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Antifungal properties of *Cinnamomum zeylanicum* and *Carrophyllus aromaticus* against *Colletotrichum musae* and *Lasiodiplodia theobromae*

Storage of banana is made difficult by post –harvest fungal diseases such as anthracnose and crown rot. Approximately 20%-30% of the annual production of banana is lost due to post-harvest diseases and malpractices during handling, storage and transport. Benzimidazole fungicides such as Benomyl (Benlate) have been used on banana for effective control of post harvest disease in several countries, including Sri Lanka. Anthracnose and crown rot are two most common post-harvest diseases reported in Sri Lanka. Crown rot is caused by *Colletotrichum musae*, *Fusarium moniliforme*, *Verticillium theobroma* and *Lasiodiplodia theobromae* while anthracnose is caused by *Colletorichum musae*.

The primary objective of this study was to develop an effective post harvest treatment system against *C. musae*, *L. theobromae* and *F. moniliformae*. The isolated and identified organisms associated with anthracnose and crown rots were treated in vitro with volatile extracts of cinnamon bark (*Cinnamomum zeylanicum*), cinnamon leaf and buds of clove (*Carrophllus aromaticus*) in a liquid medium. The extracts showed high fungicidal activity even at low concentrations against the growth of *C. musae* and *L. theobromae*.

Cinnamon bark, cinnamon leaf and clove oils were fungistatic against *Colletotrichum musae* & *Lasiodiplodia theobromae* between arrange of 0.03%-0.05% and 0.035%-0.06% respectively and were fungicidal at 0.04%-0.007%, and 0.045%-0.08% respectively.