



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

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Project Title
Will Eucalyptus Oil Be More Effective in Killing Mosquito Larvae than Insecticide?

Abstract

Objectives/Goals
My Goal was to find a way to kill mosquito larvae with a more natural substance.

Methods/Materials
40 drops of Eucalyptus oil; 40 granules of Bayer Advanced Garden Mosquito Preventer; 1,200 Mosquito Larvae; 60 Petri dishes; rubber gloves; mask; goggles; eyedropper; piece of screen; 1 gallon of Distilled water; measuring cup.

Results
The result of my investigation on the toxicity level of eucalyptus oil vs. mosquito preventer insecticide indicates that the eucalyptus oil is more effective.
Eucalyptus Oil 1 Drop: In 9 out of 10 Petri dishes 100% of all the larvae died. In 1 of the dishes 19 out of 20 larvae died. Eucalyptus Oil 3 Drops: In 10 out of 10 dishes 100% of all the larvae died. Control for eucalyptus oil: Out of all 10 dishes 11 mosquito larvae died.
Insecticide 1 Granule: In 3 out of 10 dishes there was 100% dead. Then only 8 larvae survived out of the remaining 7 dishes. Insecticide 3 Granules: In 9 out of 10 dishes 100% of the larvae died. In 1 of the dishes 9 out of 10 larvae survived. Control for insecticide: Out of all 10 dishes 10 larvae died.

Conclusions/Discussion
After completing my investigation on determining if eucalyptus oil will work better at killing mosquito larvae than insecticide; I found that my hypothesis was correct. My hypothesis stated that the eucalyptus oil will work better than the mosquito preventer insecticide.
My results stated that the eucalyptus in the 3 drop dishes worked 100%. The lowest result was the 1 granule of mosquito preventer insecticide with 96%. One observation I made was that after just 10 minutes the 3 drop eucalyptus oil had killed more than half of the larvae.
I learned a lot from my research about mosquitoes for example they hatch from egg rafts and they have 4 different stages to their life cycle. First of all they start out as an egg, move to a larvae, change into a pupae, and finally develop into an adult. I learned that eucalyptus oil is one of koala bears favorite snacks. Also that eucalyptus oil is used in many tooth pastes. I also learned that the insecticide is a crystal and is suppose to dissolve in the insects stomach and destroy their stomach and kill them.
In conclusion the eucalyptus oil would be a lot better thing to spray where larvae is. I was very surprised about the insecticide not working as well as it says in my research. First of all it is safer, and secondly it works better.

Summary Statement
My project is about find a more natural substance to kill mosquito larva.

Help Received
Selma Mosquito Abiment District supplied the mosquito larvae; Mrs. Wright helped go over paper work; Mom helped put board together.