



**CALIFORNIA STATE SCIENCE FAIR  
2006 PROJECT SUMMARY**

<b>Name(s)</b> <b>Lacey A. Benefiel</b>	<b>Project Number</b> <b>J1403</b>
<b>Project Title</b> <b>Lethal Concentrations of Environmentally Friendly Jalapeno Pesticides</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The purpose of my science project is to find the smallest concentration of jalapeno pesticide that will still effectively kill the pests within the hour. This project is a continuation from my last year's project, Environmentally Friendly Pesticides, which was to find a natural product that would work similarly to a chemical pesticide, but would not harm the environment. I found that the jalapenos worked most effectively by eliminating the most crickets in a timely fashion. In this year's project, I am trying to find the lowest concentration of this natural pesticide that will still work effectively. This will help the understanding of others who would want to produce this environmentally friendly product in the most economical and efficient way possible.</p> <p><b>Methods/Materials</b> I started out my concentrated pesticide by combining 3 oz. of jalapeños and 250 mL of water. I boiled this for 5 minutes, blended it, and strained out the solids. To set up my habitat for the pests, I placed 2 crickets in each of the 5 plastic storage bins for each trial. In each storage bin, I sprayed 5 full sprays onto each terrarium. To lower the concentration after each trial, I split the concentration in half by pouring out 125 mL of the pesticide and adding 125 mL of water. I continued to reduce the concentration until the pesticide was not effective within the hour. The materials I used while conducting this experiment are 3 jalapenos, 5 small plastic storage bins, 1 plastic spray bottle, a Food Processor, Knife, Cutting Board, Rubber Gloves, Plastic Goggles, Measuring Cup, and 70 crickets.</p> <p><b>Results</b> After performing this experiment, I have found that 3/8 of a jalapeno per 250 mL of water is the smallest measurement of jalapeno pesticide that will still effectively kill more than half the crickets within 1 hour. During my experiment, 6 out of the 10 crickets died within 1 hour. This is the most profitable concentration of the jalapeno pesticide to put on the market for public use.</p> <p><b>Conclusions/Discussion</b> After this experiment, I was able to find a lethal concentration of the jalapeno pesticides. My experiment indicated that a measurement of 3/8 oz. of a jalapeno and 250 mL of water would still effectively kill the pests within 1 hour. In conclusion, 3/8 oz. of a jalapeno and 250 mL of water can kill pests effectively within an hour. This will be useful to any company that would like to produce jalapeno pesticides for public use.</p>	
<b>Summary Statement</b> The goal of my project, Lethal Concentrations of Environmentally Friendly Jalapeno Pesticides, was to find the smallest concentration of jalapeno pesticides that could still effectively kill pests within 1 hour.	
<b>Help Received</b> Mother helped paste up the board; Father helped get the crickets;	