

Growth Chamber Assay for Evaluating Resistance to *Sclerotium rolfsii*

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The most economical method for managing *Sclerotium rolfsii*, one of the most damaging pathogens of peanut worldwide, is planting resistant cultivars. However, breeding for resistance in the field can be slowed by unfavorable disease conditions and uneven distribution of sclerotia in soil. In addition, seed for some *Arachis* germplasm accessions may be limited. For these reasons, a growth-chamber assay was developed to screen for resistance to *S. rolfsii* in the laboratory. Thirteen peanut genotypes were used to evaluate the assay: cultivars Georgia-03L, Georgia-12Y, Florida-07, Georgia-07W, Tamrun OL02, FloRun '107', Georgia-06G, and U.S. mini-core accessions CC038 (PI 493581), CC041 (PI 493631), CC068 (PI 493880), CC384 (PI 155107), CC650 (PI 478819), and CC787 (PI 429420). Lesion length, as well as length of visible mycelium, on the main stem and a side stem were recorded at 4, 7, 10, and 13 days after inoculation. In general, patterns of lesion and mycelium growth were similar. The most resistant genotypes, Georgia-03L and CC650, had the smallest lesions and mycelium growth; other commercial cultivars were intermediate in lesion and mycelium lengths. The most susceptible entries were CC038, CC041, and CC787. Despite limitations in discriminating among most cultivars, these assays may be useful for pre-screening germplasm to identify physiologically highly resistant and highly susceptible entries.