Título: Bioprospecting Arbuscular Mycorrhizal Fungi associated with *Acrocomia aculeata* (Arecaceae) rhizosphere in natural populations of Cerrado biome

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Resumo:

The arbuscular mycorrhizal fungi (AMF) colonize roots of most plant species. In *Acrocomia aculeata*, a Brazilian native palm, the popular Macaúba found in savannas and open forests of Tropical America, in São Paulo, Rio de Janeiro, Minas Gerais, Northeast, North, South and across the Midwest, little is known of diversity of AMF associated to its roots. For these reasons, the objectives of this study were to determine the abundance and richness of FMA associated with *Acrocomia aculeata* in different populations in MG. The soil near the roots of palm trees present in pastures were collected at 20 cm depths in rainy and dry seasons in five municipalities in the North of MG: Mirabela, Itacambira, Cristália, Claro dos Poções and Brasília de Minas. In the overall count of spores were found different amounts: the rainy season: 685, 1,374, 985, 870, 2,756 and dry: 618, 1,211, 1,474, 1,260 and 3,277 respectively, by extraction methods by wet sieving and centrifugation. In Mirabela and Itacambira occurred 685 and 1,374 glomerosporos in the rainy season, 618 and 1,211 on dry, respectively, with 61 exclusive species of each site of the respective genres: Acaulospora (16), Ambispora, (5) Entrophospora (1), Gigaspora (1), Glomus (31), Pacispora, (3) Racocetra (2) and Paraglomus. In the abundance of AMF, a greater number of spores in the dry season, despite the location, indicating a significant difference ($P < 0.05$). In assessing the local wealth of species, there were no significant variations. The wealth of data between stations and localities have demonstrated that the richness values in each location were significantly higher in the rainy season compared to the dry. Regarding the data of glomerosporos abundance the opposite happened, besides the occurrence of unique species of each site. Regarding compositional analysis (NMDS) compared the dry and rainy seasons by location, one can observe that there was overlap in the composition of AMF population only in the city of Mirabela. These findings suggest that it is because of changes in conditions of soil and vegetation cover that wealth and the structure of the FMA community are changed, favoring the dominance of species over others, and reveal that the influence of the seasons on the number of spores probably due to water and nutritional stress, which occur in this seasonal period.

Palavras chave: Arbuscular Mycorrhizal Fungi, Diversity, Seasonality, Macaúba, Minas Gerais

Agência de Fomentos: Fapemig, PFRH Petrobrás