

Viewing and Characterizing Haustoria of *Nothopassalora personata* *In Vivo*

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Nothopassalora personata is the fungal causative agent of late leaf spot in peanut and causes premature defoliation if not controlled. *N. personata* is a hemi-biotroph that uses specialized hyphae called haustoria to take nutrients from the plant cells during the biotrophic phase. The following method was developed to characterize haustoria *in vivo*. Late leaf spot lesions up to 3mm wide were cut from infected leaves and soaked in 10% KOH for one hour to remove the waxy cuticle. Sections were transferred to Visikol Optimal Clearing Agent for Plant Biology, a chloral hydrate alternative, and placed in a 37°C water bath overnight or until cleared. After clearing, tissues were transferred to Lactophenol Cotton Blue stain, and placed in a 37°C water bath for 15 minutes. Tissues were destained using two one-minute water washes prior to microscopic observation. Haustoria were visible at 400X on the lower surface of all lesion sizes observed, occurring on all sides of the lesion near the necrotic edge. This method provides a simple way to observe haustoria associated with lower epidermal cells of peanut leaves. Efforts to compare haustoria production for peanut genotypes with different levels of late leaf spot resistant are underway.