

**Title** Antifungal Compounds and Mechanism of Resistance of Mango Peel Against *Colletotrichum gloeosporioides*

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**Citation** Doctor of Philosophy (Plant Pathology), Faculty of Agriculture, Kasetsart University. 86 p. 2005.

**Keyword** mango; *Colletotrichum gloeosporioides*; antifungal compound

### Abstract

In mango peel, mixture of antifungal compounds were found. These compounds inhibited growth of *Colletotrichum gloeosporioides* on thin layer chromatographic plates and produced five inhibition zones at  $R_f$  0.06, 0.20, 0.65, 0.74, and 0.90. Four inhibition zones at  $R_f$  0.06, 0.20, 0.65 and 0.74 for *Cladosporium* sp. The highest inhibition was showed at  $R_f$  0.65 from Nam Dok Mai cultivar.

Antifungal compound at  $R_f$  0.65 was further analyzed by gas chromatography and mass spectrometry (GC-MS) and proton nuclear magnetic resonance spectroscopy ( $^1\text{H}$  NMR) indicated that this compound was propyl paraben, an esters of 4-hydroxybenzoic acid. Comparison of crude extract from mango peel and purified compound with standard chemical by changing the developing solvent. The same inhibition zone on TLC plate was exhibited.

Isolation of total RNA from mango peel. Genes related to antifungal compounds in the mango peels cv. Nam Dok Mai was conducted by using subtractive hybridization technique. cDNAs fragment corresponded to preformed antifungal compounds against pathogen attacked were obtained.