

**Title: ARBUSCULAR MYCORRHIZAL FUNGI IN CERRADO SOILS CULTIVATED WITH *Aloe vera***

**Authors** Silva, C.F. <sup>1</sup>; Jakoby, I.C.M.C. <sup>2</sup>; Costa, L.C. <sup>2</sup>; Pessoa, M.M. <sup>2</sup>; Souchie, E.L. <sup>2</sup>

**Institution** <sup>1</sup> Universidade Federal de Goiás (IPTSP - Instituto de Patologia Tropical e Saúde Pública, Rua 235 s/n, Setor Universitário, Goiânia - GO); <sup>2</sup> Instituto Federal Goiano - Câmpus Rio Verde (Rodovia Sul Goiana, Km 01, Cx. P. 66, Rio Verde – GO);

**Abstract:**

Arbuscular mycorrhizal fungi (AMF) are a ubiquitous group of obligate biotrophic fungi that play a key role in the functioning and sustainability of agroecosystems. These mutualistic fungi associate with the roots of the majority of plants and have shown the potential to increase crop productivity. The primary function of the symbiosis involves the transfer of photosynthetic carbon from the host plant to the fungal symbiont in exchange for increased uptake of phosphate and ammonium as well as other essential mineral nutrients. *Aloe vera* is a succulent plant species frequently cited as being used in herbal medicine since the beginning of the first century AD. Extracts from *A. vera* are widely used in the cosmetics and alternative medicine industries, being marketed as variously having rejuvenating, healing or soothing properties. This work aimed to quantify the AMF spore density in Cerrado soils cultivated with *A. vera*. Three *A. vera* plants were chosen and rhizospheric soil samples (0-20 cm depth) were collected at Rio Verde municipality. Specifically, soil samples plus “babosa” roots were collected from tree sites: nursery, field and a garden. The number of AMF spores was determined by wet sieving, based on a 50 cm<sup>3</sup> soil aliquot for each studied site, followed by centrifugation (3,000 rpm) in sucrose. The spores were counted under a stereoscopic microscope (40x). The data obtained were submitted to statistical analysis (Tukey p<0.05). A higher AMF spore density was found at nursery and an intermediary AMF spore number was found at field. The higher AMF sporulation at nursery can indicate a better nutritional and environmental condition in this ecosystem. At nursery ecosystem, several tree species and herbaceous plants were grown close to *A. vera* plant, consequently influencing it. Therefore, the highest plant diversity probably improved the AMF symbiosis compared to the other ecosystems.

**Keywords:** spore density, babosa, rhizosphere

**Funding agency:** FAPEG