



# Turkish Journal of Agriculture and Forestry

Turkish Journal

of

Agriculture and Forestry

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## Biological, Serological, and Molecular Characterization of Citrus tristeza virus Isolates from Different Citrus Cultivation Regions of Turkey

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**Abstract:** Field surveys were carried out in 5 different citrus cultivation regions of Turkey in 2005 and 2006, and 201 samples were collected from different citrus species. Samples were tested for the presence of Citrus tristeza virus (CTV) by double antibody sandwich-enzyme-linked immunosorbent assay (DAS-ELISA) and reverse transcription-polymerase chain reaction (RT-PCR). While DAS-ELISA showed that 41 trees were infected with CTV, an additional 13 trees were found to be positive based on RT-PCR. When CTV-positive samples were tested with the Western blot method using the monoclonal antibody MCA13, which is specific to severe isolates of CTV, 32 isolates, mostly from satsuma, were found to be positive. These isolates were then verified by bidirectional/PCR (BD/PCR), allowing differentiation of the MCA13 positive and negative isolates, and detection of mixed infections. The BD/PCR results were generally in agreement with the results of the Western blot assay with MCA13. In total, 28 isolates representing different geographic locations and hosts were selected for biological indexing. Although none of these 28 isolates induced any symptoms in sour orange, grapefruit, or sweet orange, all isolates induced the vein clearing symptom in Mexican lime. Additionally, all the tested satsuma isolates and 1 kumquat isolate produced stem pitting in Mexican lime. The results revealed that potentially severe isolates of CTV are present in different citrus cultivation regions of Turkey.

**Key Words:** Citrus tristeza virus, RT-PCR, Western blot, biological indexing, ELISA, Turkey

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Turk. J. Agric. For., **32**, (2008), 369-379.

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