

**FORMULATION OF LIQUID MEDIA TO GROW
ENDOPHYTIC MICROORGANISMS TO BE USED
AGAINST COMMON FOLIAR PATHOGENS OF
RUBBER (*Hevea brasiliensis*)**



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ABSTRACT

Leaf foliar pathogens have very destructive effect on rubber plant growth and yield losses. Although chemical methods have been developed to control the pathogen but they have many limitations due to health hazards and environmental problems. In this background, the present study was taken to identify a suitable medium to grow bio-control agents and assessment for its suitability as substrate for mass multiplication of endophytic fungi and bacteria.

Potato broth and jaggery are rich in nutrients and, used to formulate liquid media for the growth of endophytic microorganisms. Media were prepared under three concentrations. Potato broth media were prepared with 200 g potato broth and 200 g sugar, 100 g potato broth and 100 g sugar, and 50 g potato broth and 50 g sugar dissolved in 1 l of distilled water, producing three media concentrations 1, 2 and 3, respectively. Jaggery media were prepared with 200 g, 100 g and 50 g of jaggery dissolved in 1 l of distilled water, producing three media concentrations 1, 2, and 3, respectively.

For endophytic fungi 02 and endophytic fungi 05, highest mycelial growth, highest spore count and highest colony count were found in potato broth highest media concentration (media concentration 1). And also for endophytic bacteria 100 (2) and, endophytic bacteria 203 (1), highest cell count and colony count were found in potato broth media concentration 1.

Endophytic fungi 02 and endophytic fungi 05 showed the highest inhibition against *Colletotrichum gigasporum* and *C. tropicale* respectively. Endophytic bacteria 100 (2) and endophytic bacteria 203 (1) showed the highest inhibition against *C. tropicale* and *C. fructicola* respectively.

Considering highest mycelial growth, highest cell count and highest colony count, potato broth media at media concentration 1 could be suggested for culturing the endophytic microorganisms.

Keywords: Endophytic microorganisms, *Hevea brasiliensis*, Liquid media

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