CALIFORNIA STATE SCIENCE FAIR
2017 PROJECT SUMMARY

Name(s)
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Project Number
J1712

Project Title
Allicin vs. Escherichia coli: The Antimicrobial Properties of Garlic

Abstract

Objectives/Goals
The objective of this experiment is to determine if garlic is effective as an antimicrobial against E. coli bacteria.

Methods/Materials
The antimicrobial properties of garlic was compared to other agents after 20 petri dishes of E. coli culture obtained from a biological supply company were treated with garlic, mouthwash, bleach, hand sanitizer, and/or milk. The petri dishes were observed for five days for changes in culture. 60-day post hoc observations included.

Results
The microbial concentrations of 16 petri dishes treated with other agents were compared to the microbial concentration of 4 petri dishes treated with garlic. The antimicrobial performance of garlic was shown to be more effective in deterring or inhibiting microbial growth.

Conclusions/Discussion
The performance of garlic as an antimicrobial was more effective than that of other agents. This means garlic can provide a reasonable alternative to commercial antimicrobial agents.

Summary Statement
I showed that garlic is effective as an antimicrobial agent against E. coli.

Help Received
My father helped set up and maintain controls on the cultured samples.