

Selection of Mycorrhizal Fungi for California Native Plants®

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The main objective of mycorrhizal inoculation at the Tree of Life Nursery is the propagation of healthy seedlings and cuttings of California native plants suitable to be transplanted in ornamental home gardens and restoration and revegetation sites. The symbiotic association with arbuscular mycorrhizal fungi improves the ability of plants to cope with environmental stress by facilitating nutrient uptake (Smith and Read, 1997), by increasing tolerance to drought and salt stress (Auge, 2001), and resistance against soil pathogens (Azcon-Aguilar et al., 2002), and by enhancing soil aggregation (Caravaca et al., 2002).

In contrast to native ecosystems where mycorrhizas are so common, soilless mixes used in nurseries for plant propagation do not contain propagules of mycorrhizal fungi (Azcon-Aguilar and Barea, 1997). To incorporate mycorrhizal technology in nursery conditions it must be kept in mind that mycorrhizal associations are three-way interactions between plants, fungi, and growing media (Brundrett et al., 1996). Since the infectivity and effectiveness of a particular mycorrhizal fungus varies with the plant and the growing conditions (Corkidi et al., 2004; Corkidi et al., 2005), the successful application of mycorrhizal inoculum is related to the choice of potting mixes, fertilizers, and pesticides, as well as to the screening and selection of functionally compatible plant-fungal associations (Turnau and Haselwandter, 2002).

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