CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY

Name(s)
Charlie J. Hughes

Project Number
J2110

Project Title
Analyzing the Accuracies of Natural vs. Chemical Mosquito Repellents When Mixed with Paint

Abstract

Objectives/Goals
The purpose of my investigation was to find a safe way to repel mosquitoes from laying their eggs in horses' water troughs. I tested this by mixing catnip extract with paint and painting it onto fence rails. I then compared the results to the quotation markHome Defense,the quotation mark a chemical mosquito repellent.

Methods/Materials
For my experiment, I used plexi-glass sheets, dowel rods, paint, catnip extract, the quotation markHome Defensethe quotation mark repellent, and 250 mosquitoes. I created a Mosquito Containment Apparatus with the plexi-glass sheets, and created fence like replicas from the dowel rods. I then made two mixtures with paint: a catnip mixture and a the quotation markHome Defensethe quotation mark mixture. I then painted the mixtures onto the fences and, comparing them to my control, determined which mixture most efficiently repelled the mosquitoes.

Results
The results of my experiment showed that my control trials had an average of 28 non-repelled mosquitoes, my the quotation markHome Defensethe quotation mark trials had an average of 11 non-repelled mosquitoes, and my catnip trials had an average of 13 non-repelled mosquitoes.

Conclusions/Discussion
From my experiment, I learned that both a the quotation markHome Defensethe quotation mark mixture and a catnip mixture can be very effective in repelling mosquitoes when mixed with paint. The catnip mixture, though much safer for use around horses, is not quite as effective as the the quotation markHome Defensethe quotation mark mixture. Both mixtures. however, were very accurate in repelling the mosquitoes in comparison to my control trials.

Summary Statement
I chose to do this project because I wanted to find a safe and effective way to lower the risk or West Nile virus on horses.

Help Received
Rory McAbee, a specialist at the Mosquito Control and Research Laboratory, provided the 250 mosquitoes. Chieko Delgado, a local artist, helped with the layout of my board. Carrie Given and Jewely Lopez-Lickey, science teachers, supervised my experimental trials.