

**2008 APS CENTENNIAL MEETING  
MINNEAPOLIS CONVENTION CENTER, MINNEAPOLIS, MN  
JULY 26-30, 2008**

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**Nagle, A.M.; Garbelotto, M.; and Bonello, P. 2008. Differences in constitutive and induced expression of two phenolic compounds in coast live oaks susceptible and resistant to infection by *Phytophthora ramorum*. *Phytopathology* 98:S111.**

*Phytophthora ramorum* is the causal agent of sudden oak death (SOD), a devastating disease of tanoaks and oaks in California and Oregon. Apparent resistance to infection by *P. ramorum* in coast live oak (CLO) has been observed in natural populations and in laboratory inoculation trials. No practical controls for this disease are available, therefore characterization of natural resistance is highly desirable. In a preliminary test, we used HPLC analysis to evaluate branch phloem phenolic profiles for CLO's previously identified as relatively susceptible (S) (N = 4) or resistant (R) (N = 5) to *P. ramorum*. Separate sets of branches from the same trees were wound-inoculated with *P. ramorum*. Two compounds, identified as tyrosol and catechin, were present in constitutively higher amounts in R than in S trees, but due to the low replication the differences were not significant. However, a significant overall negative correlation was found between lesion length and tyrosol concentration ( $r = -0.667$ ,  $N = 9$ ,  $P = 0.026$ ). These preliminary findings may be important in establishment of chemical biomarkers, which has great significance in applications such as screening of oak germplasm for resistance to SOD. Follow-up studies in different seasons and with trees exhibiting prolonged resistance in the field under high disease pressure are planned.