

Title Evaluation of *Eupatorium cannabinum* Linn. oil in enhancement of shelf life of mango fruits from fungal rotting

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Abstract

Essential oils extracted from 17 higher plants belonging to different families were screened against *Botryodiplodia theobromae* and *Colletotrichum gloeosporioides* causing stem end rot disease and anthracnose disease in mango respectively. The essential oil of *Eupatorium cannabinum* was found to be fungitoxic in nature against both the mango-rotting fungi. *Eupatorium* oil was standardized through physico-chemical and fungitoxic properties. Gas Liquid Chromatography (GLC) analysis of the oil led to the identification of 16 components, which represented 77.97% of the oil. Germacrene D (16.11%) was found to be the major component. The oil showed a broad fungitoxic spectrum and was recorded to be more efficient than some synthetic fungicides. The oil also showed an inhibitory effect on pectinase and cellulase enzymes. The oil enhanced the shelf life of mango fruits by protecting from fungal rotting when tested as a fumigant. The LD₅₀ of *Eupatorium* oil was found to be 22.01 ml/kg body weight on mammalian mice.