



DATA SHEET #7

ECTO & ENDO INOCULANT

# DIEHARD™ Injectable



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

**DIEHARD™ Injectable** is formulated to be used to treat mature and newly planted landscape trees and shrubs with live beneficial mycorrhizal fungi intended for use with root injection equipment. It contains highly selected species of low host specificity endo-ectomycorrhizal fungi that will quickly colonize the roots of mature and newly planted landscape trees and shrubs. The mycorrhizal inoculants are combined with other beneficial fungus (*Trichoderma*), humic acids, soluble sea kelp, yucca plant extracts, vitamins, folic acid, amino acid, and a host of beneficial bacteria to promote rapid root development. The results are quick colonization of roots with beneficial mycorrhizal fungi to provide a boost in the overall health of the tree.

## Product Benefits

### IMPROVES

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

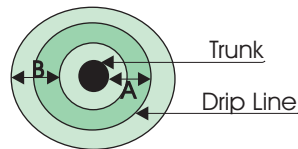
### REDUCES

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

## Directions For Use

Mix the contents of each 8 oz. bag with 100 gallons of water. Inject on a 2 ½ foot grid pattern at ½ gallons per injection site.. The following injection area is suggested:

Method: Measure from the trunk to the drip line (A). Divide this number by 2. Measure from the drip line this amount towards the tree and outward from the drip line and treat this area (B) using a grid pattern.



## Storage & Handling

Store in a cool, dry place. Avoid high temperatures and direct sunlight. Product shelf life is up to 18 months.

## Non Plant Food Ingredients

### GUARANTEED ANALYSIS

Endomycorrhizal Fungi	166 Propagules per cubic centimeter <i>Glomus mosseae</i> (33), <i>Glomus intraradices</i> (33), <i>Glomus fasciculatum</i> (33), <i>Glomus dussii</i> (16.8), <i>Glomus clarum</i> (16.8), <i>Glomus deserticola</i> (16.8), <i>Glomus Microaggregatum</i> (16.8).
Ectomycorrhizal Fungi	4,565,000 spores per cubic centimeter to include: <i>Pisolithus tinctorius</i> (3,925,900), <i>Rhizopogon</i> (639,100).
Nitrogen Fixing, Phosphate solubilizing and growth Promoting Bacteria	53,120,000 Colony forming units per cubic centimeter of <i>Genus Bacillus</i> (32 species), <i>Genus Pseudomonas</i> (2 species), <i>Genus Streptomyces</i> (2 species).
<i>Trichoderma</i>	79,680,000 CFU's <i>Genus Trichoderma</i> (6 species), <i>Gliocladium virens</i> (2 strains), <i>Trichoderma harzianum</i> (2 strains), <i>Trichoderma Viride</i> (2 strains)
Humic Acids (Carbon Source)	26% derived from <i>Leonardite</i>
Sea Kelp Extract	18% <i>Ascophyllum nodosum</i>
Yucca Plant Extract	17% <i>Yucca schidigera</i>
<b>OTHER INGREDIENTS</b>	
Root Promoting Vitamin	B, B2, B3, B6, B7, B12, C, K, Biotin, Fulvic Acid
Amino Acids (Protein)	Animal and plant proteins
Fulvic Acid	Plant-derived mineral

## Compatibility

**Species:** All plants and shrub species except Rhododendrons, Azaleas and Laurels. (Not harmful)

**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 mycorrhizae, they only inhibit development for a short period of time.



# DIEHARD™ Injectable



*“Stimulates root growth naturally”*

## Plant Species and Type of Mycorrhizae

### Endomycorrhizae

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

All nut trees except Pecan, Chestnut, Macadamia, 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.

**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.

## DIEHARD™ Inoculants

### DIEHARD™ Transplant

- For trees and shrubs

### DIEHARD™ Palm

- For transplanting palms

### DIEHARD™ Flower Bed

- For flower beds

### DIEHARD™ Root Reviver

- For established and newly transplanted trees and shrubs

### DIEHARD™ Root Dip

- Ecto and endomycorrhizae for bare root treatment

### DIEHARD™ Ecto Root Dip

- For ecto specific plant species such as Oaks, Poplar, and Pines

### DIEHARD™ Ecto Injectable

- For ecto specific plant species such as Oaks, Poplar, and Pines

### DIEHARD™ Ecto Nursery Drench

- Custom blend of NINE strains of ecto for large scale nursery inoculation

### DIEHARD™ BioRush™

-Dry, soluble, biostimulants and beneficial bacteria

### DIEHARD™ BioRush™ Fe

-Dry, soluble chelated iron, biostimulants, and beneficial bacteria

## Distributed by:



### ELM GROVE

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