

## Field Survey of Papaya Anthracnose in Selected Markets and In-Vitro Assessment of Bio Rationales Against *Colletotrichum gloeosporioides*

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Papaya (*Carica papaya* L.) is an economical important fruit crop in tropical and sub-tropical countries. It is consumed as fresh fruits or processed products. Anthracnose is one of post-harvest disease of papaya caused by *Colletotrichum gloeosporioides*. It is causing in major economic losses during transportation as well as storage around 40-100 %. Study was carried out to assess anthracnose disease incidence and severity in selected markets in Jaffna. Samples were selected as purposively random sampling method and the measurement of disease incidence and severity of disease. Disease incidence (DI) percentage of number of fruits infected over total number of fruits, while the disease severity (DS) were determined, respectively. For management of papaya anthracnose, Antifungal effects of *Spinacia oleracea*, *Limonia acidissima*, *Allium sativum*, *Achyranthes aspera*, *Calotropis gigantea*, *Ocimum basilicum*, *Mukia scabrella*, *Ficus racemosa*, *Azadiracta indica*, *O. tenuiflorum*, *Lantana camara*, *Ocimum* sp.(Kanchan korai) were investigated in vitro as poisoned food technique. Analysis was done by using Microsoft Excel and SAS software. Results, disease incidence and severity were recorded as 20-30 % and 6-13 %, respectively in selected marketed papaya fruits. *A. indica*, *O. basilicum*, *O. tenuiflorum*, *L. camara*, *Ocimum* sp. and *O. basilicum* arrested the growth of anthracnose significantly compare to control. Among significant, *O. basilicum* (10.95 ± 1.2 mm) and *O. tenuiflorum* (22.35 ± 0.38 mm) were found to be highly effective in inhibiting the pathogen and found to be operative even on the 10<sup>th</sup> day after inoculation. In-Vivo studies are in progress for the use of bio rationales as an alternative to chemical pesticides.

**Key words:** Anthracnose, Bio rationales, Disease severity, *Ocimum basilicum*, Papaya