

Dispersal of *Nothopassalora personata* from an inoculum source

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Late leaf spot, caused by *Nothopassalora personata*, is the most economically important fungal foliar disease of peanut (*Arachis hypogaea* L.) in South Carolina. Inoculum is spread by wind and rain and is believed to be able to travel over many kilometers. The objectives of this study were to evaluate the dispersal of *N. personata* inoculum using spore traps positioned at 4, 10, 30, 50 and 70 m from three infected peanut fields in SC and to examine this data for relationships with weather data. Stainless steel rods were coated in vacuum grease and were collected at 48, 96, and 168 hours on a weekly interval from July to October. Crude DNA extraction and qPCR using *N. personata*-specific primers were performed on all samples, with individual rods (i.e. subsamples) assessed separately. Cycle threshold (ct) values were recorded and log transformed to estimate spore counts. Weather data was collected from Edisto REC and Barnwell Regional weather stations. Detection incidence and spore quantity were analyzed using generalized linear mixed model with location as a random effect. Correlation between weather events and incidence of detection was examined.

N. personata was detected in early August through the end of the growing season in October. There was detection at each distance, with greater quantities of spores collected at traps placed at 4 and 10 m from inoculum source ($P = 0.0433$). Spore quantities from the three locations were fit to exponential growth models ($P < 0.0001$). Detection incidence and log spore quantities correlated with wind speed ($P = 0.0002$ and $P < 0.0001$, respectively) and air temperature ($P = 0.0032$ and $P = 0.0018$, respectively).