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Antifungal activity in cocoa (Theobroma cacao L.) pods in response to Phytophthora palmivora infection

The 'Black pod' caused by *Phytophthora palmivora* Morphological Form 1, is one of the important diseases of cocoa in Sri Lanka.

Pod tissues of twenty cocoa varieties were tested for antifungal activities before and after *Phytophthora* pod infection. Semi-mature, pods of each variety was inoculated with the fungus grown on Lima Bean Agar. Control pods were treated with sterile agar discs without the fungus. Both sets of pods were treated with sterile agar discs without the fungus. Both sets of pods were incubated for two days. Tissue discs were removed and separately used for the extraction of antifungla compounds.
Ethyl acetate extracts of pod tissues were bioassayed ont.lc. plates using conidia of *Cladosporium cladosporioides*. The inhibition areas were measured abd tge Rf values noted down.

Of the 20 varieties tested, eight showed (W6/26,ICSI, NA32xUITI, RW17,A13,A9, Amelonado and Millawana) antifungal activity in both healthy and infected tissues while six (W5/5, W5/392, W5/398, SCA6xICS6 and NA32) did not show any antifungla activity. Four varieties ((W5/47, ICSa6,ICS95 and PA35) showed antifungal activity in healthy tissues only, while two varieties (W6/434 and W6/457) showed such actibity in infected tissues only. Rf range for healthy tissues lied between 0.48-0.59. Inoculation of most varieties tended to increase antifungal activity. No correlation was found between the antifungla activity and the resistance or susceptibility of the varieties tested. Hence, the occurrence of antifungal compounds in the cocoa pod tissues may not be the primary factor controlling the resistance of cocoa to *Phytophthora palmivora.*