

Screening of *Solanum pimpinellifolium* accessions for resistance to *Xanthomonas gardneri*

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During 2009 and 2010 a severe epidemic of bacterial spot, characterized by large “star-shaped” cracking lesions on the fruit, was estimated to have caused \$7-26 M in crop losses in the Midwest, United States. Based on DNA fingerprint profiles isolates were identified as *Xanthomonas gardneri*, suggesting a shift in the population causing bacterial spot (Ma et al., in press). Fifty one lines of the wild tomato species *Solanum pimpinellifolium* and controls were tested against strains of *X. gardneri* responsible for the outbreak. The lines OH-88119, Ha7981, PI 128216, and Ha7998 were used as controls. OH-88119 was a universal susceptible and Ha7981, PI 128216, and Ha7998 were controls for race specific resistance for T3 and T1 strains as no resistance has previously been described for *X. gardneri*. All plants were inoculated with water as a negative control. Greenhouse evaluation was designed to detect a hypersensitive response (HR) to *X. gardneri*, and open field evaluations were conducted to verify resistance under relevant conditions. Symptoms of HR were detected reproducibly in some accessions, though these appeared to be delayed by 12 to 24 hours relative to control of *X. perforans*, race T3, isolates used to challenge Hawaii 7981 and PI 128216. Field evaluation was based on a Horsfall-Barratt (1945) scale, with accessions rating <3 considered resistant. Accessions PI128216, LA2533, and LA1936 appeared to possess resistance in both greenhouse and field evaluations. Supporting data will be presented and discussed.

Ma, Xing; Lewis Ivey, Melanie; Miller, Sally. (In press) First Report of *Xanthomonas gardneri* Causing Bacterial Spot of Tomato in Ohio and Michigan. Plant Disease.
<http://apsjournals.apsnet.org/doi/abs/10.1094/PDIS-05-11-0448>

Horsfall, J. G., and R. W. Barratt. 1945. An improved grading system for measuring plant diseases. *Phytopathology* 35:655.