

## Phenotyping *Phytophthora syringae*

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*Phytophthora syringae* is an economically important plant pathogen that affects ornamental plants and fruit trees. When *P. syringae* infects a host it leads to discoloration on leaves, which makes the host unsellable for nurseries. The economic impact on nurseries prompted more research into the characterization of *Phytophthora syringae*, where little is known about its genotypic or phenotypic diversity. Common phenotypic traits used to characterize *Phytophthora* are fungicide sensitivity and the effect of temperature on growth rate. Fungicide sensitivity was determined by growing isolates on 5 different concentrations of metalaxyl fungicide, with experimental controls. Mycelial growth measurements were taken six days after inoculation. Growth rate for *P. syringae* was determined by placing isolates in growth chambers set at 5 different temperatures: 5, 10, 18, 23, and 25 °C. Mycelial growth measurements were performed 4, 6, and 8 days after inoculation. Observed growth rates were compared among treatments to characterize phenotypic diversity among isolates. In order to infer associations among phenotypic traits and genotypic variants, a secondary objective, was conducted by purification of total genomic DNA for genotyping-by-sequencing (GBS). Presently, a total of 14 isolates have been submitted for genotyping where the results will be used to perform a genome-wide association study. Making the connection between genotype and phenotype allows us to better understand the biology of this relatively understudied pathogen.

