



CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY

Name(s) Karley J.K. Lassley	Project Number S1722
--	---------------------------------------

Project Title
Which Indigenous Plant Extract Will Inhibit Mosquito Larvae Development While Maintaining a Healthy Aquatic Ecosystem?

Abstract

Objectives/Goals
The purpose of my science project is to determine which indigenous plant extract will inhibit mosquito larvae development while maintaining a healthy ecosystem. In my last science project I proved that the chrysanthemum plant did in fact work as a pesticide for mosquito larvae, yet it also killed the frog eggs. My goal is to find a plant extract that is effective as a safe solution to killing mosquito larvae without harming the ponds ecosystem.

Methods/Materials
In the control test I will place 10 mosquito larvae and 10 frog eggs in 10 clear containers filled with pond water.
In the next set of containers I will place 10 mosquito larvae, 10 frog eggs to pond water, and a 5% solution of Oleander extract. I will observe and record how long it takes for the mosquito larvae to die and for the frog egg hatch rate. I will repeat test using chrysanthemum extract. 10 trials of each.

MOSQUITO LARVAE MEASURING CUP
AQUATIC HEATERS FROG EGGS
OLEANDER PLANT CAMERA
POND TEST STRIPS BLENDER
STORAGE CONTAINERS PLASIC CUPS
CHRYSANTHEMUM PLANT PLASTIC BOWL
CHEESE CLOTH SOLUTION DROPPER
WATER POND WATER

Results
Unfortunately both oleander and chrysanthemum would not be safe for the other aquatic life in ponds, nor would they allow for safe pH and nitrate levels. However, of the two chrysanthemum did prove to be the safest.

Conclusions/Discussion
After completing my project, I have found my hypothesis for chrysanthemum was partly correct. I believed that the chrysanthemum extract would kill the most larvae, be safer for aquatic life, and have less of an effect on the pH and nitrate levels of pond water than oleander. Although both were an effective pesticide on mosquito larvae, neither allowed the frog eggs to hatch. also both substances negatively affected the pH balance and nitrate levels.

Summary Statement
My goal is to find a plant extract that is an effective solution to killing mosquito larvae, without harming the ponds ecosystem.

Help Received
help with typing