



**CALIFORNIA STATE SCIENCE FAIR  
2011 PROJECT SUMMARY**

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<b>Project Title</b> <b>Fruit Flies on the Radical Track Age Fast and Die Young</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The objective of this project is to test whether increased amounts of hydrogen peroxide affects the aging process of fruit flies. I hypothesize that the fruit flies with more H <sub>2</sub> O <sub>2</sub> in their food supply will die faster than those with less or no H <sub>2</sub> O <sub>2</sub> in their food supply. <b>Methods/Materials</b> Prepare media (sugar, instant mash, yeast, vinegar) and mix with 0%, 0.5%, 1% and 3% H <sub>2</sub> O <sub>2</sub> respectively. Also, prepare a control group by mixing media with water. Put media and 10 flies in containers and count the number of corpses each day. <b>Results</b> At the end of the experiment flies in groups with more H <sub>2</sub> O <sub>2</sub> died faster than the others. Flies in the 3% H <sub>2</sub> O <sub>2</sub> media lived for an average of 8.63 days, in the 1% H <sub>2</sub> O <sub>2</sub> they lived for an average of 9.46 days, in the 0.5% H <sub>2</sub> O <sub>2</sub> they lived for an average of 14.15 days, and in the control group (0% H <sub>2</sub> O <sub>2</sub> ) they lived for an average of 17.68 days. Also, the lifespan of the flies in the 3% H <sub>2</sub> O <sub>2</sub> media was reduced by 51.18%, for those in the 1% H <sub>2</sub> O <sub>2</sub> by 46.49%, and for those in the 0.5% H <sub>2</sub> O <sub>2</sub> by 19.96%. As to the standard deviation of each group, the control group had a STDV of 1.79, the 0.5% H <sub>2</sub> O <sub>2</sub> group 0.91, the 1% H <sub>2</sub> O <sub>2</sub> group 1.76, and the 3% H <sub>2</sub> O <sub>2</sub> group 0.65. <b>Conclusions/Discussion</b> The results of this experiment agree with my hypothesis, which states that oxygen radicals increase the aging process of fruit flies. However, the lifespan of the flies in my settings turned out to be longer than those stated in other studies. This could be due to the disintegration of H <sub>2</sub> O <sub>2</sub> upon its addition to the media. To overcome this problem I would use another alternative to prepare the media to maintain the desired concentrations of H <sub>2</sub> O <sub>2</sub> .	
<b>Summary Statement</b> The purpose of my project is to determine the effect of oxygen radicals on the aging process of D. melanogaster.	
<b>Help Received</b> Mrs. Lida Gevorkian helped me with my overall project. My mother helped me handle the flies, and my father helped me decorate my poster board.	