CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY

Name(s)
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Project Number
J1305

Project Title
Beleaguered Beef: Guess What's Coming to Dinner?

Abstract

Objectives/Goals
The objective was to determine whether or not there is a difference between naturally grown ground beef and standard ground beef in terms of antibiotic additives. I hypothesized that the standard ground beef would show usage of antibiotic additives while the naturally grown ground beef would not.

Methods/Materials
I swabbed five agar dishes with the juice from standard and natural ground beef. The standard ground beef types were Porter's Premium and Raley's. The natural ground beef types were Coleman Natural, Whole Foods lean, and Whole Foods leanest. Additionally, I used one agar dish as a control, in which I did not swab it with the variable. I then incubated all six agar plates over a period of five days. From the growth of bacteria on each agar plate, I concluded whether or not antibiotics were used.

Results
In terms of percentage of bacterial growth covering the agar plates, the naturally grown ground beefs averaged 31 percent of their entire agar plates. Next, the standard ground beefs averaged 30 percent. Finally, the control averaged 20 percent. At times the some of the naturally grown ground beefs cultured fewer amounts of bacteria than some of the standard ground beefs. I attribute this to the fact that there is usually more effective sanitation in natural beef factories than in standard ones.

Conclusions/Discussion
My hypothesis was proven correct in that the naturally grown ground beefs cultured more bacteria because they had little or no antibiotic additives. Reversely, the standard ground beefs cultured less bacteria because of the presence of antibiotic additives. As much research states, antibiotic additives in meat are dangerous and should be prohibited. When humans consume this meat they risk health problems and possibly even death. My investigation proves that it is much healthier to eat naturally grown ground beef than standard ground beef. Therefore this finding could be very benefical to the public.

Summary Statement
My purpose it is find whether or not there is a difference between naturally grown ground beef and standard ground beef in terms of antibiotic additives.

Help Received
Mother checked my report for any errors