

Title Mould and yeast flora in fresh berries, grapes and citrus fruits
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Abstract

Fresh fruits are prone to fungal contamination in the field, during harvest, transport, marketing, and with the consumer. It is important to identify fungal contaminants in fresh fruits because some moulds can grow and produce mycotoxins on these commodities while certain yeasts and moulds can cause infections or allergies. In this study, 251 fresh fruit samples including several varieties of grapes, strawberries, blueberries, raspberries, blackberries, and various citrus fruits were surface-disinfected, incubated at room temperature for up to 14 days without supplemental media, and subsequently examined for mould and yeast growth. The level of contamination (percent of contaminated items/sample) varied depending on the type of fruit. All raspberry and blackberry samples were contaminated at levels ranging from 33% to 100%, whereas 95% of the blueberry samples supported mould growth at levels between 10% and 100% of the tested berries, and 97% of strawberry samples showed fungal growth on 33–100% of tested berries. The most common moulds isolated from these commodities were *Botrytis cinerea*, *Rhizopus* (in strawberries), *Alternaria*, *Penicillium*, *Cladosporium* and *Fusarium* followed by yeasts, *Trichoderma* and *Aureobasidium*. Thirty-five percent of the grape samples tested were contaminated and supported fungal growth; the levels of contamination ranged from 9% to 80%. The most common fungi spoiling grapes were *Alternaria*, *B. cinerea* and *Cladosporium*. Eighty-three percent of the citrus fruit samples showed fungal growth at levels ranging from 25% to 100% of tested fruits. The most common fungi in citrus fruits were *Alternaria*, *Cladosporium*, *Penicillium*, *Fusarium* and yeasts. Less common were *Trichoderma*, *Geotrichum* and *Rhizopus*.