

wilt virus (TSWV - TSWV722/TSWV23) and *Groundnut ringspot virus* (GRSV - GRSVNv/GRSVNvc) detection were used in RT-PCR reactions. Serological tests results indicated that symptomatic plants were positive mostly for ZLCV and just a few plants showed to be infected with potyviruses (PRSV-W; ZYMV). More than 80% (32/40) of the symptomatic watermelon plants tested positive for tospovirus degenerate primers (BR60/BR65) and GRSV specific primers (GRSVNv/GRSVNvc) amplifying DNA fragments of 453 bp and 494 bp, respectively. No samples were positive for ZLCV or TSWV. *Frankliniella schultzei* (99%) was the most frequent thrips species found in watermelon fields, while no *F. zucchini* was identified among the thrips specimens collected. These results indicate the importance of monitoring viruses in watermelon crop in the field and the need of generating epidemiological studies of GRSV in this crop. Financial Support: EMBRAPA.

#### **PIV444 - MELON AND GHERKIN: TWO NEW NATURAL HOSTS OF ZUCCHINI LETHAL CHLOROSIS VIRUS (ZLCV)**

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*Zucchini lethal chlorosis virus* (ZLCV) belongs to the *Tospovirus* genus, in the family *Bunyaviridae* and is transmitted by thrips, in a circulative propagative manner. ZLCV is the solely tospovirus species that is reported on cucurbits in Brazil, causing yield losses, especially in watermelon and pumpkin fields. In 2012 and 2014, three gherkin (*Cucumis anguria* L.) and four melon (*Cucumis melo* L.) plants showing virus-like symptoms were observed in greenhouse cropping system, in the Federal District. Serological tests were performed with leaf extracts obtained from symptomatic melon and gherkin plants for Papaya ringspot virus - type watermelon (PRSV-W), *Watermelon mosaic virus* (WMV) and, *Zucchini yellow mosaic virus* (ZYMV), genus *Potyvirus* in the family *Potyviridae*, *Cucumber mosaic virus* (CMV), genus *Cucumovirus* in the family *Bromoviridae* and, *Zucchini lethal chlorosis virus* (ZLCV), genus *Tospovirus* in the family *Bunyaviridae*, using polyclonal antibodies, by NCM-ELISA. In addition, total RNA was extracted from leaves collected from gherkin and melon plants and tested for ZLCV, by two-steps RT-PCR, using ZLCV-P1/

ZLCV-P2 primer set, which amplifies a fragment of the S RNA, of 350 bp. Leaf extracts prepared in 0.01 M phosphate buffer at pH 7.0 were also rub inoculated onto leaves of indicator host plants *Datura stramonium*, *Nicotiana benthamiana* and, *Cucurbita pepo* cv. Caserta, previously dusted with carborundum. Serological analysis revealed that all three and four gherkin and melon plants, respectively, were infected with ZLCV. Samples also tested positive for ZLCV by RT-PCR with primers ZLCV-P1/ZLCV-P2, producing a 350 bp amplicon. Typical ZLCV systemic symptoms were observed in *D. stramonium*, *C. pepo* and, *N. benthamiana* plants, 10-12 days after inoculation. ZLCV infection in the inoculated plants was confirmed by serological tests. Cloning and sequencing of DNA fragments are underway to confirm ZLCV identification. These data indicate the importance of ZLCV to cucurbit crops. Considering that the virus is a threat to watermelon and pumpkin production in Brazil, further survey is needed to determine the frequency of ZLCV infecting melon and gherkin crops as well as its geographical distribution in the field. Financial Support: EMBRAPA.