

Molecular identification of Citrus Tristeza Virus (CTV) and potential vectors in wet zone of sri lanka

T.M.N.D. Tennakoon* and K.D. Nandasena

Plant Virus Indexing center, Homagama, Sri Lanka.

Citrus, comprising of mandarins, sweet oranges, grapefruit, limes and lemons are the most important fruit crops grown in Sri Lanka. Among virus diseases Citrus tristeza virus (CTV) causes drastic losses of yields. CTV belongs to the genus *Colesterovirus*, is a flexuous rod virus with dimensions of 2000 nm in length and 12 nm in diameter. Department of Agriculture has released few mandarin varieties. Among that “Indu” plays a major role in cultivation due to its more favorable characters. Identification of the vector of CTV for “Indu” is essential for the disease management. CTV infected “Indu” mandarin was indexed by direct antigen coating Enzyme-Linked Immunosorbent Assay (Dac-ELISA). Total RNA extraction was done by using silica fractionated method. CTV positive plant samples and the aphids which were fasted and fed with CTV infected leaves were amplified to Reverse Transcriptase Polymerase Chain Reaction (RT- PCR) by using reverse primer CTV_AR18R and for PCR, CTV_AR18F and CTV_AR 18R primers were used. These primers target polyprotein 18 gene of the virus genome. It was observed that optimum annealing temperature was 60⁰C for both, plant samples and aphids. PCR products with approximately 570 bp were obtained on agarose gel. It showed that *Toxoptera auranti* is a potential vector of CTV in the wet zone of Sri Lanka.

Keywords: CTV, Dac-ELISA, RT-PCR

*nadika74@yahoo.com