DISEASES OF PAPAYA (*Carica papaya* L.) CULTIVATIONS IN THE *SABARAGAMUWA* PROVINCE

A.M.A.M. Senanayake[1], V. Basnayake[2] and N. Senanayake[1]

[1]Dept. of Plant Sciences, Faculty of Agriculture, Rajarata University of Sri Lanka, Puliyankulama, Anuradhapura, Sri Lanka.
[2]Plant Virus Indexing Centre, Gabadawatta, Homagama, Sri Lanka.

Papaya is a major fruit crop that offers considerable promise as a commercial crop for both local and export purposes. Papaya Ring Spot Virus (PRSV) is reported to be the most widely affected virus in papaya cultivations in Sri Lanka by symptomatological identification. Other than viral diseases, phytoplasmal, bacterial and fungal diseases were also reported. This study was conducted to identify diseases infecting papaya cultivations in the *Sabaragamuwa* province.

The study was carried out in two steps namely survey and laboratory experiment. The questionnaire survey was conducted to collect information in randomly selected sixteen fields in the *Sabaragamuwa* province. Eighty samples with disease symptoms were collected randomly during the survey. Samples were separated symptomatologically and tested by PCR using universal primers for phytoplasma (557bp), indirect ELISA using locally produced polyclonal antiserum for PRSV and culturing on Potato Dextrose Agar and Nutrient Agar media for the identification of fungi and bacteria. Nutrient Agar cultures were further subjected to KOH test and cultured in carrot tissues for *Erwinia spp.*, which belong to *Carotivora group*. Fungal identification was done by their hyphae and conidial characters. Survey data was analyzed using Categorical Data Modeling procedure.

The first report of phytoplasma in *Carica papaya* L. in Sri Lanka was revealed in this research. Several fungal spp.; *Glomerella cingulata, Fusarium spp., Pomosis carica papayae, Pestalotia spp.*, several gram negative bacteria including *Erwinia spp.* were identified. PRSV was the most serious disease and the survey results showed a significant difference between disease incidence in the field and growth stage, cropping system and the variety.

Key words: *Carica papaya* L., Papaya Ring Spot Virus, PCR, Phytoplasma