CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY

Name(s)
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Project Number
J0410

Project Title
Enteric Mystery

Abstract

Objectives/Goals
My goal was to find out whether enteric bacteria could be differentiated by biochemical tests. Since enteric bacteria cannot be differentiated by their physical characteristics or their morphology, I thought that they could maybe be differentiated by their chemical characteristics.

Methods/Materials
I used four different types of enteric bacteria. These were C. freundii, S. liquefaciens, E. coli, E. aerogenes, and an unknown bacteria. My teacher/advisor provided me with these. The unknown bacteria was one of the other four cultures of bacteria. I wanted to see if I could find out what the unknown bacteria was by using four tests. These were the citrate utilization test, the hydrogen sulfide production test, the Vogues-Prosauker test, and the Methyl red test.

Results
After reading the tests, I found that the unknown bacteria was E. coli. I found that enteric bacteria can be told apart by biochemical testing.

Conclusions/Discussion
I learned that biochemical testing is very important when trying to identify a new species of bacteria. If a new type of bacteria is found and it cannot be classified by its morphology or the Gram-stain Method, it can most likely be classified by its chemical characteristics.

Summary Statement
I wanted to see whether enteric bacteria could be differentiated by biochemical tests.

Help Received
My teacher provided me with the bacteria