

TITLE: INFLUENCE OF DIAZOTROPHIC ORGANISMS UNDER ARBUSCULAR MYCORRHIZAL FUNGI IN RHIZOSPHERE OF *MUCUNA ATERRIMA*

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ABSTRACT:

It is an annual drought-resistant plant, also resistant to shading, high temperatures and slightly resistant to flooding. Of tropical and subtropical climate, it is rustic, developing well on acidic and poor fertility soils. It is widely used as green fertilization, and can still, in some situations, be used as fodder or as a protein supplement for animals. The experiment was conducted in the Laboratory of Agricultural Microbiology of the Evangelical Faculty of Goianésia. The experimental design was entirely randomized 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 *Mucuna*. For laboratory analysis, samples were removed from 50 cm³ of 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 fungi 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 *Scutellospora sp.* and *Funneliformis sp.* were only identified in specimens inoculated with diazotrophic bacteria. The genera *Clareidoglofus sp.* and *Sclerocystis sp.* were only identified in specimens without applying the nitrogen fixing bacteria. The genera *Acaulospora sp.*, *Diversispora sp.*, *Glomus sp.* and *Gigaspora sp.* are present in both samples.

Keywords: *Mucuna aterrima*, MAF, Tillage

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