.

**New Tree Plantings:** Mix with water and use as a mud-in drench when planting new trees. One pound treats 175 one-year trees. Mix with water used to transplant accordingly.  
**Small and newly planted trees and shrubs:** Inject along the original root ball in 2-3 places using minimum 1/2 gallon for recently planted trees.



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ALLIANCE  
HORTICULTURAL

**Nursery Propagation Drench:** Each 8 oz. bag treats 5,000 seedlings. Best application method is a 2-step process. Apply 1-2 weeks after sowing just as roots have developed to the sides of cells. Mix with sufficient water to apply as a drench with a backpack sprayer. Care should be taken to ensure that spores applied are drenched into the media to the level of the roots. Second application just as you are hardening off the crop for shipment. One week before and one week after avoid use of phosphate fertilizers. Avoid the use of high phosphorus fertilizer as this treatment would have a negative effect on Endomycorrhizal colonization. Organic nitrogen fertilizers are recommended.

## Plant Species and Type of Mycorrhizae

### Endomycorrhizae

Arborvitae	Cedar	Ginkgo	Morning Glory	Rose
Acacia	Celery	Grapes (all)	Mulberry	Russian Olive
Agapanthus	Cherry	Grass	Monkey Pod	Ryegrass
Ailanthus	Chokeberry	Gum	Nasturtium	Sassafras
Alder	Chrysanthemum	Hackberry	Okra	Sagebrush
Alfalfa	Citrus (all)	Hawthorn	Olive	Serviceberry
Almond	Clover	Hibiscus	Onion	Sequoia
Apple	Coconut	Holly	Pacific Yew	Silverbell
Apricot	Coffee	Hophornbeam	Palms (all)	Sourwood
Artichoke	Coral Tree	Hombeam	Palmetto	Soybean
Ash	Corn	Horsechestnut	Pampas Grass	Squash
Asparagus	Cotton	Impatiens	Papaya	Strawberry
Avocado	Cottonwood	Jojoba	Passion Fruit	Sudan Grass
Bamboo	Crabapple	Juniper	Paulownia	Sugar Cane
Basil	Cryptomeria	Kiwi	Paw Paw	Sumac
Bayberry	Cucumber	Leek	Pea	Sunflower
Bean	Currant	Lettuce	Peach	Sweet Gum
Begonia	Cypress	Lily	Peanut	Sweet potato
Black Locust	Dogwood	Locust	Pear	Sycamore
Blackberry	Eggplant	London	Pecan	Tea
Box Elder	Elm	Planetree	Pepper	Tobacco
Buckeye	Eucalyptus	Macadamia	Pistachio	Tomato
Bulbs	Euonymus	Magnolia	Persimmon	Tree-of-heaven
Burning Bush	Fern	Mahogany	Pittosporum	Tupelo
Cacao	Fescue	Mahonia	Plum	Walnut
Cactus	Fig	Mango	Poinsettia	Wheat
Camellia	Forsythia	Maples (all)	Potato	Willow
Carrot	Fountain Grass	Marigold	Poplar	Yam
Casuarina	Fuchsia	Melons (all)	Raintree	Yellow poplar
Cassava	Gardenia	Mesquite	Raphiolepis	Yucca
Catalpa	Garlic	Millet	Raspberry	
Ceanothus	Geranium	Mimosa	Redbud	

All nut trees except Pecan, Chestnut, and Hazelnut.  
All fruit trees, grapevines, grasses and many vegetables  
All berries except blueberry, cranberry and lingonberry.  
All shrubs and foliage except Laurel, Rhododendron, and Azalea

### Ectomycorrhizae

Alder	Birch	Hemlock	Madrone	Poplar
Aspen	Chestnut	Hickory	Oak	Spruce
Basswood	Chinquapin	Larch	Pecan	Willow
Beech	Fir	Linden	Pine	

### Both Endo and Ectomycorrhizae

Alder	Cottonwood	Poplar
Aspen	Eucalyptus	Willow

## Health & Safety

- Inhalation** If dusty conditions exist, wear a dust mask.
- Ingestion** Drink large amounts of water, induce vomiting, and seek medical attention.
- Eyes** Flush with large amounts of water.
- Safety** Product becomes very slippery when wet.

## Storage & Handling

Store in a cool, dry place. Avoid high temperatures and direct sunlight. Product shelf life is up to 24 months.

**Limited Warranty:** All information contained herein is offered in good faith. There are no warranties of merchantability of fitness for a particular purpose which extend beyond the information contained herein. Our liability is limited to replacement of any product which does not meet these specifications.

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