

TITLE: MYCOLOGICAL CHARACTERISTICS OF APIS MELLIFERA HONEY SAMPLES PRODUCED IN THE STATE OF RORAIMA

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ABSTRACT:

Honey, a natural food with a high commercial value, is subject to fraud or adulteration, which favors the proliferation of filamentous fungi, therefore causing the deterioration and production of mycotoxins. The apiarist honey from Roraima is considered honeydew honey because it has no floral origin. The aim of this study was to evaluate the mycological characteristics of honey samples produced in the state. Seven samples of honey were randomly selected, two samples from the UFRR Experimental Apiary, located in the municipality of Boa Vista/RR, and five samples from the Serra Grande Apiary in the city of Cantá/RR. The samples were analyzed in the Microbiology Laboratory of PRONAT/UFRR. For the filamentous fungi isolation, the method of decimal serial dilutions were plated onto potato dextrose agar (PDA) supplemented with chloramphenicol (250mg /L) by spread plate method, with an incubation period of seven days at 25°C. The isolated fungi were separated into groups, the representative fungal colonies were purified to microculture on slides and the identification of the isolated specimen was performed using macromorphological and micromorphological characteristics. 1.242 colony-forming units (CFU) were isolated, varying from 10 to 817 CFU by sample, higher than permitted by current legislation. Of the total isolates, 24 morphotypes were collected to taxonomic identification. *Penicillium* sp. (11 isolates) e *Aspergillus* sp. (13 isolates) were identified, eight *Aspergillus* from the terreus group, two *Aspergillus* from the niger group and three *Aspergillus* without confirmed group. Regarding the genus *Penicillium*, five species were found. The presence of these groups is inevitable, since the bees collect them with the nectar. However, the increase in the number of fungal colonies in honey samples could maximize the production of mycotoxins, which creates a considerable risk in terms of public health. Based on the quantification allied to the determination of the microbiota of honey, the legislation allows 100 CFU/g, although from seven analyzed samples, three were inappropriate for consumption, reinforcing the necessity for the control of good beekeeping practices by the beekeepers, which will contribute to the quality and commercialization of the honey produced in the State of Roraima.

Keywords: filamentous fungi, food, *Penicillium* sp., *Aspergillus* sp., mycotoxins

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