



**CALIFORNIA STATE SCIENCE FAIR  
2005 PROJECT SUMMARY**

<b>Name(s)</b> <b>Rachel N. Martinez</b>	<b>Project Number</b> <b>S1316</b>
<b>Project Title</b> <b>Is There a Relationship Between the Disease Severity and the Actual Fungus Titer of the Inoculated Lettuce Plants?</b>	
<b>Abstract</b> <b>Objectives/Goals</b> I'm trying to figure out if there is a relationship between the disease severity of the fungus, Verticillium dahliae, on the inoculated lettuce plants compared to the actual fungus titer of the plants. My hypothesis is that there is a relationship between the disease severity and the actual fungus titer of the inoculated lettuce plants. I think that the higher the level on the disease severity scale the more fungus that plant actually has. <b>Methods/Materials</b> The materials I will be using are as follows:40 inoculated lettuce plants(12 post inoculated),5 inoculated lettuce plants, petridishes, micro pipets , diH2O,scale(fresh weight),PDA (potatodextroseagar),refrigerator, plastic tubes, mortar, pestle, gloves, spatula/spreader, microscope, water & bucket ,and a colony counter, Using these materials I first washed the lettuce plant's roots , cut off the foliage, then labeled them. I then weighed the roots. I cut off all of the linear roots , then I ground up each tap root with 1 ml of diH2O. After each root was ground I added 4 more ml of diH2O. Then using a micro pipet I took 1 ml of each tap root mixture and placed it into plastic tubes. I then made dilutions of each mixture. I spread 250 micro liters aliquots of each dilution onto PDA plates. I waited 4 days to count the colonies of Verticillium dahliae. I will then compare the colonies of Verticillium dahliae to the disease severity score I originally made. <b>Results</b> I found that there was a relationship.The relationship was there but I couldn't tell if there was a great one or barely there <b>Conclusions/Discussion</b> I found that there was a relationship between the two. If I tested more inoculated lettuce plants the relationship would be more clear/	
<b>Summary Statement</b> It is about finding a relationship between disease severity and the fungus titer.	
<b>Help Received</b> Dr.Gary Vallad guided me through my project.I also used the USDA lab in Salinas, California.	