



**CALIFORNIA STATE SCIENCE FAIR  
2006 PROJECT SUMMARY**

<b>Name(s)</b> <b>Barbara A. Shinaver</b>	<b>Project Number</b> <b>S1425</b>
<b>Project Title</b> <b>The Effects of Various Herbal Teas on the Longevity of Drosophila melanogaster</b>	
<b>Objectives/Goals</b> The purpose of my science project is to determine whether herbal teas will affect the longevity of Drosophila Melanogaster (the fruit fly).	
<b>Abstract</b> <b>Methods/Materials</b> I will use five different herbal teas: St. John's Wort, Chamomile Red, Echinacea, Green Tea, and Ginseng. Distilled water will be my control. I will test each tea on groups of fruit flies by mixing dry food with a different tea solution and the control. The tea solutions are prepared by steeping a single tea bag of each tea in three tablespoons of boiled distilled water for one hour. I will combine one teaspoon of dry fruit fly food (Formula 4-24, instant Drosophila medium) with one teaspoon of tea solution. Only distilled water added to the fruit fly food is my control. I will add a pinch of yeast on top of the food in each vial. To each of the vials I will then add ten fruit flies. Each population of ten fruit flies will contain both sexes so that they may reproduce and have a normal life cycle. I will monitor the number of fruit flies remaining alive in each vial on an every other day basis. Every two weeks I will remove only the living adult fruit flies from each vial and transfer them to a new vial with a fresh food mixture consisting of the identical tea solution. After collecting all data, I will perform a statistical analysis to eliminate possibilities that my results were not due to chance alone. In this manner I can compare how long each fruit fly was sustained on each of the teas.	
<b>Results</b> The result of my experiment showed the tea that most promoted the longevity of the fruit flies was Green Tea. When the flies' life was counted, I discovered the flies eating Green Tea lived longer than the others. Ginseng was a close second to Green Tea in its life-prolonging effects on the flies as well as St. John's Wort. Echinacea and Chamomile Red were close to the lifespan of the Control flies. An interesting and unanticipated result that I found was that the second generation of flies, whose parents were raised on the tea-food formula, had a longer lifespan than the generation preceding them. My statistical analysis showed that there was a meaningful difference between some teas and the control.	
<b>Conclusions/Discussion</b> Certain types of herbal teas have an effect on the longevity of fruit flies. Green Tea and Ginseng had the greatest effect on increasing the life span of fruit flies.	
<b>Summary Statement</b> I used a variety of herbal teas to show that there are some teas that can have a life-prolonging effect on the Drosophila Melanogaster.	
<b>Help Received</b> Nathan Whittington gave advice	