



**CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY**

Name(s) Barbara A. Shinaver	Project Number J1434
Project Title The Effects of Various Herbal Teas on the Longevity of Drosophila melanogaster	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of my science project was to determine whether various herbal teas would affect the longevity of Drosophila Melanogaster.</p> <p>Methods/Materials I used five different types of herbal teas; Chamomile Red, St. John's Wort, Echinacea, Ginseng, and Green Tea. The tea solutions were prepared by steeping a single tea bag of each tea in three tablespoons of boiled distilled water for one hour. I combined one tablespoon of dry fruit fly food with one tablespoon of my tea solution. My control was boiled distilled water given to the flies in the same manner as my teas. Each mixture of tea solution and dry food was placed in a separate vial. I added a pinch of yeast on top of the food in each vial. To each of the vials I added ten fruit flies. I monitored the number of fruit flies remaining alive in each vial on an every-other-day basis. Every two weeks I removed only the living adult fruit flies from each vial and transferred them to a new vial with a fresh food mixture consisting of the identical tea solution. I repeated this every two weeks until there were no living adult fruit flies from the original ten left. In this manner I compared how long each fruit fly population was sustained on each of the teas.</p> <p>Results The result of my experiment showed that the tea that most promoted the longevity of the fruit flies overall was Green Tea. When the average of the flies' life was counted, I discovered the flies that ate the Green Tea lived days longer than any of the other teas. Ginseng, however, was a close second to Green Tea in its life-prolonging effect. Echinacea and Chamomile Red were very close to the lifespan of the Control flies. One of the most interesting and unanticipated results that I found was that the second generation of flies, whose parents were raised on the tea-food formula had a greater lifespan than the generation that preceded them. For example, while the lifespan of my first batch of fruit flies that were fed Green Tea lived longer than the Control group, on average, their children, who were also fed Green Tea, lived even longer.</p> <p>Conclusions/Discussion Certain types of herbal teas do have an effect on the longevity of the fruit fly. Green Tea and St. John's Wort had the greatest effect on increasing the lifespan of the fruit fly. Echinacea and Chamomile Red did not have a substantial effect on the flies' longevity.</p>	
Summary Statement I used a variety of herbal teas to show that there are some teas that can have a life-prolonging effect on Drosophila Melanogaster.	
Help Received Nathan Whittington; high school science teacher provided flies and equipment.	