

## **ABSTRACT**

*Citrus tristeza virus* (CTV) is an important citrus pathogen in Cyprus. Biological and molecular characterization of several local CTV isolates, indicated that mild, medium severe and severe symptom inducing isolates co exist in the island, with an incidence of 58%, 32% and 10% respectively. In view of this study, a new laboratory technique combining shoot-tip grafting *in vitro* and biological indexing on Mexican lime was explored for the detection of CTV. A new quick laboratory technique was developed for the biological separation of mild and severe CTV isolates *in vitro*. The cross protection method was studied for first time in Cyprus by the use of two local CTV isolates and the results were proved that the mild isolates could protect Washington navel trees grafted on sour orange from a severe CTV isolate. In addition, a new method for elimination of viroids in citrus by the use of cryotherapy of infected microcuttings at 4°C for 5 weeks *in vitro* and micrografting was explored. Elimination of CTV was succeed by the use of thermotherapy, ribavirin *in vitro* and micrografting.

**Key words:** *Citrus tristeza virus* (CTV), isolates, cross protection, elimination.