

TITLE: Influence of the inoculation of diazotrophic bacteria in the mycorrhizal community in lettuce

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ABSTRACT

The study of interactions between the soil microorganisms is important to understand the dynamics of processes that characterize the relationships between soil and plants in the biosphere. Research on such biological interactions and its influences in the development and production of plant species have contributed to the understanding of rhizosphere biology and its implications in the development of modern quality and ecologically correct agriculture. Among these interactions, involving rhizobacteria and arbuscular mycorrhizal fungi (AMF) are of particular interest in the function of the interfaces between the AMF, the soil and the plant. Lettuce (*Lactuca sativa*) is an annual or biennial hortense used in human feeding since about 500 BC. Originating in the east of the Mediterranean, it is world-cultivated for consumption in salads, with numerous varieties of leaves, colours, shapes, sizes and textures. The objective of this work was to evaluate the influence of the inoculation of diazotrophic bacteria in the mycorrhizal community in lettuce. The experiment was installed in the second half of 2016 in the experimental area of the Evangelical College of Goianésia (FACEG). The experimental design was entirely randomized design, with 4 replications, consisting of the treatments: control, inoculation of *Azospirillum brasilense*, bovine dung and *Azospirillum* and cattle manure. A Rhizospheric soil collection was conducted before the end of the culture cycle. The spore density was determined by the damp sieving method, the mycorrhizal colonization rate was determined by the discoloration of roots and technique of insertion of the quadrants and the gender identification was performed by comparison of morphological characteristics with the Invam database. The test of Scott Knot was carried out with 5% probability with the Assistat program. There was no significant minimal difference in the density values of the colonization rate mycorrhizal among the treatments investigated. The genera *Glomus*, *Diversispora*, *Acaulospora* and *Claroideglomus* were identified in all treatments. The genus *Sclerocystis* was identified only in the treatment control and the genera *Funneliformis* and *Gigaspora* were found associated with rhizosphere of lettuce under the treatment dung with *azospirillum*.

Keywords

Lactuca sativa, MAF, Rhizospheric Soil