OCCURRENCE OF AFLATOXIN AND FILAMENTOUS FUNGI CONTAMINATION IN BRAZIL-NUTS LEFT INSIDE THE FOREST

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ABSTRACT

Brazil-nut is an important product for the Amazon economy, having as the main constraint for marketing, high levels of aflatoxin contamination, a toxic metabolite of potential carcinogenic effects produced by filamentous fungi. This work aimed to determine the occurrence of filamentous fungi and aflatoxin contamination during the post-harvest of brazil-nuts, as a mean to identify critical control points in the steps that precede processing. The study was carried out at Embrapa Acre and Embrapa Food Agroindustry. Samples of unprocessed brazil-nuts were collected from dense forest areas located within the Extractive Reserve Chico Mendes (Acre, Brazil) at 0, 30, 60 and 90 days after the falling of the pods from the trees. It was selected 6 production areas with 10 brazil-nut trees/area and collected approximately 1,5 kg of nut, for each collecting time. Fungal detection and isolation were carried out by using pour plate method. Thin layer chromatography was used for detection and quantification of aflatoxin (B_1, B_2, G_1 and G_2) of the brazil-nut kernels. It was observed the predominance of *Aspergillus flavus* Flavus Group and *Aspergillus niger* on days 0, 30 and 90 and *Fusarium sacchari* and *F. oxysporum* on day 60. Although it was detected fungus development in the brazil-nuts left in the forest, it was not detected aflatoxin contamination in any of the samples, suggesting that environmental conditions on the forest are not suitable for toxin production. However, the simple presence of these fungi on steps prior to the processing is already a matter of concern, which indicates the need of development of quality programs that should consider, among other recommendations, rigorous temperature and humidity control in subsequent steps, specially on transportation and storage, usually critical for toxin production.

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