

22% Yield increase

GRAPE VINE

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OBJECTIVE

Evaluate the establishment success of grafted *Vitis vinifera* grape cuttings in response to mycorrhizal inoculation with *Glomus intraradices*.

METHODS

One year old grape vine rootstock 3309 grafted with Chardonnay grape variety was inoculated at the same time as the vines were outplanted in May 1991 at Château Grand Traverse, Michigan. The mycorrhizal inoculant was incorporated in each planting hole.

In addition to the mycorrhizal treatment, two controls were included in the trial: a treatment consisting of the same carrier (perlite and peat) as the mycorrhizal treatment but without the inoculum and a control which

represents the normal practice, e.g. mineral soil without any amendment.

RESULTS

The mycorrhizal inoculated plants did sustain greater vine shoot length ($p \leq 0.05$) during the first growing season.

Growth enhancement of the outplanted vines was greatest between the control and the mycorrhizal treatment. There seemed to be an added benefit from the carrier, but trials with mycorrhizae had the greatest effect. This led to a higher grape yield (22% higher) during the first year of harvest. Mycorrhizae treatment was more effective for growth than the indigenous mycorrhizal species and also colonized root system more rapidly.

