CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY

Name(s)
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Project Number
J1805

Project Title
Are Herbal Remedies as Effective as Commonly Prescribed Antibiotics against Bacteria?

Abstract

Objectives/Goals
To determine if dandelion roots and/or peppermint leaves are as effective in fighting E.coli as erythromycin and penicillin. I believed that the man-made antibiotics would be more effective.

Methods/Materials
I put E. coli in ten Petri dishes(two for each independent variable)and incubated them for 48 hours to allow the bacteria to grow. I recorded my results and then added the antibiotics and herbs. The control was distilled water. All test samples were incubated for 48 hours. To get the final results bacterial colonies were counted, measured, averaged and recorded.

Results
The average size of a bacterial colony before inoculation for dandelion root was 23 mm, for peppermint 35 mm, for erythromycin 21 mm, for penicillin 16 mm and for distilled water 35 mm. After inoculation the average colony size for dandelion root was 5 mm, for peppermint 2 mm, for erythromycin 2 mm, for penicillin 5 mm, and for distilled water 4 mm. The greatest difference in size of bacterial colony before and after inoculation was with the peppermint test sample.

Conclusions/Discussion
I think my hypothesis was incorrect because peppermint is proven to help inner stomach and intestine problems. Therefore it would work better against E. coli. The man-made antibiotics are not necessarily proven to cure those specific problems. Peppermint worked the best.

Summary Statement
My project was finding the most effective treatment for killing E. coli , whether a natural or man-made remedy.

Help Received
Dad helped wire incubator. Mom held test samples while I measured results.