

## **Evaluation of Wild Peanut Genotypes for Resistance to Thrips and Thrips-transmitted Tomato Spotted Wilt Orthotospovirus**

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Spotted wilt disease in peanut is caused by Tomato spotted wilt orthotospovirus (TSWV). TSWV has been a major concern for peanut production in the Southeast over the last three decades. Tobacco thrips, *Frankliniella fuca* (Hinds), is the most important vector of TSWV in Georgia and other neighboring states. Peanut breeding programs have been engaged in developing resistant cultivars by introgressing TSWV resistance from wildtype diploid peanut species into cultivated peanut. A number of crosses and wild species need to be evaluated against thrips and TSWV. TSWV resistance evaluations in the past have relied on mechanical inoculation, which tends to not reflect the natural infection process under field conditions. Our optimized thrips-mediated transmission assay has the potential to serve as a high throughput screening platform for the genotypes developed in breeding programs. In this study, 17 wild species genotypes and their crosses were screened by thrips-mediated transmission assays in greenhouse. Tobacco thrips acquired TSWV were released on peanut plants for TSWV inoculation. TSWV infection rate and severity of thrips feeding injury on foliage were evaluated. Preliminary results indicated that some wild peanut genotypes such as BatDur2, *Arachis villosa* V12912 had reduced thrips damage and/or virus accumulation compared with the cultivated susceptible peanut genotype Georgia Green.