



CALIFORNIA STATE SCIENCE FAIR 2013 PROJECT SUMMARY

Name(s) Claire E. Ha	Project Number S1599
Project Title The Biggest Loser: Silkworm Edition	
Abstract Objectives/Goals The objective of this experiment was to determine whether 4 grams of bacteroidetes, 2 grams of bacteroidetes, or no bacteroidetes causes the most weight loss. My hypothesis was the silkworms consuming 4 grams would lose more weight than the silkworms consuming 2 grams and no bacteroidetes since bacteroidetes cause weight loss. Methods/Materials After I evenly distributed thirty silkworms into fifteen containers by placing two in each container and separating them with dividers, I labeled one side of a container N-1 and the other N-2 (no bacteroidetes 1, no bacteroidetes 2), continuing until N-10. I did the same with the L (low) and the H (high). I weighed each silkworm's initial weight. I cooked the food by boiling and mixing water with the artificial mulberry powder, microwaving, and storing the food in the refrigerator. I cooked two more batches: one with 2 grams of bacteroidetes, and one with 4 grams. I sliced the hardened food into pieces that weigh 0.5 grams and gave a piece of food to each silkworm. The next day, I weighed the silkworms. I cleaned containers by removing the contents, rinsing, and drying the container. I gave one piece of food to each silkworm. For eleven days, I fed, cleaned, and weighed the silkworms. Results The resulting averages illustrated that since Day 1, the silkworms exposed to 4 grams of bacteroidetes gained the most weight, gaining an average of 1.44 grams over the eleven days, the silkworms exposed to 2 grams of bacteroidetes gained the least weight, gaining an average of 1.28 grams, and the silkworms exposed to no bacteroidetes were in between, gaining an average of 1.31 grams. Conclusions/Discussion The data rejects the hypothesis that the silkworms consuming the 4 gram bacteroidetes food will lose more weight than the silkworms consuming the 2 gram food or the no bacteroidetes food since bacteroidetes cause weight loss. Although the amounts of bacteroidetes given to the silkworms were increased this year, the results this year were similar to those of last year: the high bacteroidetes silkworms gained the most weight, the low bacteroidetes silkworms gained the least, and the no bacteroidetes silkworms were in between. The similar results led me to hypothesize that bacteroidetes are most effective if used in moderate amounts rather than excessive amounts.	
Summary Statement The objective of this experiment was to determine whether 4 grams of bacteroidetes, 2 grams of bacteroidetes, or no bacteroidetes causes the most weight loss in silkworms.	
Help Received Mother bought supplies; father helped with graphs; teacher gave feedback.	