

Quantitative resistance to *Phytophthora ramorum* in tanoak

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Tanoak (*Lithocarpus densiflora*) is among the hosts most heavily impacted by sudden oak death; individual sites show up to 70% of tanoak infected, with correspondingly high mortalities. However, patches of healthy tanoak are often observed immediately adjacent to patches with heavy mortality, suggesting that there may be variability for resistance in the system. We report on a preliminary study of resistance to infection by *Phytophthora ramorum* within a single tanoak population. Sixty saplings grown from acorns collected in Six Rivers National Forest were inoculated using both standard underbark inoculations and a wounding leaf inoculation. There was significant variability in lesion size among individuals for both techniques, and stem lesion area was positively correlated with leaf lesion area. Further, there was a significant block effect, whereby trees in south-facing rows of the lathehouse had smaller lesions than those in north-facing rows. This effect was less pronounced for the leaf assay. We conclude that there is variability in resistance to *P. ramorum* within tanoak populations, and that leaf inoculations provide a convenient and easily replicated assay for resistance.