

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

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**ABSTRACT**

*Mucuna cinereum* is an annual summer legume with indeterminate growth habit and that can control the growth of weeds. Rustic species, undemanding in soil fertility, they are great for green manure and nitrogen supply. The experiment was conducted at the Agricultural Microbiology Laboratory of the Evangelical School of Goianésia. The experimental design used was entirely randomized with four replications arranged in two treatments being one applying diazotrophs (*Rhizobium tropici* and *Azospirillum brasiliense*) and a treatment without application. For the laboratory tests were taken 50 cm<sup>3</sup> of rhizosphere with root during the flowering period. To determine the percentage of colonization of the roots, they were clarified and stained with 0.05% Trypan Blue-of lactoglycerol in colonization and evaluation was made in a stereomicroscope, following the procedure of intersection of the quadrants. AMF spores were extracted by wet sieving method followed by centrifugation in 50% sucrose. The identification of the genera of arbuscular mycorrhizal fungi were carried out from the morphological characteristics of spores on slides with pure polyvinyl lactoglycerol and mixed with Melzer and classified according to the International settings Culture Collection of arbuscular and Vesicular-arbuscular Mycorrhizal Fungi. Colonization mycorrhizal values were higher in the treatment without application of nitrogen-fixing bacteria when compared to treatment with application. Inoculation of diazotrophic organisms caused no statistical differences between treatments in mycorrhizal spores density values. The genres *Clareidoglomus sp.* *Scutellospora sp.* *Sclerosystis sp.* and *Funneliformis sp.* were exclusively found in the non-inoculated treatment. Additionally genres *Acaulospora Sp.* and *Diversispora sp.* were the only uniquely identified in samples with application of nitrogen fixing bacteria. The genera *Glomus sp.* and *Gigaspora spp.* were present in both samples.

**Keywords**

AMF, Cover Crops, green adubation