



# CALIFORNIA STATE SCIENCE FAIR 2010 PROJECT SUMMARY

<b>Name(s)</b> <b>Claire Barnes; Nettie Mitchell-Brudnick; Brittany Whitehill</b>	<b>Project Number</b> <b>S2002</b>
<b>Project Title</b> <b>Sudden Oak Death</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of our project is to determine if abiotic factors at different altitudes affect the concentration of <i>Phytophthora ramorum</i> by monitoring abiotic factors and the progression of Sudden Oak Death. We want to know if the variation in abiotic factors at different altitudes affects the spread or concentration of <i>Phytophthora ramorum</i>. We hypothesize that at lower altitudes, there will be higher soil moisture, and therefore higher chance of Sudden Oak Death infection.</p> <p><b>Methods/Materials</b> Our project requires a Vernier Lab Quest, soil moisture sensor, light sensor, relative humidity sensor, GPS, and stadia rod. To collect data, we plug in the sensors into the Lab Quest. We then collect data from the centers of our sub plots by inserting the soil moisture sensor into the ground, holding the Relative humidity and Light sensors so that the Light sensor is vertical, and recording the readings given. Using this data, we will try to ascertain any correlation between these abiotic factors and the progression of Sudden Oak Death.</p> <p><b>Results</b> Our data do not show any strong correlations between the abiotic factors of soil moisture, illumination, relative humidity, or altitude against the percentage of infected trees in our plot.</p> <p><b>Conclusions/Discussion</b> We have concluded that our data is not yet numerous enough to show any concrete correlation. We plan to continue monitoring and we think that with more data, we will find a more concrete correlation to exhibit the impact of abiotic factors on the concentration of <i>Phytophthora ramorum</i>. We would like to thank Michael Loik, Jane Orbuch, and Vernier.</p>	
<b>Summary Statement</b> Our project was to monitor the effects of abiotic factors on the concentration of Sudden Oak Death.	
<b>Help Received</b> Prof. Michael Loik of UCSC helped identify trees displaying clear symptoms of <i>Phytophthora ramorum</i> infection.	