THE SEARCH FOR RESISTANCE TO TOMATO LEAF CURL DISEASE IN GUATEMALA

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The evaluation of tomato germplasm with tolerance to TYLCV has been conducted in eastern Guatemala, under heavy pressure from bipartite geminiviruses and no chemical protection against the whitefly vector, since 1998. This germplasm was obtained through the introgression of genes for resistance from different wild species. The process of selection during several consecutive growth cycles has allowed the production of several lines which show high levels of tolerance to the local geminiviruses. These lines are currently showing decreased symptoms of infection and greater yield than the susceptible commercial hybrid used as control. On average, the lines derived from the hybrid FAVI-9 (obtained from The Hebrew University of Jerusalem, Israel) with *L. hirsutum* as source of resistance, have larger fruit size; those derived from breeding lines TY-197 and TY-198 (obtained from The Volcani Center, Israel), with *L. peruvianum* as source of resistance have intermediate fruit size; and those derived from the population Pimper J-13 (obtained from INRA, France), with resistance originating from *L. pimpinellifolium* and *L. peruvianum*, have smaller fruits. Selected lines with resistance from different origins were screened with general and specific PCR primers and hybridization probes. These lines showed differential levels of infection with three geminviruses known to be present in the area of the trial, tomato severe leaf curl virus (TSLCV), tomato golden mottle virus (TGMoV) and pepper golden mosaic virus (PGMV).