

عنوان مقاله:

Isolation, Identification and Growth's Comparison f Mold Types In A Cake Factory Environment And Final Products

محل انتشار:

مجله بین المللی تحقیقات پیشرفته زیست شناختی و زیست پزشکی، دوره 2، شماره 8 (سال: 1393)

تعداد صفحات اصل مقاله: 13

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خلاصه مقاله:

Objective: Mold contamination of cakes and the possibility of mold growth can pose a serious health problem. Bakery products include various ingredients, which regularly contain molds. These microorganisms on cakes can come from the air, contaminated packaging materials and other sources. Methods: In this study, a total of 500 fungal isolates representing 36 species, were identified from cake samples and ambient environment air on four different media. For each cake sample, four culture and two culturing methods, spread plating and pour plating, were applied. For environment, precipitating technique during producing and suspension of work were used. Identification based on morphological characterization included colony's structure and profiles were identified by slide culture technique and primary Keys identification. Meanwhile four type's media studied for growth rate (mm/day) of 36 isolated mold species after 14 days at 25°C. Results: The most predominant fungal genera arranged in cake samples were *Aspergillus* sp., *Penicillium* sp., *Mucor* and *Rhizopus* sp. as the same, and *Alternaria* sp. respectively. The most frequent environment fungi were as the order follows: *Aspergillus* (24.5%), *Penicillium* (21.30%), *Cladosporium* (20.65%), *Alternaria* (12.15%), *Trichoderma* (9.51%), *Epicoccum* (7.29%), *Mucor* (3.64%), *Rhizopus* (0.81%). No significant difference was observed between the data obtained the spread plating and pour plating technique. Spores germination for each media was also measured and indicated varies greatly between MEA and other. Conclusions: Comparison of colony's growth rates was adapted with the previous results of counting colonies. Considering the time-rate relationship amongst 36 fungal species, 14 of them followed linear equations and 7 others followed nonlinear Gauss-Newton curves.

کلمات کلیدی:

Cakes , Fungal contamination , Frequency of molds , Growth rates

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