



**CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY**

Name(s) Caroline C. Ho	Project Number J2310
Project Title Natural and Effective Ant Repellents	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of my project was to determine which food items repel ants best. I hypothesized that if I introduced horseradish, blue cheese, black pepper, and cinnamon to ants as an obstacle to obtaining honey, the cinnamon would repel the ants best.</p> <p>Methods/Materials First, I measured one teaspoon each of cinnamon, black pepper, blue cheese, and finely chopped horseradish (sliced by my father) and four portions of a teaspoon of honey. Next, I filled four bottle caps (with part of the rim cut off to ensure that ants could reach the honey) with one portion each of honey and placed them outdoors near ants. Then, I spread each test repellent around its own cap. Finally, I recorded how many ants penetrated each repellent barrier to access the honey in a time slot of 10 minutes. The materials I used were a responsible adult, a 1 foot by 3.5 feet outdoor level area containing ants for doing the experiment, a plate for placing the test repellents, a clean cutting board, 4 plastic water bottle caps, scissors, a pencil and notebook to record data, a sharp knife, a teaspoon and tablespoon measurer, four teaspoons of honey, 1 teaspoon each: ground black pepper, cinnamon powder, and blue cheese (block); and horseradish (washed and peeled root).</p> <p>Results The ants were best repelled by the cinnamon, which no ants went near. Black pepper earned an average of 15 ants penetrating it; blue cheese and horseradish each received an average of 50 ants. These results support my hypothesis.</p> <p>Conclusions/Discussion In conclusion, this project shows that ant repellents should include cinnamon, which best repelled the ants; it is humane, environmentally friendly, and not a health hazard, so it can be used around the household without irritating children and as an alternative to pesticides.</p>	
Summary Statement My project was about determining which food item(s) best repelled ants: horseradish, blue cheese, black pepper, or cinnamon.	
Help Received My parents bought the materials and chopped the horseradish, and my science teacher and classmates suggested improvements for my report.	