

Converting Biology Into Regulations: U.S. *Phytophthora ramorum* Quarantine as a Case Study¹

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Abstract

Regulation of *Phytophthora ramorum*, cause of sudden oak death and other diseases, has resulted in endless challenges for regulators, and the forest and nursery industries in the United States. This paper outlines the process used to design U.S. *P. ramorum* quarantines and explores some of the biological paradoxes presented by having to develop regulations for a recently discovered pathogen. Disregard for Koch's postulates, limitations of PCR and cultural diagnostic techniques, the perils of basing rules purely on published literature, and the precautionary principle are discussed. The current status of U.S. and California regulations are compared to demonstrate the difficulties of limiting pathogen spread using generally accepted regulatory processes. The economic and social impacts of the U.S. *P. ramorum* quarantine are also presented along with suggested steps to improve quarantine procedures.

Key words: *Phytophthora ramorum*, sudden oak death, quarantine policy

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