CALIFORNIA SCIENCE & ENGINEERING FAIR
2018 PROJECT SUMMARY

Name(s)

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Project Number

38217

Project Title

How Can We Effectively Repel Ticks with Natural Compounds?

Abstract

Objectives/Goals

The purpose of our experiment is to find a more effective natural repellent for ticks in California or the world by reducing the amount of Lyme disease and Rocky Mountain Fever through this repellent. The current repellents include DEET which is harmful to the environment and Essential Oils that are expensive.

Methods/Materials

Our materials were water, lemongrass essential oil, vinegar, ice plant, geranium essential oil, pine needles, Tupperware, spray-bottle, and at least two different ticks: preferably at least one American Dog Tick and at least One Blacklegged Tick. We tested the effectiveness of the repellents by seeing how the ticks initially interacted with the natural repellents.

Results

Blended Ice Plant, Blended Pine Needles, and a combination of Lemongrass Essential Oil and Vinegar, were the most effective at repelling both the Blacklegged Tick as well as the American Dog Tick.

Conclusions/Discussion

In conclusion, by incorporating Ice Plant and Pine Needles into our bug repellents, we can get rid of an invasive species and improve people's health at the same time while keeping costs low.

Summary Statement

As measured by our experiment, the American Dog and Black-Legged ticks are repelled by, blended ice plant, blended pine needles, and a combination of lemongrass essential oil and vinegar.

Help Received

We#d like to acknowledge Mr. Alex Hoffsteen, who guided us through this project, gave us resources and supported us in times of need. Dr. Fred Watson, a biologist from CSUMB who took time out of his life to give us information. We contacted Dr. Fred Watson through email.