

## EFFECTIVENESS OF SOIL TREATMENTS TO PREVENT AVOCADO REPLANTING PROBLEMS

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The V Region of Chile has 80% of the avocado area with 14,930 ha, being the most important region for avocado production in the country. Therefore, it is possible to find growers that have many years of avocado monoculture and replanting problems.

During 2005-2007, a trial was carried out at the Experimental Station of the Faculty of Agricultural Sciences of Pontificia Universidad Católica de Valparaíso. The objective was to evaluate the efficacy of ten different soil treatments against the disease caused by *Phytophthora cinnamomi*, thus preventing replanting problems. Two groups of one-hundred avocado plants were selected: (1) Hass grafted on Zutano rootstock, and (2) Hass grafted on Duke-7 rootstock. Plants were distributed in 40 plots, corresponding to the following treatments: (a) flooded soil for one month, (b) methyl bromide (100 g/m<sup>2</sup>), (c) organic matter (0,038 m<sup>3</sup>/9.4 m<sup>2</sup>), (d) *Trichoderma harzianum* (THV) (1g pellets/1L soil) and, (e) the untreated control. A randomized block design was used with a factorial arrangement considering the possible differences in soil inoculums. Four replicates per treatment were considered.

The variables evaluated were: trunk diameter, plant height and foliar area of ten well-developed leaves per plant. After 6 months of initiating the test, the factorial analysis showed no interaction among the factors. Duke 7 rootstock had better performance than Zutano, and methyl bromide was better compared to all the other soil treatments. After 18 months of assay, an interaction among the treatments was observed. Plant height and trunk diameter showed differences for Zutano rootstock with methyl bromide or biological control (*T. harzianum*) compared to others treatments.