

Title Activity of essential oil and its major compound, 1,8-cineole, from *Eucalyptus globulus* Labill., against the storage fungi *Aspergillus flavus* Link and *Aspergillus parasiticus* Speare

Author Georgia Rocha Vilela, Gustavo Steffen de Almeida, Marisa Aparecida Bismara Regitano D'Arce, Maria Heloisa Duarte Moraes, José Otávio Brito, Maria Fátima das G.F. da Silva, Sebastião Cruz Silva, Sônia Maria de Stefano Piedade, Maria Antonia Calori-Domingues and Eduardo Micotti da Gloria

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Abstract

The essential oil from leaves of *Eucalyptus globulus* obtained by hydrodistillation, as well as its major compound 1,8-cineole, identified by gas chromatography coupled with a mass selective detector, were evaluated for their effectiveness against the storage fungi *Aspergillus flavus* and *Aspergillus parasiticus*. The evaluation was performed by compound dissolution in yeast extract sucrose (YES) medium and exposure to headspace volatiles. Complete fungal growth inhibition of both species was achieved with the essential oil by contact and volatile assays. Volatile exposure showed total inhibition at the lower level tested of 500 µL. The 1,8-cineole tested alone showed partial inhibition only at the highest level of 1.3492 µL. Aflatoxin B₁ production was reduced in headspace volatile assays and partial inhibition was observed at the 200 µL dose of the essential oil.