TITLE: ISOLATION AND IDENTIFICATION OF FUNGAL BIODIVERSITY IN CONDIMENTS AND SPICES MARKETED IN CUIABÁ AND VARZEA-GRANDE/MT FREE FAIRS - BRAZIL

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ABSTRACT:
Condiments are products made from plant parts traditionally used to flavor and aromatize foods and still used for medicinal purposes. Fungal microorganisms are widely distributed in the environment and under favorable conditions can grow and contaminate various products when under poor hygienic conditions they can promote the growth of fungi and mycotoxins during the processing steps. The presence of filamentous fungi and yeasts in spices and spices of free fairs of the cities of Cuiabá and Várzea Grande were evaluated. Seven spices were selected for the experiment. Seventy samples of spices marketed in different free fairs of the two cities were acquired and analyzed, being 10 samples of each product, collected in the period from September to December/2015. Each sample was analyzed in three replicates. Viable food samples were isolated by the surface plating method. Aliquots of 0.1 mL were pipetted, distributed and scattered on the surfaces of the plates containing the Sabourraud agar added with chloramphenicol at the dilutions 10-1, 10-2 and 10-3. The plates were incubated for 5 to 7 days at a temperature of 25-27 ° C. Fungal colonies were counted, isolated and identified according to the Riddell technique and biochemical methods. Of the 70 samples analyzed, 82.86% presented fungal contamination and 30% of these, with values higher than 1.0x104 CFU/g. Of the seven spices collected, the samples of black pepper and fennel seeds (26.14%) were the ones that obtained the highest contamination indexes, respectively; Followed by samples of clove (14.25%), cinnamon (12.75%), bay leaf (10.38%), anise (6.14%) and nutmeg (4.20%). Filamentous fungi comprised the great majority (80.15%) in relation to yeasts (19.85%). *Fusarium oxysporum*, *Aspergillus flavus*, *Aspergillus niger*, *Aspergillus fumigatus*, *Penicillium citrinum*, *Eurotium herbariorum* and *Eurotium amstelodami*, *Cladosporium cladosporioides* were observed. Among the isolated yeasts, there are some of medical and anemophilic importance such as: *Candida guilliermondii*, *Candida krusei*, *Candida parapsilosis*, *Cryptococcus* spp., *Trichosporon* spp. and *Rhodotorula mucilaginosa* commonly isolated from food.

Key words: Condiments and spices, fungal contamination, mycotoxins.