

DIVERSITY OF HETEROTROPHIC BACTERIA IN AMAZONIAN SOIL CONTAMINATED BY CASSAVA RESIDUE (MANIHOT ESCULENTA CRANTZ)

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RESUMO

Cassava (*Manihot esculenta* Crantz) provides several food by-products, such as flour, which are of great importance to the populations of the Brazilian Amazon. During cassava processing, an effluent called manipueira is produced and can cause environmental damage if discarded inappropriately due to hydrocyanic acid (HCN). Understanding bacterial behavior in contact with manipueira is of great importance, as they play a relevant role in the decomposition and cycling of soil nutrients. This study aimed to evaluate the cultivable bacterial diversity in soil impacted by manipueira. The raw soil at a depth of 10 cm was collected in the area of the Federal University of Western Pará (UFOPA) in Santarém, and this was used in the assembly of two systems with 20 kg in PVC containers called system M1 – control (without manipueira) and M2 (with manipueira). A 25g soil sample from each treatment was collected every 15 days, with 3 samples taken over 45 days. At the UFOPA Bacteriology Laboratory (LaBac), the soil samples underwent serial dilution from 10⁻¹ to 10⁻⁵ and sown in PCA culture medium (Himedia®), bacterial isolation in TSA medium (Kasvi®) in cultivation at 37 °C for 24 hours, followed by morphotinctorial and biochemical tests according to Bergey's key. Our results showed that manipueira did not interfere with the diversity of the cultivable bacterial community present in the soil of both systems, which is explained by the bacteria's ability to adapt to different environments. A total of 111 were isolated with 10 taxa; the higher abundance of bacteria occurred in the M2 system (65/111) because next to the manipueira, its own community joined the soil community. The most recurrent taxon in both systems was the genus *Clostridium* spp., found in all samples, followed by *Bacillus* spp., both sporogenic anaerobic bacteria. Among non-sporogenic Gram-positive bacilli, the genus *Corynebacterium* spp. was the most frequent (32/111). Considering the importance of the subject for traditional populations that have cassava as a food, economic, and cultural resource, it is necessary to continue the study with a broader approach and involve physical-chemical analyses of manipueira from different areas of local and regional production and other production systems, family and industrial.

PALAVRAS-CHAVE: soil microorganisms, manipueira, environmental impacts

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