



**CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY**

Name(s) Margaux E. Jones	Project Number 31611
Project Title The Effect of Natural Household Substances on Deterring Tetramorium caespitum	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of this experiment was to find a safe, natural substance that would successfully repel pavement ants. Because many people are burdened by these pests, an eco-friendly alternative to harsh pesticides is in great need.</p> <p>Methods/Materials Two identical dishes containing 0.2 ml of pure honey were placed outdoors, 2 m from a natural ant colony. Baby powder, mint, coffee grounds, lemon, and vinegar were all tested as repellants. The repellants were spread evenly around the honey. The honey consumed by the ants was recorded by weighing the dish before and after testing. Both dishes, containing the same repellant, were left out at the same time for 24 hours.</p> <p>Results It was discovered that baby powder and coffee grounds both effectively repelled ants, having no honey consumed. Mint had an average of 0.45 grams of honey consumed, lemon had 0.85, and vinegar had 1.1 grams consumed. Without repellant, the ants consumed an average of 0.65 grams in a 24 hour period.</p> <p>Conclusions/Discussion Baby powder and coffee grounds worked best because of their large particles that get stuck to the ants, preventing proper breathing. The main ingredient in baby powder is talc, which can be hazardous to ants. Lemon and vinegar seem to have averages higher than the control because some of the liquid evaporated. Mint was blown away in places by wind, making it less effective. To improve my experiment, I would test for a longer period of time during warmer weather to get a more precise average. The information gained from these tests could be used to create a greener planet.</p>	
Summary Statement This project is about pavement ants and finding eco-friendly substances that naturally repel them without harsh pesticides.	
Help Received Mother checked report grammar; Father showed how to use metric scale.	