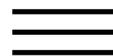


Screening for antifungal activity of essential oils and related compounds to control the biocontamination in libraries and archives storage areas.

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# Screening for antifungal activity of essential oils and related compounds to control the biocontamination in libraries and archives storage areas

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### Abstract

The vapours of nine essential oils and five of their major constituents were investigated for their antifungal activity against a range of mould species commonly found on library and archival materials. The different compounds were preliminarily screened by a microatmosphere method. The inhibitory activities of vapour phase of essential oils of armoise, clove, boldo, eucalyptus, ravensare, lavender, tea tree, thuya, wormseed and their main components against the fungal species tested were demonstrated. The action of linalool appeared the most interesting. In a second series of experiments, the preventive and curative action of linalool on inoculated books was investigated. Results

indicated that the action of linalool is fungistatic rather than fungicidal at the tested concentrations. The potential use of linalool as an alternative to chemical fungicide to disinfect mouldy documents is difficult to assess, but its use may be beneficial as a complement to controlled environment measures in preventing fungal contamination in storage areas of cultural properties. Linalool vapours did not affect the brightness of two types of paper tested or the degree of polymerisation of cellulose, but did reduce the pH of the paper.



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## Keywords

Antifungal activity; Volatile compounds; Essential oils; Biodeterioration; Cultural properties

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