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Valuation of Soybean Germplasms for Resistance to *Pseudomonas amygdali* pv. *tabaci*

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[Introduction]

Wildfire, caused by *Pseudomonas amygdali* pv. *tabaci*, is one of the bacterial diseases frequently observed in South Korea. Wildfire disease was first identified in Korea in 2006. Its occurrence and distribution have been documented in a few studies; but much is unknown. The objective of this study was evaluate cultivated soybean (*Glycine max* L.) germplasms for the resistance to *Pseudomonas amygdali* pv. *tabaci*.

[Materials and Methods]

Two plants of each germplasm were grown in a 20cm plastic pot filled with soil in the greenhouse. Bacterial inoculum was grown, harvested, and suspended in 10 mM MgCl₂ buffer. Three trifoliolate leaves of single plants at a V4-stage were inoculated with 30 ml of the prepared inoculum and the plants were covered by plastic to keep high humid condition overnight. Disease symptom was observed based on chlorotic spots and halos at 7 and 14 days after inoculation. Severity of the disease symptom was visually assessed on a scale of 1 to 5; less than 20% of the total inoculated area scored as 1, while over 80% diseased as 5. Then, sampled leaves were photographed and % diseased area was calculated by an image-based analysis program.

[Results and Discussion]

Results of visual scoring and image analysis were highly correlated and the latter provided more precise values of % diseased area. Based on the % disease area, among the 124 germplasm, 32, 27, 25, 19, and 11 genotypes were grouped in 0-20, 20-40, 40-60, 60-80, and 80-100%, respectively. Details of phenotypic assay results will be presented.

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