California Science Center

CALIFORNIA STATE SCIENCE FAIR
2001 PROJECT SUMMARY

Your Name (List all student names if multiple authors.)

Aneetha Ramadas

Science Fair Use Only

S1216

Project Title (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9)

Thank Goodness for...Garlic Breath? A Study of Garlic and Bacterial Inhibition

Division

_ Junior (6-8) _X_ Senior (9-12)

Preferred Category (See page 5 for descriptions.)

12 - Microbiology

Abstract (Include Objective, Methods, Results, Conclusion. See samples on page 14.)

Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges.

Objective: The objective of my experiment was to find out if garlic has antibacterial properties, and if these properties are affected by heating or elapsed time.

Materials and Methods: Different strengths of garlic juice in distilled water were made at 0 percent garlic juice (control), 25 percent, 50 percent, 75 percent, and 100 percent garlic juice. Two batches of these solutions were made. One batch was left at room temperature and one was heated. Paper discs soaked in these solutions were placed in agar plates cultured with E. coli. Two plates were cultured for each strength, and each plate had three discs. The plates were incubated for twenty-four hours, removed, and any inhibition of bacterial growth was recorded. The plates were incubated for another twenty-four hours, removed, and observations were recorded again.

Results: The garlic juice inhibited bacterial growth. The zone of inhibition increased in correspondence with the strength of garlic juice. Heating the garlic juice did not affect its inhibitory action. Results remained unchanged at forty-eight hours.

Conclusion: Garlic juice does demonstrate bacterial inhibitory properties, which do not seem to be affected by heating or a short period of elapsed time.

Summary Statement (In one sentence, state what your project is about.)

The purpose of my project was to see if garlic inhibits bacterial growth in vitro.

Help Received in Doing Project (e.g. Mother helped type report; Neighbor helped wire board; Used lab equipment at university X under the supervision of Dr. Y; Participant in NSF Young Scholars Program) See Display Regulation #8 on page 4.

Used lab equipment at Los Robles Hospital under the supervision of Ms. Kay Johnson, Microbiology supervisor