Samples are fundamental units of science. Data and information from samples are used to interpret and make inferences about the world. Despite the importance of samples, the justification for sampling is not always stated in published literature. The absence of descriptions of sampling elicits several questions: why, what, and how should one sample; and what are the consequences of sampling on inference? The impacts of sampling are especially consequential in plant pathology where sampling can affect the detection of pathogens and inferences about pathosystems. For example, the impacts of planetary scale sampling on detection of *Pseudomonas syringae* has uncovered diverse habitats (1, 6, 18), populations with unique life history characteristics (9, 10, 18, 19, 20), and insights into the evolution, emergence, and pathogenesis of *P. syringae* (21). Additionally, the impacts of sampling different genomic regions of *Sclerotinia sclerotiorum* on inference about reproduction has generated evidence of clonal reproduction when certain genomic regions are sampled (13, 15, 2, 7, 16, 14, 11) and outcrossing when microsatellite markers are sampled (3, 4, 5, 8, 12, 17, 22). Hence, review of the impacts of sampling on detection and inference about plant pathogens illustrates the importance of sampling in science.
References


