

MICROBIOL DIVERSITY IN RHIZOSPHERE RESISTANT AND SUSCEPTIBLE GUARANA COLLECTED IN MAUÉS AND MANAUS

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The rhizosphere is the soil region subject to influence of exudates released by plants and microorganisms (epiphytic and endophytic). In addition, this region has large variety of bacteria that can contribute to plant growth and/or inhibiting the activity of plant pathogens. The culture of guarana (*Paullinia cupana* var. *Sorbilis* (Mart.) Ducke) is threatened by the presence of the fungus *Colletotrichum guaranicola* Albuquerque and *Fusarium decencellulare* Brick, causal agents of anthracnose and overbudding, respectively. In this work, the metabolic diversity of rhizospheric bacteria was studied in resistant (R) and susceptible (S) clones collected in Manaus (Mn) and Maués (Mu). For the analysis, 5 g of roots were immersed in 45ml of sterile saline solution, maintained for 30 minutes in a shaker and 2 minute sonication, the suspension was diluted to 10⁻³ and 150µL was inoculated into Ecoplate Biolog. Plates were maintained at 27 °C for 72 hours the absorbance reading being performed at 590nm. Microbial activity in each microplate, expressed as average well-color development (AWCD) and the Shannon diversity index (H'). The AWCD values and H' to Mu S were 0.63 ± 0.12 and 3.07 ± 0.09, respectively. These values were lower for Mu R, reaching 0.36 ± 0.08 and 2.85 ± 0.05, respectively. The values AWCD and H' were, respectively, 1.02 ± 0.13 and 3.09 ± 0.04 for Ma S and 0.62 ± 0.03; 3.16 ± 0.02 to Ma R, respectively. β-Methyl-D-Glucoside; D-cellobiose; D, L-α-Glycerol Phosphate; D-Malic Acid; Putrescine were more used by S than R plants. L-Arginine; Pyruvic Acid Methyl Ester; i-Erythritol; L-Phenylalanine; N-Acetyl D-Glucosamine; Glycyl-L-Glutamic Acid; Acid α-Ketobutyric were more used in Ma than Mu. Accordingly, the metabolic diversity of rhizosphere microorganisms is different between geographic locations and guarana genotypes.

Keywords: *Ecoplate*, *Colletotrichum guaranicola*, *Fusarium decencellulare*, *Paullinia cupana* var *sorbilis* (Mart.) Ducke, Amazon.

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