



**CALIFORNIA STATE SCIENCE FAIR  
2006 PROJECT SUMMARY**

<b>Name(s)</b> <b>Sarine G. Shahmirian</b>	<b>Project Number</b> <b>J1330</b>
<b>Project Title</b> <b>Dandelions vs. Antibiotics</b>	
<b>Abstract</b>	
<b>Objectives/Goals</b> The purpose of my experiment was to determine if dandelion roots and dandelion capsules are as effective as certain antibiotics, such as Penicillin, Erythromycin, and Tetracycline in killing <i>E. coli</i> and <i>Serratia marcescens</i> .	
<b>Methods/Materials</b> <i>E. coli</i> and <i>S. marcescens</i> bacteria were cultured in six Petri dishes each, which contained tryptic soy agar with 5% sheep's blood. The dishes were left in an incubator for 48 hours at 37 degrees C. In four different containers, 250 mg capsules of the three antibiotics and the dandelion were dissolved in distilled water. The dandelion roots were processed and mixed with an equal amount of distilled water in the fifth container. The sixth container of distilled water was used as the control. These six substances were applied to the 12 Petri dishes and left in the incubator for 48 hours. The area of inhibition in each dish was compared to that of the pre-treatment and estimated. This experiment had three trials.	
<b>Results</b> The average effectiveness of the Dandelion roots on the <i>E. coli</i> was 85 %, and on the <i>S. marcescens</i> , was 75 %. For the Dandelion capsule the average effectiveness on the <i>E. coli</i> was 95 %, and on the <i>S. marcescens</i> , it was 85 %, while the three antibiotics showed effectiveness that was less than or comparable to the dandelion roots and the dandelion capsule.	
<b>Conclusions/Discussion</b> The results showed that my hypothesis was correct, and dandelion roots are as effective as those antibiotics in killing the bacteria.	
<b>Summary Statement</b> My experiment was to determine if dandelion roots and dandelion capsules are as effective as certain antibiotics, such as Penicillin, Erythromycin, and Tetracycline in killing <i>E. coli</i> and <i>Serratia marcescens</i> .	
<b>Help Received</b> My parents helped me order materials and prepare the graphs.	