



**CALIFORNIA STATE SCIENCE FAIR  
2002 PROJECT SUMMARY**

<b>Name(s)</b> <b>Kelli M. Kaku</b>	<b>Project Number</b> <b>J1416</b>
<b>Project Title</b> <b>Bioassay of Garlic Extracts on Root-knot Nematodes to Determine the LC50</b>	
<b>Abstract</b> <b>Objectives/Goals</b> My objective was to determine the LC50 of garlic extracts on root-knot nematodes exposed for twenty-four hours. I believe the LC50 of garlic extract will be 10-g/l, because from my previous experiment 20-g/l had 100% mortality. <b>Methods/Materials</b> I extracted root-knot nematodes from 1 liter of soil by sieving the soil and putting it into a mist chamber. I made my garlic extract by cutting up 20 grams of garlic and putting it into a liter of water. I exposed the root-knot nematodes to 20-g/l, 10-g/l, 5-g/l, and untreated water. I checked the mortality after 24 and 48 hours. <b>Results</b> The 20 and the 10-g/l both had 100% mortality. The 5-g/l had 40.3% mortality and the untreated water had 0% mortality. I used log probability paper to estimate the LC50 to be 6.5-g/l. <b>Conclusions/Discussion</b> My conclusion is 6.5-g/l is the approximate LC50 of garlic extract on root-knot nematodes. I need to do more experiments narrowing the concentrations closer to the 6.5 range.	
<b>Summary Statement</b> My project was to determine the LC50 of garlic extracts on root-knot nematodes.	
<b>Help Received</b> Use lab equipment at the Kearny Agricultural Center under the supervision of staff research associate Stephanie Kaku	