The Relationship of *Phytophthora ramorum* lineages and Fungicide Resistance

Olivia Lorenz[1,3], Sydney Everhart[1] and Niklaus Grünwald[2]

[1] Department of Botany and Plant Pathology, Oregon State University, Corvallis, OR

[2] Horticultural Crops Research Unit, USDA ARS, Corvallis, OR

lorenzo@onid.orst.edu [3]

Phytophthora ramorum is an oomycete that is the cause of the recent outbreak of the disease known as Sudden Oak Death. Sudden Oak Death is found in both nurseries and forests causing leaf and shoot blight as well as lethal bole cankers. *P. ramorum* has a wide host range with the potential to infest nurseries and devastate forests worldwide. Metalaxyl is a fungicide originally produced to target *P. infestans,* but has suffered from the development of resistance in some pathogen populations. Our project involves inoculating *P. ramorum* cultures on media containing various concentrations of metalaxyl (0, 0.01, 0.1, 1.0, 10, and 100 ppm). By doing so, we are examining which strains or lineages (if any) may be resistant to this fungicide. With this knowledge, we hope to determine which lineages of *P. ramorum* (NA1, NA2, EU1, and EU2) show resistance so that we may continue to work on developing systems for management of *P. ramorum*.