

Evaluation and Standardization of Stem rot Inoculation Techniques for Resistance Selection in Peanut

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Inoculation techniques were evaluated to develop and standardize a high throughput screening technique for resistance to stem rot pathogen (*Aethalia rolfsii* Sacc.) in peanut (*Arachis hypogaea* L.) mini-core collection under greenhouse studies at Agricultural Science Centre at Clovis, New Mexico. A total of five different inoculation techniques were screened by using susceptible Valencia genotype. The techniques involved inoculation of four-week-old peanut plants raised in pots by spreading mycelial propagules of *A. rolfsii* grown on Potato Dextrose Broth (PDB) on soil surface, slurry method, pathogen inoculated peanut shells spread on the soil surface in pots, Inoculum placed around the collar region and Inoculum mixed in the soil. Further, measured volumes of mycelia mat along with matured sclerotia were powdered and the mass was coated to the peanut seeds and were planted to quantify the most effective inoculum levels and to estimate the effect on germination. Among these evaluated techniques *Aethalia rolfsii* inoculated with peanut shells applied at the base of the stem was found to be most efficient in getting highest percent incidence of stem rot (73.8%) followed by inoculation of pathogen around the collar region by way of either PDA or slurry methods. Further, it was observed that, seed coating with sclerotia at higher quantities resulted in decreased germination of peanut accessions under greenhouse conditions.