

Title The control of *Aspergillus flavus* with *Cinnamomum jensenianum* Hand.-Mazz essential oil and its potential use as a food preservative

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Abstract

The essentialoil extracted from the bark of *Cinnamomum jensenianum* Hand.-Mazz was tested for antifungal activity against *Aspergillusflavus*. Fifty-five components accounting for 96.66% of the total oil composition were identified by GC–MS. The major components were eucalyptol (17.26%) and α -terpineol (12.52%). Mycelial growth and spore germination was inhibited by the oil in a dose-dependent manner. The oil also exhibited a noticeable inhibition on the dry mycelium weight and the synthesis of aflatoxin B₁ (AFB₁) by *A. flavus*, completely restraining AFB₁ production at 6 μ l/ml. The possible mode of action of the oil against *A. flavus* is discussed based on changes in the mycelial ultrastructure. To confirm the target of the oil in the plasma membrane, studies on the inhibition of ergosterol synthesis were performed. Results show that the oil caused a considerable reduction in the ergosterol quantity. Thus, the essentialoil from *C. jensenianum* can be used as apotential source for foodpreservative.