B-83: Screening of five potential biological control agents for growth inhibition of *Aspergillus flavus* and for antifungal compounds

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Coconut pieces (10 x 10 x 10 mm^3) were inoculated with a 25 µl conidial suspension (COS) of *Aspergillus flavus* (ca. 10^{-6} spores/ml) and 100 µl cell suspension (CES) (3.6 - 4 x 10^{-5}) of each potential bioçontrol agent (PBA): *Pantoae agglomerans*, *Flavobacterium* sp., *Candida lusitaniae*, *Bacillus macerans* and *Enterobacter* sp. separately: (1) COS only, (2) COS and CES - simultaneouly, (3) COS, 24 h before CES and (4) CES 24 h before COS. Fungal growth was scored daily. Growth was absent in treatment (4) and was significantly ($p=0.05$) less in (2).

Each PBA was inoculated separately into Potato Dextrose Broth (2 l) and incubated (48h), and cell free culture filtrates (CFCF) were obtained. They were freeze dried and shaken with 400ml each of hexane, dichloromethane, ethyl acetate and methanol, in succession. The extracts were concentrated to 1 ml, and 100 µl were spotted onto TLC plates, developed in different solvent systems; Hexane extract: 10% CH_2C1_2, & 90 % Hexane, CH_2C1_2, extract: 2 % Methanol & 98 % CH_2CI_2, Ethylacetate extract: 5% Methanol & 95% Dichloromethane Methanol extract: 50 % Methanol & 50% Dichloromethane. TLC-Cladosporium bioassays were done. Inhibition areas and Rf values were noted: *B. macerans* in dichloromethane, Rf 0.41 and 0.81; in methanol, 0.16; *P.agglomerans* in methanol, 0.91; *Flavobacterium* sp in hexane, 0.9, dichloromethane, 0.94; *Enterobacter* sp in dichloromethane, 0.9 and ethyl acetate, 0.9 and 0.8 respectively. *Candida lusitaniae* in dichloromethane and ethyl acetate, 0.72 and 0.9 respectively. The highest inhibition area was seen in CFCF of *B. macerans*.

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