



**CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY**

Name(s) Eric M. Machado	Project Number 31459
Project Title The Effect of Acai Berries on Tenebrio molitor Immunity	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of the experiment was to see whether a diet inclusive of acai berries has an effect on the immune system.</p> <p>Methods/Materials This was tested by obtaining six groups of thirty acai berries. Three groups were fed oatmeal and three were fed acai berry powder along with oatmeal. One group of each type of worm, oatmeal-fed and acai-fed, was injected with water, one with E. coli, and one was not injected. The groups of mealworms were then observed for five days and their deaths were recorded.</p> <p>Results After the observation was completed, it was determined that the first two comparisons, the two control groups (no injection), and the two water injected groups, did not show a significant difference in life span. However, the third comparison, between the E. coli injected mealworms, did show a statistical difference. Those that were fed acai berry powder died sooner than those fed just oatmeal, and this comparison produced a p value of .032, which passes the two proportion Z-test.</p> <p>Conclusions/Discussion After this data collection, I determined that the acai berries must have acted as fuel for bacteria growth, hence the shorter life span for those fed acai berry powder. Therefore, acai berries do not increase immunity, but they actually decrease it.</p>	
Summary Statement The project is testing to see whether acai berries improve immunity.	
Help Received A registered nurse injected the mealworms for me.	