

# Organic Grapevine (*Vitis vinifera*) cv. Cabernet Sauvignon Inoculated with Arbuscular Mycorrhizal (AM) Fungus:

## Effects on growth, production, soil mineral concentrations, and microbial activity.

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### Abstract

*The effects of root inoculation with mycorrhizal fungi (genus Glomus) on growth, production, soil mineral concentrations, and microbial activity in organic grapevine (Vitis vinifera cv. Cabernet Sauvignon) were studied under the growth conditions of central Chile. Inoculation enhanced vegetative growth, reflected as pruning weight and shoot growth, but it didn't influence production, soil mineral concentrations, and microbial activity of the soil.*

*The grapevine (Vitis vinifera) can establish symbiotic associations with different fungi of the endomycorrhizas. These fungi, besides their well-known effects on nutrient uptake (especially P), help to the establish a network between the plant and the soil with its entire biotic community. These organisms may contribute significantly to a sustainable grapevine production system. The beneficial effects of arbuscular mycorrhizal inoculation with respect to grapevine growth and production have been reported by several authors. No studies have been carried out in Chile about this symbiosis in grapevines. The objective of the present study was to assess the effects of root inoculation with mycorrhizal fungi (genus Glomus) on growth, production, soil mineral concentrations, and the microbial activity of the organic grapevine (Vitis vinifera cv. Cabernet Sauvignon) cultivated in central Chile.*

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