

## **TITLE: INFLUENCE OF ARBUSCULAR MYCORRHIZAL FUNGI IN ESTABLISHING PRE-SPROUTED SUGARCANE SEEDLINGS**

**AUTHORS: ALMEIDA, L.G.B.; MOURA, J.B.; LOPES FILHO, L.C.**

**INSTITUTION: FACULDADE EVANGÉLICA DE GOIANÉSIA, (AV. BRASIL Nº 2020, ESQ SANTOS DUMONT, CEP 76.380-000, GOIANÉSIA, GO BRAZIL)**

### **ABSTRACT**

Brazil is today the largest producer of sugarcane, which puts the country in the world leadership in producing raw material and ethanol production. The Instituto Agronomico de Campinas (IAC) launched in 2009 one technique that aims to change the concept of sugarcane planting in Brazil. The system of pre-sprouted seedlings (PSS) of sugarcane, as is known, predicts the rapid production of seedlings, a high standard of plant health, vigor and uniformity of planting. The purpose of this work was to evaluate the influence of arbuscular mycorrhizal fungi in the establishment of seedlings of pre-sprouted sugarcane, observing determinant characteristics in the culture and interaction of fungi X varieties. The adopted experimental outline was a 3x2 factorial scheme with 5 replications where the first factor will consist of three varieties of sugarcane (CTC 9004M, IAC SP 955094 and IAC SP962042, and the second factor for treatments: sterile soil with inoculation of spores of mycorrhizal fungi and sterile soil without spore inoculation. The experiment was conducted in the greenhouses and laboratory of agricultural Microbiology of the Evangelical College of Goianésia. For the determination of growth and development we used the following biometric analysis of plant height, stem diameter, dry mass, number of tillers, mycorrhizal colonization rate, spore density and associated gender identification. 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. For the identification of the genera of AMFs from the morphological characteristics provided on the website of the "International Culture Collection of Arbuscular and Vesicular-Arbuscular Mycorrhizal Fungi". The data received statistical treatment through the Assistat program. There were no differences between the varieties in relation to the weight of dried root, thatched diameter and number of tillers. The use of arbuscular mycorrhizal fungi in the sugar cane budding phase promoted higher results at the height of the varieties in IAC SP 955094 and CTC 9004M in relation to the variety IAC SP 962042. The colonization mycorrhizal and density of spores presented significant values in the varieties IAC SP 955094 and IAC SP 962042, on the contrary, CTC 9004M.

### **Keywords**

AMF, Mycorrhizal Fungi, *Saccharum officinarum*