

## SEROLOGICAL AND MOLECULAR DETECTION OF CITRUS TRISTEZA VIRUS (CTV) ASSOCIATED WITH CITRUS CULTIVATIONS IN MONERAGALA DISTRICT, SRI LANKA

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Citrus tristeza virus (CTV) is one of the most economically significant pathogens affecting citrus production worldwide, resulting in severe yield losses and declines in infected trees. In Sri Lanka, particularly in the Moneragala District, citrus cultivation plays an important role in regional agriculture. However, data on the presence and distribution of CTV in Sri Lanka remain limited. This study aimed to detect CTV associated with citrus cultivations in the Moneragala District to better understand its prevalence and potential threat to local citrus production. Using random sampling, 100 symptomatic and asymptomatic leaf samples were collected from selected citrus cultivations. From each field, 25% of the total citrus trees were sampled, and for each tree, leaves from three different branches were combined to form a single sample. They were subjected to serological detection through TAS-ELISA using CTV-specific antiserum. A subset of the samples was subjected to total RNA extraction followed by reverse transcription polymerase chain reaction (RT-PCR) using CTV-specific primers that target the *p18* gene to further confirm the ELISA results. TAS-ELISA analysis revealed that 94 of the 100 samples (94%) were positive for CTV, and RT-PCR confirmed infection in 34 of 40 tested samples (85%). The remaining six samples tested negative in both assays. The results were further validated by Sanger sequencing. The sequence obtained was submitted to GenBank (Accession No. PV654199), marking the first reported CTV sequence from Sri Lanka. These findings underscore the importance of early detection and management of CTV in Sri Lankan citrus cultivations. Careful selection of rootstocks, implementation of certified propagation materials, and eradication of insect vectors to minimise the spread of the virus are essential in disease management. This study contributes valuable baseline data for future disease management strategies and epidemiological studies.

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