



DATA SHEET #6

FOR TREE SEEDLING PACKING AND PLANTING

DIEHARD™ Ecto Root Dip



“The Industry's First Complete Bare Root Treatment”

DIEHARD™ Ecto Root Dip is formulated as a bare root treatment with live beneficial mycorrhizal fungi to inoculate the roots of bare root plants before planting. It contains highly selected strains of low host specificity ectomycorrhizae fungi that will quickly colonize the roots of bare root plants to provide the best possible conditions for the roots to thrive during and after planting. The mycorrhizal inoculants are combined with humic acids, beneficial bacteria, soluble sea kelp, and yucca plant extracts, to promote rapid root development. The mycorrhizal inoculant is managed with Horta-Sorb® SM which also protects the roots from drying out. The results are better survival and growth rates for all transplants with less maintenance and watering. For convenience, consistency and to reduce waste, the product is packaged in pre-measured labeled bags and is also available in bulk.

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 bag with water to form a mixture the consistency of thick gravy. Let stand for 15-20 minutes. Dip roots and plant, or package seedlings for shipment or storage. Adjust thickness of mixture to insure that the gel adheres to the roots when dipping.

Pkg. Size	Water To Mix	No. of Seedlings
3 oz.	5 Gallons	2,000
15 oz.	25 Gallons	10,000
25 lbs.	27 Gallons Per lb.	266,666

Non Plant Food Ingredients

Ectomycorrhizal	3,600,000 spores per cubic centimeter to include: <i>Pisolithus tinctorius</i> 3,096,000 and <i>Rhizopogon</i> (504,000).
Horta-Sorb® SM Water Gel	88% Copolymer made for agriculture
Humic Acids	3% Leonardite Humates
Soluble Yucca Extract	2% <i>Yucca schidigera</i>
Soluble Sea Kelp Extract	2% <i>Ascophyllum nodosum</i>
<i>Trichoderma</i>	1,080,000 CFU's per cubic centimeter: to include: <i>Genus Trichoderma</i> (6 species), <i>Gliocladium virens</i> (2 strains), <i>Trichoderma Harzianum</i> (2 strains), <i>Trichoderma. Viride</i> .
Phosphate Solubilizing, Nitrogen Fixing and Growth Promoting Bacteria.	720,000 CFU's per cubic centimeter to include: <i>Genus Bacillus</i> (35 species), <i>Genus Pseudomonas</i> (5 species), <i>Genus Streptomyces</i> (7 species).
Root Promoting Vitamin	Biotin, Folic acid, B, B2, B3, B6, B7, B12, C, and K
Amino Acids (Protein)	Animal and plant proteins
Fulvic Acid	Plant-derived mineral

Compatibility

Species: Alder, Arborvitae, Birch, Hazelnut, Pine, Chestnut, Hickory, Spruce, Aspen, Chinquapin, Larch, Basswood, Fir, Oak, Beech, Hemlock, Pecan, Eucalyptus and Willow.

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.

Fungicides

Non-Detrimental	Detrimental
Aliette, Benomyl, Captan, Daconil, Difolatan, Metalaxyl, Thiram	Banrot, Bayleton, Bravo, Dithane, Zineb, PCNB

Storage & Handling

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



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ALLIANCE
HORTICULTURAL

“Stimulates root growth naturally”

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.

Other DIEHARD™ Inoculants

DIEHARD™ Transplant

This is a complete transplant preparation to inoculate landscape trees and shrubs with live beneficial mycorrhizal fungi, "energize" the soil, and provide natural nutrients to trees and shrubs when planting. Contains live spores of endo and ectomycorrhizae combined with humic acids, biostimulants, nitrogen fixing, phosphate solubilizing and growth promoting beneficial bacteria, sea kelp, vitamins, natural wetting agent and biostimulants from yucca plant extracts, humic acid, and Horta-Sorb® MD.

DIEHARD™ Palm

Endomycorrhizae, beneficial bacteria, plus all the "goodies" for palms. Formulated by some of the top palm experts in the country.

DIEHARD™ Flower Bed

Endomycorrhizae, beneficial bacteria, plus a light portion of Horta-Sorb® MD to slow release the soluble components of the formulation.

DIEHARD™ Root Dip

Endomycorrhizae, beneficial bacteria, soluble sea kelp, yucca plant extracts and Horta-Sorb® SM water management gel to protect the roots, slow release all soluble components of the formulation, and boost survival. Used for vegetables, berries, fruit and nut trees, turf, flowers and many ornamentals.

DIEHARD™ Root Reviver

Endo and ectomycorrhizae, beneficial bacteria, plus a light portion of Horta-Sorb® MD to slow release the soluble components of the formulation. For use as a vertimulch application for trees and shrubs in decline and as a soil amendment for plantings, turf, and propagation mixes.

DIEHARD™ Injectables

Endo and Ectomycorrhizae, beneficial bacteria, soluble sea kelp, yucca plant extracts and a slight amount of Horta-Sorb® SM gel to slow release all soluble components of the formulation. Also available with just endo or ectomycorrhizae.

DIEHARD™ BioRush™

A dry, water soluble root growth stimulant containing humic acid extracts, soluble sea kelp, yucca plant extracts, amino acids and nitrogen fixing, phosphate solubilizing and growth promoting bacteria to "energize" the microbial activity in the ground and promote cell division and lateral bud development as well as delay the aging process of plant tissue.

DIEHARD™ BioRush™ Fe

A dry water soluble plant and root growth with chelated iron, beneficial bacteria packaged in 1 lb. pre-measured pacs, or bulk. Used to promote root growth, enhance vigor, and to reduce stress in trees, shrubs and ornamental plants and turf.

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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