

Wild-derived Resistance to Early and Late Leaf Spot caused by *Passalora arachidicola* and *Nothopassalora personata* in Peanut

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Early (ELS) and late leaf spot (LLS) caused by *Passalora arachidicola* and *Nothopassalora personata*, respectively are the major foliar diseases of peanut, which cause tremendous yield loss if not properly managed. Different intensive fungicide spray programs are currently used to control these diseases. However, the most economical and practical way to mitigate these diseases is with resistant varieties. Wild peanut relatives have been utilized as genetic resources for disease resistances and introgression of wild type alleles to cultivated peanut has been achieved. In this study, a detached leaf bioassay was conducted to evaluate 14 wild *Arachis* species, 13 peanut-compatible synthetic allotetraploids and 12 cultivars for possible sources of resistance to ELS and LLS. Different components of resistance were measured: incubation period, lesion number and percent diseased leaf area (DLA). Results showed several wild relatives of peanut and synthetic allotetraploids have resistance to ELS and LLS that can be used as donors in breeding program. This study also aimed to introgress wild type alleles with disease resistance to cultivated peanut. Crosses were performed using an advanced line (IAC 321), and a cultivated peanut variety Bailey, both with different segments of *Arachis cardenasii* in order to pyramidize resistance to the foliar diseases. True hybrids were identified using KASP markers and they will be used for backcrosses. We envisage that the development of advanced lines with disease various disease resistance segments will provide long term protection to these fungal diseases.