

TITLE: ARBUSCULAR MYCORRHIZAL FUNGI IN RHIZOSPHERE OF *CROTALARIA SPECTABILIS* AND NITROGEN FIXING BACTERIA

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ABSTRACT:

Considered one of the most efficient green fertilizers in fitonematodes control, the *Crotalaria spectabilis* has been extremely used in rotation of crops, such as sugarcane. It has great capacity for biological fixation of atmospheric nitrogen and green mass production. The experiment was conducted in the Laboratory of Agricultural Microbiology of the Evangelical Faculty of Goianésia. The experimental design used a 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 *Crotalaria*. For laboratory analysis, samples were removed 50 cm³ 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. No unique genres of treatment were identified without inoculation with diazotrophic bacteria. The genera *Acaulospora sp.*, *Diversispora sp.*, *Scutellospora sp.*, *Sclerocystis sp.* and *Funneliformis sp.* have been 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: *Crotalaria*, MAF, Tillage

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