

Question: By watering *Brassica rapa* with club soda instead of with tap water over a period of three weeks, we wanted to determine if there was a measurable growth increase in the stem, root, and leaf length?

Hypothesis: Based on the ingredients in club soda, *Brassica rapa* will have a higher growth rate than the control (water).

Results

In this experiment, the *Brassica Rapa* was watered with club soda and measured every day in centimeters for three weeks. After three weeks of measuring the different plants, we determined to keep four of them and eliminate the others. The plants watered with club soda were compared to the plants watered with tap water, which was control. Figure 1 shows the overall growth rate of the plants throughout the three week of our experiment. The data shown in Figure 2 shows the average stem growth between the independent variable (club soda) and the control (tap water) types. The stems of the plants that were watered with club soda were higher than the ones with tap water. The average root length of the control group grew nearly a half of a centimeter more by the end of the experiment, show in Figure 3. The leaf length of the control group also grew more than the plants watered with club soda which is shown in Figure 4. After collecting all the data, the only thing that was grew more than the control was the stem for each plant. All the other things such as the roots and leaves grew less than the control.

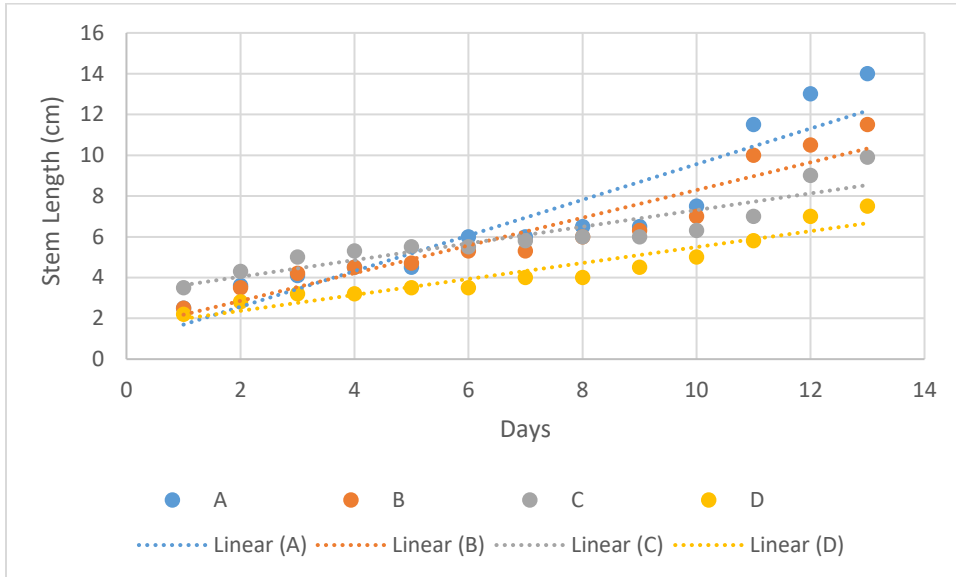


Figure 1. Linear progression of daily stem growth. Data was obtained from four plants of *Brassica rapa* over 13 days. A-D distinguish the plants in each quad.

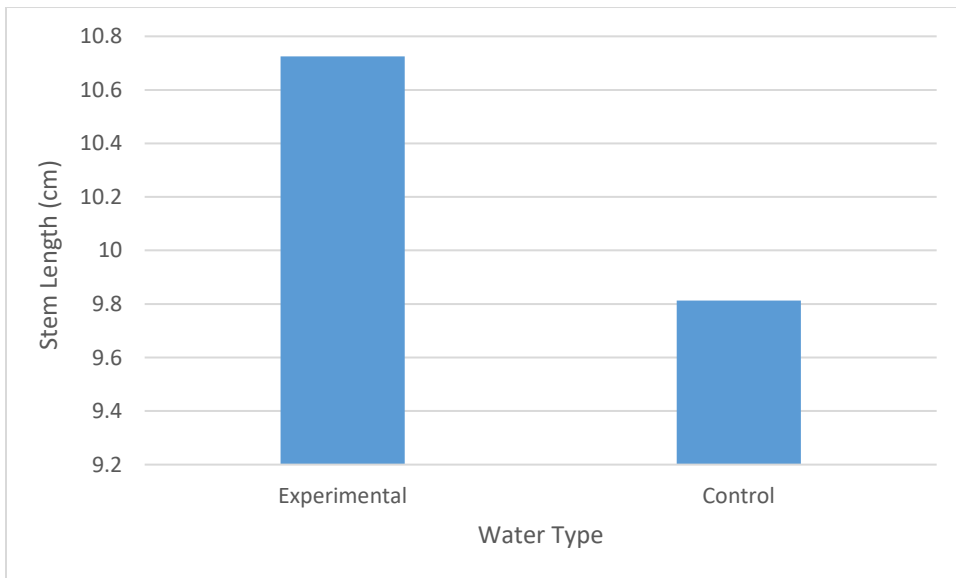


Figure 2. Average stem growth of experimental control. The average stem growth measure by taking the average of the experimental watered by club soda and control watered with tap water.

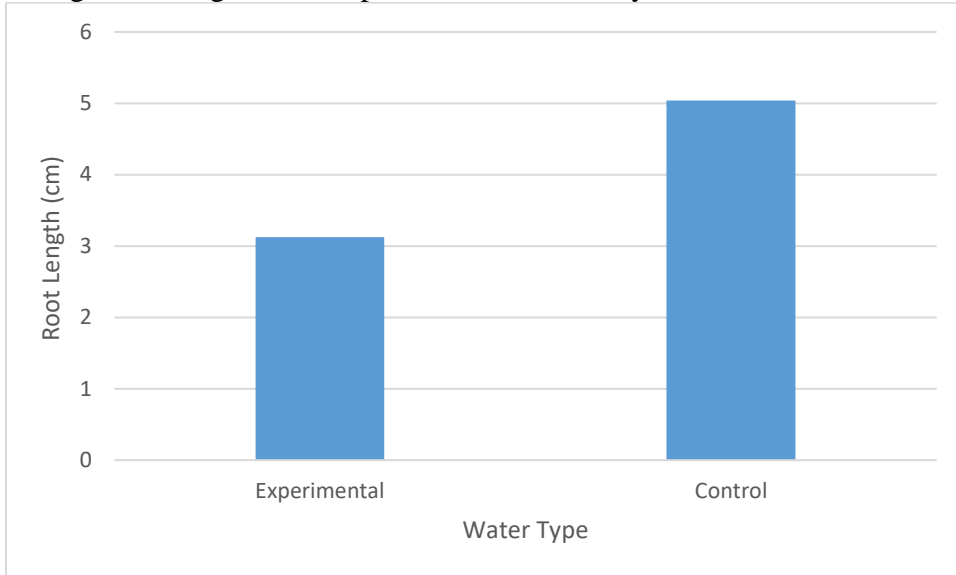


Figure 3. Average root length of experimental vs. control. Data collected from four different plants were averaged out and compared to the control group, which were the plants watered with tap water.

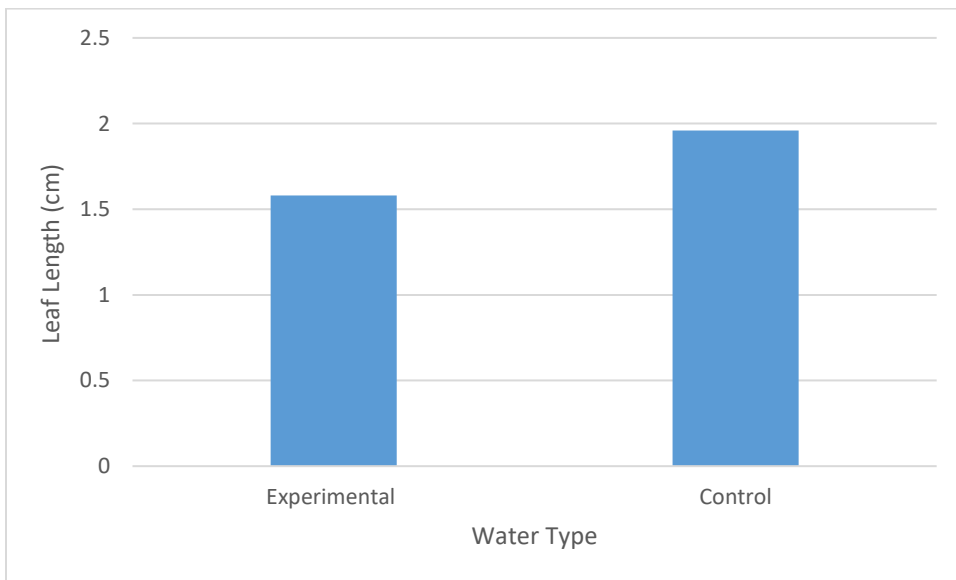


Figure 4. Average leaf length of experimental vs. control Data collected from four different plants group leaves were averaged out and compared to the control group leaves.