



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Barbara A. Shinaver	Project Number S1425
Project Title The Effects of Various Herbal Teas on the Longevity of Drosophila melanogaster	
Objectives/Goals The purpose of my science project is to determine whether herbal teas will affect the longevity of Drosophila Melanogaster (the fruit fly).	
Abstract Methods/Materials 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.	
Results 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.	
Conclusions/Discussion 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.	
Summary Statement 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.	
Help Received Nathan Whittington gave advice	