



**CALIFORNIA STATE SCIENCE FAIR  
2007 PROJECT SUMMARY**

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| <b>Name(s)</b><br><b>Dana J. Norall</b>   | <b>Project Number</b><br><b>S1910</b> |
| <b>Project Title</b><br><b>Organic vs. Non-Organic Fruit's Effect upon Fruit Fly Reproduction with Implications on Human Health</b>   |                                       |
| <b>Abstract</b><br><b>Objectives/Goals</b><br>The objective of the project was to see if there is a substantial difference on the fruit fly ( <i>Drosophila melanogaster</i> ) reproduction when they eat only organic or non-organic fruit. Additionally, different conditions were tested to see if the pesticide residues were found on the skin of grapes, whether the residues were able to penetrate the skin of the grape, and finally if washing your fruit actually cleans off the pesticides.<br><b>Methods/Materials</b><br>Using small vials I added 2.5 grams of each type of fruit to a number of vials. Then I placed two male and two female flies with each piece of fruit. The flies were monitored every three days by counting the larvae and actual fly stages. This method continued for 30 days that is two full generations and the beginning of the third generation.<br><b>Results</b><br>The organic grape had a considerable positive effect on the fruit fly reproduction before the first 25 days. However if one looks subsequently to the 25-day mark the non-organic fly population boomed while the flies with the organic grape suffered. I believe this is due to the pesticides preserving the grape better than the organic grape. The washing of the grapes had little effect until the grapes were washed for 15 seconds and it molded slightly earlier than the unwashed non-organic grape counterpart.<br><b>Conclusions/Discussion</b><br>My results suggest that organic fruit sustains fruit fly life much better than the non-organic fruit. Additionally, the fifteen-second wash of the grape also had positive impact on the fruit fly reproduction. Although, humans cannot be realistically compared to fruit flies it is important to realize that we know that non-organic fruit has a negative effect upon fruit flies. Why not take the precaution for our health and either buy the expensive organic fruit or take the small amount of time and wash your fruit for at least 15 seconds? |                                       |
| <b>Summary Statement</b><br>I used fruit flies ( <i>Drosophila Melanogaster</i> ) as a bioindicator to find out if there is a health benefit of buying organic fruit over non-organic fruit.  |                                       |
| <b>Help Received</b><br>I used lab equipment under the supervision of Dr. Jay Vavra.  |                                       |