CALIFORNIA SCIENCE & ENGINEERING FAIR
2018 PROJECT SUMMARY

Name(s)
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Project Number
38699

Project Title
The Effectiveness of Different Caffeinated Liquids in Killing Termites

Abstract

Objectives/Goals
The experiment was conducted to investigate the effect of different caffeinated liquids on the lifespan of termites. This project is very unique because many people throughout the world are looking for a cheaper, effective, and environmentally safe way to kill termites. This project provides an excellent alternative to harmful pesticides. One can use caffeinated liquids such as coffee or Redbull to get rid of termites instead of spending large amounts of money for extermination. In the future, other caffeinated liquids will be tried on a wider variety of household pests.

Methods/Materials
For this experiment, 100 termites, 15 ml of Redbull, Coke, and coffee, and 10m Petri dishes were used Wear protective gloves to avoid getting bit by the termites. I used the brush to make a circle of caffeine around the Petri Dish. Then I placed two termites in each Petri Dish.

Results
Results indicated that Redbull killed termites the fastest (1.75 hrs). Coffee killed termites in 3.42 hrs, and Coke was the least effective (5.04 hrs).

Conclusions/Discussion
The objective of the experiment was to test the effect of different caffeinated liquids (Coke, Redbull, and coffee) on the lifespan of termites. Results indicated that Redbull killed termites the fastest (1.75 hrs). Coffee killed termites in 3.42 hrs, and Coke was the least effective (5.04 hrs). It was interesting to observe that higher the caffeine levels, the sooner the termites died. Redbull was the most effective and the hypothesis was proved to be correct. A qualitative observation was that some termites started becoming hyper-active after exposure to caffeine. Others got a shock and died. There were a couple of factors that might have affected the experiment. For example, some termites did not move toward the caffeine as fast as some other termites did. This may have been because they were not hungry, therefore they were not tempted to move toward the caffeine. Also, some termites were larger than others. As a result, the bigger termites might have had higher endurance levels which may have affected how long it took for them to die. In future, the effectiveness of caffeine on different household pests would be tested. Different dosages of caffeinated liquids will be tried to find the minimum dosage necessary to kill other household pests.

Summary Statement
My project is about seeing how long it will take fro termites to die after in contact with different dosages of caffeine.

Help Received
I did the project my self. My teacher, Kavitha Satya helped me come up with the idea.