Thrips and Tomato Spotted Wilt Orthotopsovirus Resistance on Wild Relatives by Greenhouse Evaluation

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Tomato spotted wilt orthotopsovirus (TSWV) is transmitted by thrips in propagative and persistent manner. Tobacco thrips, *Frankliniella fusca* (Hinds), is the major vector of tomato spotted wilt disease in peanut. Wild species are the potential sources of resistant peanut. 14 diploid or induced allotetraploid genotypes were screened by the thrips-mediated transmission assays in greenhouse during 2019 and 2020. TSWV infection rate and severity of thrips feeding injury on foliage were evaluated. Two years results showed that diploid *Arachis stenosperma* V10309 and induced tetraploid BatDur1 and ValSten have potential resistance to TSWV. Since thrips resistance was conducted by feeding injury overtime, only BatDur1 showed lower feeding damage index (FDI) after 14 days inoculation; Valida, Villosa, and BatDur1 showed lower FDI after 21 days inoculation. The heritability of resistance to TSWV and thrips in wild genotypes was discussed.