

**Title** Efficacy of extracted substances from the pericarp of *Garcinia mangostana* to control major diseases of tropical fruits in the laboratory

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#### **Abstract**

Pericarp of the mangosteen fruit (about 65% of total fruit fresh weight) contains many substances such as xanthenes, flavonoids, benzophenones, lactones and phenolic acids. These substances have efficacy to inhibit some fungal and bacterial diseases of human beings. Therefore, the efficacy of the extracted substances from the pericarp of mangosteen to control the major diseases of tropical fruits was investigated. The crude extract by acetone at 1,000 ml L<sup>-1</sup> showed high efficacy on inhibition 4 in 6 of the tested fungi. When crude extract was separated as fractions with a quick column, eight fractions were found. The fraction 5 at 1,000 ml L<sup>-1</sup> showed the highest efficacy to inhibit *Pythium aphanidermatum* and *Colletotrichum gleosporioides* by 57.6 and 43.5%, respectively. Furthermore, the fraction 5 at 1,000 ml L<sup>-1</sup> could inhibit the symptom of anthracnose of mango fruits for 83.3% in comparison with 85.4% when the fruits were treated with 750 ml L<sup>-1</sup> benomyl.