



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

Name(s) Melissa M. Holtzen	Project Number S1510
Project Title The Consequences of E. coli Infected Fruit Flies	
Abstract Objectives/Goals My hypothesis is that fruit flies that eat E. coli, and fruit flies that walk directly on E. coli will become contaminated and will be able to spread the bacteria to apples. Methods/Materials I performed a bacterial transformation with E. coli and the pGLO plasmid. Then I infected fruit flies with the transformed E. coli two different ways. I infected the fruit flies internally by putting the E. coli in the flies' food and I infected the flies externally by have them walk directly on E. coli colonies. I sterilized the internally infected fruit flies with ethanol, but did not sterilize the externally contaminated flies. Then I plated them both on an LB/amp/ara agar plate. I put some of the contaminated flies on apples and let them contaminate the apples. I tested the apples b plating them on an LB/amp/ara plate. Results The flies that ate the E. coli and the flies that walked on the E. coli colonies both become contaminated and were able to spread the bacteria to the apples. Conclusions/Discussion The bacteria glowed because of the transformation with the pGLO plasmid. The flies glowed when I plated them on the LB/amp/ara because of the E. coli contamination. The apples glowed on the LB/amp/ara plate because the flies transferred the bacteria either through their feces or larvae or through their external contamination.	
Summary Statement My hypothesis is that fruit flies that eat E. coli, and fruit flies that walk directly on E. coli will become contaminated and will be able to spread the bacteria to fruit.	
Help Received None	