

TITLE: INFLUENCE OF DIAZOTROPHIC ORGANISMS UNDER ARBUSCULAR MYCORRHIZAL FUNGI IN RHIZOSPHERE OF *CANAVALIA ENSIFORMIS*

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ABSTRACT:

It is a summer legume with initial growth and rapid closure. Excellent in weed control, mainly from *Cyperus rotundus*. Due to its low size, it is recommended to cultivate it between the lines of perennial crops such as citrus and coffee. It is a good biomass producer and nitrogen fixator. The experiment was conducted in the Laboratory of Agricultural Microbiology of the Evangelical Faculty of Goianésia. The experimental design used entirely randomized design with four replications arranged in two treatments being an application of diazotrophic bacteria (*Rhizobium Tropici* and *Azospirillum brasiliense*) and a treatment without application in sowing of *Canevaluates ensiformis*. For laboratory analysis, samples were removed at 50 cm³ from rhizospheric soil with root during the flowering period. For determining the percentage of colonization, the roots were clarified and stained with 0.05% of blue-de-Trypan in Lactoglycerol and the colonization evaluation was made in a stereoscopic microscope, following the technique of intersection of the quadrants. The AMFs spores were extracted by the damp sieving method followed by centrifugation at sucrose 50%. The identification of the genera of arbuscular mycorrhizal fungi were carried out from the morphological characteristics of spores with polyvinyl-glycerol pure and mixed with Melzer and classified according to the definitions of the International Culture Collection of Arbuscular and Vesicular-Arbuscular Mycorrhizal Fungi. The inoculation of diazotrophic organisms did not provoke statistical differences between treatments in spore density indices and mycorrhizal colonization rate. The genera *Diversispora sp.* and *Scrobiculata sp.* have been identified exclusively in the treatment without inoculation with diazotrophic bacteria. The genus *Scutellospora sp.* was the sole uniquely identified in samples with the application of nitrogen-fixing bacteria. The genera *Claroideglomus sp.*, *Glomus sp.* and *Gigaspora sp.* are present in both samples.

Keywords: *Canevaluates ensiformis*, MAF, Tillage

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