

# Nursery Cultural Practices and Physiological State of Nursery Stock on Susceptibility to *Phytophthora* Species, including *P. ramorum*<sup>1</sup>

Steven J. Scheuerell<sup>2</sup>, Robert G. Linderman<sup>3</sup>, Niklaus J. Grunwald<sup>3</sup>, and E. Anne Davis<sup>3</sup>

## Abstract

The physiological state of nursery stock can be altered by nursery cultural practices, particularly fertilization. Fertilization practices influence plant growth rate and tissue nutrient concentrations throughout the growing season, which in turn influences the susceptibility of plants to infection by pathogens. Experiments using rhododendron and lilac are underway to relate infection by *Phytophthora* spp., including *P. ramorum*, to increasing concentrations of soil-applied and foliar nitrogen, iron, and silica. Other experiments are planned to assess how leaf age and tissue nutrient concentration affect the susceptibility to infection (by *P. ramorum*) by performing detached leaf assays on material collected from commercial nurseries over the growing season. In addition, compost-amended potting medium and compost teas will be tested for the biological control of root and foliar infection caused by *Phytophthora* spp., including *P. ramorum*.

*Key words:* *Phytophthora ramorum*, fertilization

---

<sup>1</sup>An abstract of a poster presented at the Sudden Oak Death Second Science Symposium: The State of Our Knowledge, January 18 to 21, 2005, Monterey, California.

<sup>2</sup>Department of Botany and Plant Pathology, Oregon State University, Corvallis, Oregon 97331, scheuers@evergreen.edu

<sup>3</sup>USDA-ARS Horticultural Crops Research Laboratory, 3420 NW Orchard Avenue, Corvallis, Oregon 97331.