

# Growth of Fungi on Coating Materials Applied to Glass Container Surfaces

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## Abstract

Coating materials are applied to glass surfaces in order to improve toughness, chemical resistance, and clarity. External application improves slip ability, therefore easing the packing process. Under dusty and humid storage conditions, microbial growth may be encouraged on surfaces causing discoloration thus rendering the articles unusable for the primary purpose of carrying items for human consumption. Two coating materials, oleic acid wax and polyethylene, used in Thailand were laboratory tested for their ability to support growth of airborne microbes for the purpose of suggesting ways to ameliorate the problem. Several species of imperfect fungi were isolated and identified using recognized morphological criteria; some species failed to spore and remain unidentified. On the oleic acid based agar formulation, *Aspergillus*, *Penicillium*, *Phoma*, and *Fusarium* species were supported. *Aspergillus* and *Penicillium* were found growing on the polyethylene carbon-based medium. In addition, the agar plate mixture of oleic acid and polyethylene, *Aspergillus* and *Cladosporium* were found. Possible approaches to minimizing contamination and growth of the organisms in real life was discussed.

**Keywords:** *glass coating, imperfect fungi, airborne microbe, oleic acid, polyethylene*