



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) Erin L. Lowry	Project Number J1316
Project Title Does Garlic Inhibit the Growth of Oral Bacteria?	
Objectives/Goals My objective is to determine if garlic inhibits the growth of oral bacteria.	
Abstract Methods/Materials Two procedures were performed. For the first procedure, saliva samples were collected from 3 people and mixed with nutrient agar. Two test disks dipped in garlic were placed on each of the test subjects' saliva inoculated agar and incubated for 72 hours at about 95 degrees. The areas of inhibition of bacterial growth were measured and compared to test disks dipped in distilled water. For the second procedure, sterile tongue depressors covered with the test subjects' saliva were placed on nutrient agar that had been mixed with garlic and on plain nutrient agar for comparison. The colonies of bacterial growth on the garlic agar were counted, measured, and compared to the colonies of bacteria on the plain nutrient agar. Three trials were done for each procedure.	
Results For the first procedure, 5 of 6 test disks dipped in garlic oil showed increased oral bacterial growth while only 1 showed an area of inhibition. Two of the six disks dipped in distilled water showed increased bacterial growth and none showed inhibition. For the second procedure, there was more bacterial colony growth in the petri dishes containing agar that had been mixed with garlic powder than in the petri dishes with the plain nutrient agar. The two procedures consistently showed that garlic did not inhibit the growth of oral bacteria, and instead increased the growth of oral bacteria.	
Conclusions/Discussion My hypothesis, based on the fact that garlic is thought to be antibacterial, is incorrect. The data suggest that garlic does not inhibit the growth of oral bacteria, instead it increases the growth of oral bacteria in some cases. Garlic is used to treat some diseases, but my conclusion suggests that people who eat a lot of garlic are not less likely to have gum disease or cavities than people who don't eat a lot of garlic.	
Summary Statement My project is a study of the effects of garlic on oral bacteria.	
Help Received My mother and father were two of my tests subjects; My mother helped type my report; My father helped build the incubator; My mother and father took pictures of me doing the procedure.	