CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY

Name(s)
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Project Number
29108

Project Title
Comparing the Effectiveness of Indigenous Plant Extracts as a Pesticide for Inhibiting Mosquito Larvae Development

Abstract

Objectives/Goals
The purpose of my science project is to determine if indigenous plant extracts will inhibit mosquito larvae development. The reason I am doing this investigation is to determine if it is really necessary to use pesticides made with harmful chemicals. Nobody enjoys being bit by mosquitos, but is it really safe for our environment to use so many synthetic chemicals?

Methods/Materials
For my control test I will place 10 mosquito larvae in a container filled with water. For my next group I will place 10 mosquito larvae in a container with a mixture of 5% test substance to 95% water. For my last test group I will place 10 mosquito larvae in a container with a mixture of 15% test substance and 85% water. I will repeat the steps with each of my test substances; oleander, chrysanthemum, and eucalyptus extracts. Each test will consist of 10 trials. I will observe and record how long it takes for the mosquito larvae to die.

Results
The solution of 15% Chrysanthemum to 85% water was the most effective, killing 100% of the mosquito larvae. The solution of 5% chrysanthemum to 95% water was also very effective killing 96% of the mosquito larvae. The solution of 15% oleander to 85% water killed only 21% of the mosquito larvae. The 5% oleander to 95% water killed only 33% of mosquito larvae. The 15% eucalyptus to 85% water solution killed only 27% of the mosquito larvae. The 5% eucalyptus to 95% water solution killed only 27% of mosquito larvae.

Conclusions/Discussion
After completing my science project I found that my hypotheses were incorrect. My hypotheses stated that oleander would kill the most mosquito larvae, while chysanthemum would kill a limited amount and finally that eucalyptus would not kill any mosquito larvae. While all the substances did eventually kill the mosquito larvae, the chrysanthemum solutions were the most effective in the shortest amount of time.

Summary Statement
This project is to determine if it is possible to control the mosquito population by killing the larvae with local indigenous plant extracts.

Help Received
Rory D. Mcabee, M.S. provided mosquito larvae and mosquito information;Carl Gong helped with experimental flow chart; My mom helped type my written work and photograph the experiment.