CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY

Name(s)
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Project Number
J1713

Project Title
Drunken Ants

Abstract

Objectives/Goals
My objective is to see how far apart a drunken ant's trail will move in width (in millimeters) as opposed to a
sober ant's trail.

Methods/Materials
At 3:30 each day, I will put out a cap full of sugar water in the center of an ant trail. Within the time period of one hour, the ants will be swarming around the cap, drinking the sugar water. After this has happened, I will put a drop or two of a certain type alcohol (depending on the trial) into the cap. The ants will not notice and will drink some of the alcohol, thereby causing them to become drunk.
I will be using the following types of alcohol:
5% alcohol, beer
13% alcohol, wine
40% alcohol,

Results
The 13% alcohol (wine) appeared to have the greatest effect, spreading the trail 130mm apart as opposed to only
20mm (this is the control width)
The beer caused the trail to move 120mm apart, while the rum only spread the trail 60mm apart.

Conclusions/Discussion
The Hypothesis was not supported.

I believe that the wine had the greatest effect as it was not too strong (where the ants could possibly sense the alcohol) nor too light (where there simply was not enough alcohol content to deliver a strong change). The project could have been better. The test was done only with Argentinean ants in one location (my front/backyard). Also, the sugar content in the alcohol could have been a cause for ants to visit the cap and drink more than usual. I was also pressed for time, as each trial took one day.

Summary Statement
Ants will become drunk by use of a complex strategy, and the results will explain what amount of alcohol content/type can widen an ant's trail the most in millimeters.

Help Received
Father bought alcohol, helped take pictures and help with printing the board. My science teacher specified that the ants would not be able to notice the alcohol.