CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY

Name(s)
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Project Number
J1424

Project Title
Tipsy Worms

Abstract

Objectives/Goals
I think that alcohol, which is a central nervous system (CNS) depressant in humans, will also have a depressant effect on worms. I wanted to design a simple bioassay to test this.

Methods/Materials
Groups of 10 night crawlers each were dipped for 30 seconds in 0%, 2.5%, 5%, 7.5%, 10%, or 13% ethanol solutions made with vodka.The time it took each member of each group to bury themselves completely in loose potting soil was measured. A lamp was placed over the soil to encourage them to bury themselves.

Results
There was little or no difference between average burrowing time in the in the 0%, 2.5%, and 5% alcohol groups. The burrowing time increased linearly in the 7.5%, 10%, and 13% groups.

Conclusions/Discussion
i conclude that alcohol impairs the CNS in worms just as it does in humans, leading to a decrease in coordination and longer burrowing times. This is a simple and inexpensive bioassay for CNS depressants.

Summary Statement
My project showed that ethanol has a CNS depressant effect on worms.

Help Received
My father helped me measure the burrowing time and showed me how to graph the results in Excel. My mother helped me paste up my display board.