Mechanisms Underlying Differences in Inoculum Production by *Phytophthora Ramorum* in Mixed-Evergreen Versus Tanoak-Redwood Forest in California

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Timing of inoculum production by *Phytophthora ramorum* occurs later in mixed-evergreen as opposed to tanoak-redwood forest in California. This lag may be due, in part, to a greater decrease in the inoculum reservoir in bay laurel (*Umbellularia californica*) leaves, the main source of inoculum, during the hot, dry summer months in mixed-evergreen forest. In the following experiments, we focused on the mechanisms underlying this phenomenon. Using detached leaf inoculations, we compared the susceptibility of the bay laurel populations and the aggressiveness of the corresponding pathogen populations between the two forest types. Although no difference in percent leaf area affected was observed between bay laurel populations, lesion size was significantly smaller on leaves from mixed-evergreen forest regardless of origin of isolates, suggesting the potential for a smaller source of primary inoculum in this ecosystem. We also estimated chlamydospore production on or inside inoculated and naturally infected leaves from both forest types using clearing techniques. Surprisingly, chlamydospore production was zero in over 98% of inoculated leaves, and there was no conclusive evidence of chlamydospore presence in naturally infected bay leaves from either site. Summer measurements suggested that bay laurel leaves from mixed-evergreen forest have significantly lower moisture content and water potential than bay laurel leaves from tanoak-redwood forest. Further studies are planned to address the influence of tree water potential on survival of *P. ramorum* in bay laurel leaves.