Predicting the Potential for Establishment of *Phytophthora ramorum* in the Oak Forests of the North Central States in the USA

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The movement of nursery stock provides a means of transporting *Phytophthora ramorum* into new locations of the USA, including the North Central region. Susceptible hosts and favorable climate conditions are required for subsequent establishment of the pathogen. Since susceptible hosts grow in this region, this study focuses on predicting the area of establishment *of P. ramorum* based on climate conditions. Two methods using the climate-analysis software CLIMEX are used to measure the suitability of temperature and moisture for establishment *of P. ramorum* in the North Central states. The first method compares the similarity of climates in areas with and without disease. Disease presence/absence was determined from records provided by Maggi Kelly (UC Berkeley) and NAPIS database (http://ceris.purdue.edu/napis/). The percentage of maximum similarity results are then displayed using a mapping program (ARC-View, ver. 8.3). The second method generates an index based on modeling fungal physiological growth and survival responses (from published literature) to climate variables that occur in different geographic areas. Because these predications are based on different data sources, their complimentary information identifies areas most at risk for *P. ramorum* establishment. Where the predictions from the two models give conflicting results, there is a high level of uncertainty.