CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY

Name(s)
Anne Huang; Morgan Phung

Project Number
J1413

Project Title
Can Detergent or Acidity Control the Mosquito Population?

Abstract

Objectives/Goals
Mosquitoes carry deadly diseases, like West Nile Virus and malaria. Proper control of mosquitoes will reduce these diseases.

Immediate Purpose: To determine if changing the pH value or adding detergent to still H(2)O can control the mosquito population.

Ultimate Purpose: To reduce the number of mosquito-borne diseases quickly, efficiently, and environmentally-safely.

Methods/Materials
METHOD:

1) Make 10 ideal mosquito habitats (100 ml) and arrange them into 2 equal groups.
2) Each group has 1 bowl for each pH value: 5.0, 6.0, 7.0, 8.0, and 9.0. To reach these different pH values, add enough HCl or NaOH and measure pH values using the pH meter.
3) In 1 group, each bowl has 1 drop of detergent.
4) Place habitats outside. Build a "waterproof shelter" to protect the experiment.
5) Observe number of mosquitoes/mosquito larvae every day, for at least 2 weeks .

Results
The results were inconclusive because no mosquitoes or mosquito larvae were found.

Conclusions/Discussion
The hypothesis, by adding trace amounts of environmentally-friendly detergent or by changing the pH value to still H(2)O, mosquitoes will be attracted and killed, was inconclusive. Because of the absence of data, it is not possible to conclude whether the hypothesis was supported or refuted. Possible explanations for the lack of data include: the timing (winter vs. summer), the duration, the size of the habitats, and the location of the experiment.

Summary Statement
The purpose of this project is to test whether detergent or acidity can control the mosquito population.

Help Received
Anne's dad helped by letting us use his lab to change the pH values to the water.