JOURNAL ARTICLE

87 Portuguese Groceries: A Potential Indoor Environment to Be Used as Public Health Sentinel for Fungal and Mycotoxins Contamination

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Abstract

This study aimed to characterize microbial contamination in Portuguese grocery stores. The research was carried out in 15 grocery stores in Cascais, Portugal. Electrostatic dust cloths (EDC) and surface swabs were used on 3 sampling sites: checkout, fruits/vegetable, and warehouse/dispenser. Fungal contamination was characterized by culture-based methods, through the inoculation onto two different culture media: malt extract agar (MEA) supplemented with chloramphenicol (0.05 %) and dichloran-glycerol agar (DG18). Screening of azole resistance was performed by inoculation of EDC extracts´ in azole-supplemented Sabouraud dextrose agar (SDA) media, according to EUCAST guideline. A total of 39 samples were screened for mycotoxins contamination. The highest fungal contamination was obtained from fruits/vegetables in swabs (76 % MEA; 71 % DG18). The most prevalent genera in swabs was Cladosporium sp. (54 % MEA). Regarding EDC, besides Penicillium sp. (63 %) the most prevalent were Aspergillus sections Circumdati (25 %) and Aspergilli (35 %). Penicillium sp. was highly prevalent in the checkout (61 % SDA; 87 % voriconazole), and warehouse/dispenser sectors (73% voriconazole; 52% posaconazole). Circumdati and Fumigati were the most prevalent Aspergillus sections in fruits/vegetables (73 %

and 64 % in voriconazole, respectively). Four mycotoxins (fumonisin B1, B2, B3) were detected simultaneously in most of the 36 samples. Identifying the most critical workplaces in groceries concerning fungal and mycotoxins contamination is of upmost importance to human health (workers and consumers) when using a One Health approach.

Issue Section: Poster presentations