

Antioxidant, Antifungal, Cytotoxic and Phytotoxic Activity of Seven Varieties of Ripe Fruits of Banana (*Musa* spp.)

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Banana (*Musa* spp.) is one of the world's most popular fruits among all age group of humans. It is a good source of vitamin C, B₆ and A, and rich in fiber and potassium. The importance of this fruit for good health of humans has not been studied systematically. During the present study the antioxidant, antifungal, phytotoxic and cytotoxic activities of various organic solvent extracts of ripped fruits of seven popular varieties (local name: Ambul, Seeni, Anamalu, Embun, Kolikuttu, Rathambala and Puvalu) in Sri Lanka, were evaluated.

Ripe bananas were sequentially extracted with *n*-hexane, dichloromethane, ethyl acetate and methanol using an ultrasonicator. Each extract was subjected to the following bioassays; antifungal activity against *Cladosporium cldosporioides* by TLC bioautography method; antioxidant activity against DPPH radical scavenging by TLC bioautography method and spectrophotometric method; cytotoxicity against brine shrimps (*Artemia salina*); phytotoxic activity against lettuce (*Lactuca sativa*) seeds germination assay.

n-Hexane, dichloromethane and methanol extracts of Puvalu and Kolikuttu varieties and ethyl acetate and methanol extracts of Seeni and Rathambala varieties showed activity against *Cladosporium cldosporioides*. Methanol extract of all seven varieties showed significant antioxidant activity while *n*-hexane and methanol extracts of Ambul showed the highest antioxidant activity. *n*-Hexane, dichloromethane, ethyl acetate and methanol extracts of Kolikuttu showed the highest cytotoxic activity. Dichloromethane extract of Kolikuttu and Anamalu varieties showed 100% root and shoot inhibition. *Musa* sp. (Rathambala) *n*-hexane, dichloromethane, ethyl acetate and methanol extracts showed 100% root inhibition and significant shoot inhibition.

The long post harvest shelf life of Seeni, Rathambala, Puvalu and Kolikuttu varieties may be due to the presence of antifungal active compounds. Ambul, which showed the significant antioxidant activity, may be a good source for the isolation of antioxidant compounds. Kolikuttu, Anamalu and Rathabala showed the highest root inhibition and could be potential sources of weedicides and herbicides. Studies of Kolikuttu, with the highest cytotoxic activity, may lead to the identification of potential anticancer compounds.