

Title Antifungal activity of lemon (*Citrus lemon* L.), mandarin (*Citrus reticulata* L.), grapefruit (*Citrus paradisi* L.) and orange (*Citrus sinensis* L.) essential oils

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Abstract

The objective of this work was to study the effect of the essential oils of lemon (*Citrus lemon* L.), mandarin (*Citrus reticulata* L.), grapefruit (*Citrus paradisi* L.) and orange (*Citrus sinensis* L.) on the growth of moulds commonly associated with food spoilage: *Aspergillus niger*, *Aspergillus flavus*, *Penicillium chrysogenum* and *Penicillium verrucosum*, using the agar dilution method. All the oils showed antifungal activity against all the moulds. Orange essential oil was the most effective against *A. niger*, mandarin essential oil was most effective at reducing the growth of *Aspergillus flavus* while grapefruit was the best inhibitor of the moulds *P. chrysogenum* and *P. verrucosum*. Citrus essential oils could be considered suitable alternatives to chemical additives for use in the food industry.