



CALIFORNIA STATE SCIENCE FAIR 2017 PROJECT SUMMARY

Name(s) Japnoor Kaur	Project Number J2210
Project Title Comparing Peppers and Store-Bought Products as Mosquito Repellents	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of this study is to determine whether various store-bought products or various peppers are more effective in repelling mosquitoes. I believe that one of the store-bought products will be the most effective in repelling mosquitoes when compared to the other repellents.</p> <p>Methods/Materials Various repellents, a bin, cups, mosquito larvae, an attractant, and window screen were the main materials used in this project. Once these materials were gathered, I first created my attractant, and then I distributed this attractant evenly amongst 9 cups for every trial. After that, I sprayed a different repellent into each cup of attractant, and I also placed the mosquito larvae into a separate cup that had water in it. Once all of these cups were in the bin, I glued window screen onto the top edges of the bin so that all the exits were blocked. These bins were left alone so that the mosquitoes could hatch. These procedures were repeated 10 times because 10 trials were performed.</p> <p>Results When the results from all the trials were added up and distinguished into categories, I found that pepper repellents attracted 39 percent fewer mosquitoes than store-bought repellents, and the control attracted 14 percent less mosquitoes than the pepper repellents. When the results from all the trials were added up and the products were compared individually, black pepper attracted 2 less mosquitoes than Sawyer Fisherman's Formula Picaridin and 8 less mosquitoes than the control. Repel Lemon Eucalyptus, on the other hand, performed the worst and attracted 22 more mosquitoes than the control.</p> <p>Conclusions/Discussion Again, in this project, I compared peppers and store-bought products as mosquito repellents. I found that the overall category of pepper repellents did better than the store-bought repellents group, but the peppers did not do as well as the control group. Instead, when products were compared individually and not by category, I found that black pepper performed the best- better than the control and any store-bought product. I also found that the worst-performing repellent was a store-bought repellent. This all proves that black pepper is more effective than any other repellent I used, making it a smart alternative to other repellents. This means that instead of using chemical-filled repellents that are store-bought, we can use natural products that are not only more safe, but actually more effective!</p>	
Summary Statement After counting the number of mosquitoes that were attracted to each type of repellent, I found that black pepper is the most efficient mosquito repellent that was used in my project.	
Help Received I did all the experiments, research, and work by myself, but Gary Bye at the Fresno Mosquito Abatement District helped me out by providing me with mosquito larvae and an informational interview.	