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EFFECT OF MYCORRHIZA INOCULATION (*GLOMUS INTRARADICES* SCHENCK & SMITH) ON AVOCADO PLANTLETS IN THE NURSERY

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The current substrates used in Chile to propagate avocado and other fruit trees are fumigated with methyl bromide and chloropicrin or vaporized. With these methods, a practically inert substrate is obtained, and all the advantages provided by soil microorganisms are lost. Fungal mycorrizhae are common inhabitants of almost every soil in the world, with an extensive relationship with plants. The main benefit of this symbiosis is an enhanced efficiency in absorbing nutrients due to the increase in the volume of soil explored and in the water absorption. When the substrate is fumigated, all natural sources of inocula of these fungi are eliminated and, therefore, the mycorrhizal relationships are not established.

In the Nursery of Certified Citric Plants from Agrícola CEGEDE Ltda. (Hijuelas, V region), an inoculation assay of avocado Mexicola (*Persea americana* Mill.) with the fungal mycorrhiza *Glomus intraradices* Schenck & Smith was performed.

Together with the inoculation, performed in 3 doses, we tested conventional fertigation with urea, an organic fertilizer (Duetto) and a foliar fertilization (Auxym). Treatments with the fertilizer Duetto were strongly affected by a saline stress due to the high fertilizer doses employed. This induced a reduction in plant development, reflected in plants of lower height, stem diameter, number of leaves, aerial and radical dry matter. No effect of foliar fertilization with Auxym was observed.

The best results were obtained in the treatments Control + 40gr inoculum and Control + 30gr inoculum, and these results were statistically similar to those obtained with fertigation. The same treatments also showed the highest contents of N, P, Zn, Cu and Ca in leaves. Considering that these treatments were irrigated only with water, a higher content of these nutrients can be only explained by the mycorrhization of roots. The Mn content was lower in these treatments. Concentrations of K, Fe, Mg and B were similar in all the treatments.

A combined effect of inoculation and fertilization was not observed, because in the case of fertigation only with urea, this treatment induced a decrease in the C/N ratio, and roots become less susceptible to fungal penetration. A restoring effect of mycorrhiza on saline stress was not observed.

Therefore, taking into account the results previously described together with the test of mycorrhizal colonization by staining of fungal mycorrhizas, it can be concluded that plants were successfully inoculated with the fungus and produced mycorrhizae. On the other hand, since the results obtained were statistically similar to the fertilization treatments, it could be possible to replace inorganic fertilization with this natural alternative, allowing organic plant production.