



**CALIFORNIA STATE SCIENCE FAIR  
2014 PROJECT SUMMARY**

<b>Name(s)</b> <b>Ryan J. Cantrell</b>	<b>Project Number</b>  34429
<b>Project Title</b> <b>The Intergenerational Effect of Obesity in the Male Fruit Fly</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objectives of this experiment was to see if obesity in the male fruit fly affected the offspring's BMI, and if there was an effect on the offspring, could that effect be passed down throughout future generations.</p> <p><b>Methods/Materials</b> Fruit flies were separated by sex into two vials, one with normal company-grade fruit fly medium, and the other with 70% of the same medium, plus 30% of coconut oil. After one week they were weighed, measured and mated with normal females. The offspring were then raised in normal medium until maturity and then they were weighed and measured. This process was repeated again for another generation.</p> <p><b>Results</b> The experimental males became underweight rather than overweight from the coconut oil medium, however, the experiment was continued with these flies. The experimental group's offspring was found to have a small difference in BMI from the control group in the first generation, and that difference increased in the second generation.</p> <p><b>Conclusions/Discussion</b> The conclusion of this experiment is that a father's low BMI appears to have a genetic effect on the offspring. The influence of the father's BMI may have a different effect on subsequent generations depending on offspring gender.</p>	
<b>Summary Statement</b> This project is testing whether or not the father's BMI at pregnancy affects the following generations' BMI's.	
<b>Help Received</b> Mother helped with knowing the topic and the report, Mrs. Gillum helped me finish my project on time, and Carolina Biological provided materials.	