



Repellent effects of various cherry tomato accessions on the two-spotted spider mite *Tetranychus urticae* Koch (Acari: Tetranychidae)

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ABSTRACT. Several studies have been conducted on resistance sources to improve the genetic resistance of farm-grown tomatoes to arthropod pests, including phytophagous mites. In the present study, we evaluate the behavior of the two-spotted spider mite on different cherry tomato accessions to identify possible sources of resistance (repellent effect) to this pest. Sixty-four accessions of cherry tomatoes, *Solanum lycopersicum* var. *cerasiforme* (Dunal), were tested. In addition, a commercial cultivar of cherry tomato cv. Sweet Grape (susceptible pattern) and the wild tomato accession *Solanum pennellii* Correll LA-716 (multiple pest resistance) were evaluated as well. The distance traveled by mites on the leaflet surface over time varied largely among cherry tomato accessions. The wild genotype, *S. pennellii* LA-716, showed the smallest traveled distance on the leaflet

surface (0.8 to 1.1 mm over time), and the variety cv. Sweet Grape was one of the genotypes with highest traveled distance (16.2 to 16.4 mm over time). The cherry tomato accessions 2298-42, RVTC-03, and 6889-53 showed a decrease in the traveled distance by mites over time, similar to that as observed in the wild tomato accession LA716. These accessions showed mite repellence levels similar to those of the wild genotype and may, therefore, be good candidates for breeding programs dealing with resistance to mites.

Key words: *S. lycopersicum* var. *cerasiforme*; Resistance; Repellence test; Behavior