



DATA SHEET #13

ECTOMYCORRHIZAL INOCULANT

DIEHARD™ Ecto Drench



“The Industry's First Complete Ecto Drench Inoculant”

DIEHARD™ Ecto Drench is formulated with live beneficial mycorrhizal fungi to inoculate the roots of seed beds or containerized plants in the nursery. It contains highly selected strains of low host specificity ectomycorrhizal fungi that will quickly colonize the roots of tree seedling. When water and soluble nutrients are amply provided non-mycorrhizal seedlings can grow well in artificial growing media. However, until the roots are mycorrhizal they do not adequately take up water and nutrients upon out planting. Routine nursery practices such as fumigation and high levels of water and nutrients produce non-mycorrhizal seedlings or seedlings with “nursery fungi”, which may be poorly adapted to individual species or field conditions. Horticultural Alliance, Inc. supplies DIEHARD™ Ecto Drench spores of native mycorrhizal fungus that are specific to particular plants and function effectively in both nursery and field environments.

Product Benefits

IMPROVES

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

REDUCES

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

Directions For Use

Each pound treats 100,000 seedlings. Best application method is a 2-step process. Apply 1-2 weeks after sowing when roots have developed to the sides of cells. Mix with sufficient water to apply as a drench AND to insure that spores applied are drenched into the media to the level of the roots. A second application just as plants are hardened off for shipment is recommended if percent colonization of roots has not been determined. After use and one week before avoid use of phosphate fertilizers. Avoid the use of high phosphorus fertilizer, as this treatment would have a negative effect on ectomycorrhizal colonization. Use of organic nitrogen fertilizers is recommended.

Non Plant Food Ingredients

Ectomycorrhizal	20,000,000 spores per cubic centimeter to include: <i>Pisolithus tinctorius</i> (17,200,000), <i>Rhizopogon</i> (2,800,000).
Humic Acids	22% Derived from <i>Leonardite</i>
Soluble Yucca Extract	22% <i>Yucca schidigera</i>
Soluble Sea Kelp Extract	11% <i>Ascophyllum nodosum</i>
<i>Trichoderma</i>	600 million per pound Genus <i>Trichoderma</i> (6 species), <i>Gliocladium virens</i> (2 strains), <i>Trichoderma harzianum</i> (2 strains), <i>Trichoderma viride</i> (2 strains).
Phosphate Solubilizing, Nitrogen Fixing and Growth Promoting Bacteria.	400 million per lb. To include Genus <i>Bacillus</i> (32 species.), Genus <i>Pseudomonas</i> (2 species), Genus <i>Streptomyces</i> (2 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
Natural Sugars	Dextrose

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. Fungicide use according to label instructions do not extinguish mycorrhizae, they only inhibit development for a short period of time.

Storage & Handling

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

