

- a. (S) ratios, respectively. A recessive monogenic locus model was suggested. This genomic region is now being mapped using RAPD and disease resistance analog markers.

Stability of the *Sw-5*-mediated resistance to Brazilian *Tospovirus* isolates.

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This study was conducted to investigate some environmental and genetic factors associated with the stability of the resistance to *Tospovirus* isolates mediated by the *Sw-5* gene. The accessions LXSW-01 (*Sw-5* homozygous), LXSW-02 (*Sw-5* homozygous) HXSW-01 (*Sw-5* heterozygous), IPA-05 (without *Sw-5*) and Viradoro (*Sw-5* homozygous) were inoculated with the *Tomato spotted wilt virus* isolates BR-01 and SP-02 under four environmental conditions: 18° C, 25° C, 32° C (growth chamber/constant temperature) and under greenhouse (18-35°C). The controls *Datura stramonium* and IPA-05 had typical symptoms in all environmental circumstances to both isolates. Significant interactions were observed between lines and isolates. LXSW-01 showed no symptoms under greenhouse and only small local lesions at 18° C and 25°C. About 60% of the LXSW-01 plants displayed atypical vein necrosis at 32°C with the BR-01 isolate. LXSW-02 displayed local lesions at 25° C and 32°C to both isolates. HXSW-01 had few local lesions at 18°C, 25°C and in the greenhouse. At 32° C, HXSW-01 showed severe symptoms indicating resistance breakdown. HXSW-01 had faster symptom development than the homozygous. No local lesions were observed in Viradoro at 18°C and 25°C and in the greenhouse. At 32°C, more than a half of the Viradoro plants were systemically infected, mainly to SP-02, indicating again resistance breakdown. LXSW-02 demonstrated the highest levels of resistance. Our results indicated that *Sw-5* gene-mediated resistance might be negatively affected by temperatures $\geq 32^\circ$ C. The differential response within homozygous and between homozygous and heterozygous lines suggests that either a dosage effect or minor modifying genes may regulate resistance expression to TSWV in tomato.