



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

Name(s) Saachi Jhandi	Project Number J1605
Project Title Garlic Keeps Bacteria Away	
Abstract Objectives/Goals The objective is to determine if raw garlic or boiled garlic is more effective in inhibiting the growth of E. coli. Methods/Materials Four test tubes containing 10 ml of milk each were used. One of the test tubes was left with only 10 ml of milk in it as a control. 0.5 ml of E. coli in broth was added to the three other test tubes. One of the test tubes with 10 ml of milk and 0.5ml of E.coli in broth was kept as a second control. In one of the remaining two test tubes raw garlic extract was added, and in the second test tube boiled garlic extract was added. The test tubes were allowed to incubate for 12 hours. After incubation, the contents of the test tubes were transferred to four petri dishes prepared with blood agar. The growth of the E. coli was observed and measured using a ruler everyday for a span of 5 days. Results The raw garlic was more effective than the boiled garlic in inhibiting the growth of E. coli. The petri dish that was inoculated with the E. coli and raw garlic mixture showed no bacterial growth throughout the duration of the experiment. The petri dish that was inoculated with the E. coli and boiled garlic mixture grew 8 centimeters over the course of 5 days. The petri dish that was inoculated with mixture of milk and E. coli grew 10 cm; petri dish that was inoculated with milk alone did not show any bacterial growth. Conclusions/Discussion My conclusion is that both boiled garlic and raw garlic inhibit the growth of E. coli, although raw garlic is more effective. The way in which a home remedy is prepared does affect the way it performs. In the case of garlic and E. coli, the way in which the remedy was prepared played a key roll in suppressing bacterial growth.	
Summary Statement The bacteriostatic effect of raw garlic extract was compared to boiled garlic extract, I found that raw garlic extract suppresses the growth of E. coli better than boiled garlic extract.	
Help Received Parents helped proof read and took pictures. Uncle helped in getting E. coli specimen.	