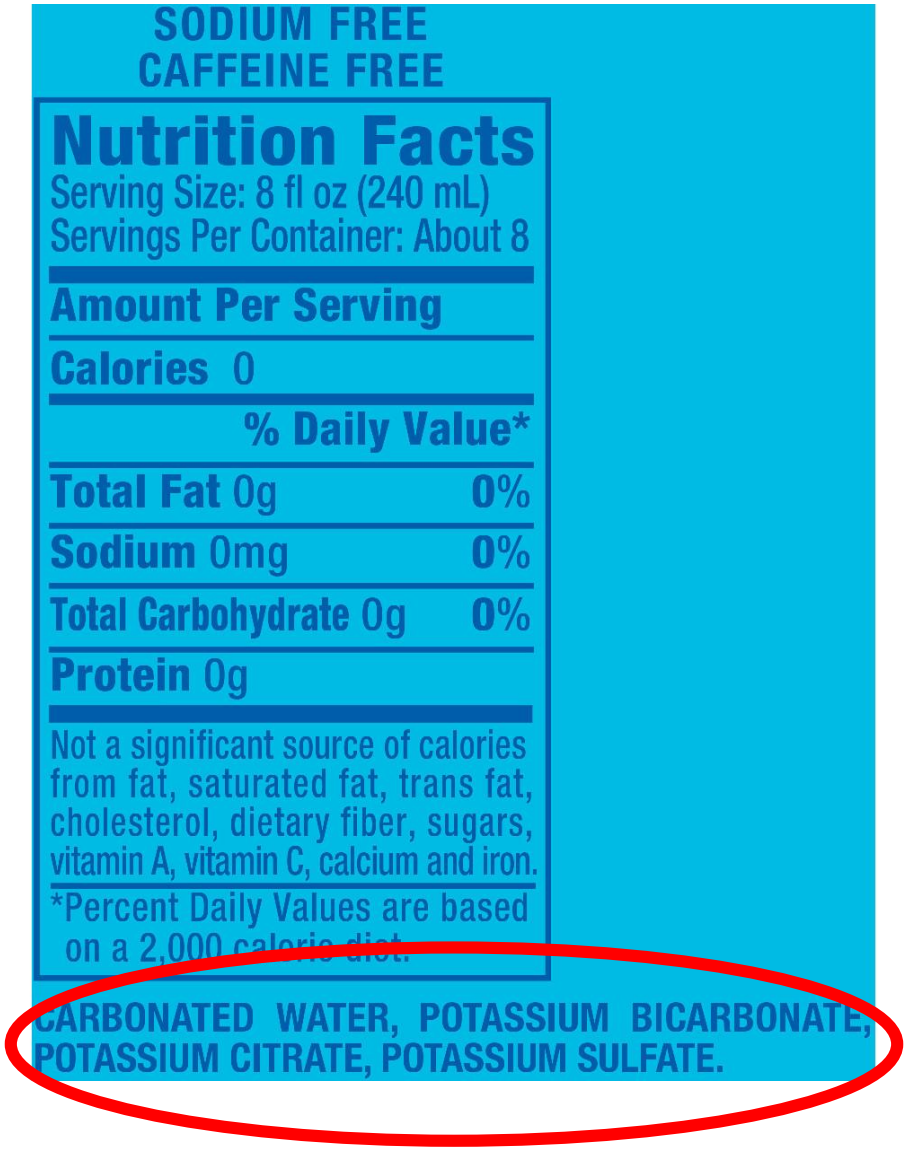
Effects of Club Soda on *Brassica rapa*

By: Hannah Davis & Tyra Nevers


SODIUM FREE
CAFFEINE FREE

Nutrition Facts

Serving Size: 8 fl oz (240 mL)
Servings Per Container: About 8

Amount Per Serving	
Calories 0	
	% Daily Value*
Total Fat 0g	**0%**
Sodium 0mg	**0%**
Total Carbohydrate 0g	**0%**
Protein 0g	

Not a significant source of calories from fat, saturated fat, trans fat, cholesterol, dietary fiber, sugars, vitamin A, vitamin C, calcium and iron.

*Percent Daily Values are based on a 2,000 calorie diet.

CARBONATED WATER, POTASSIUM BICARBONATE, POTASSIUM CITRATE, POTASSIUM SULFATE.

Introduction

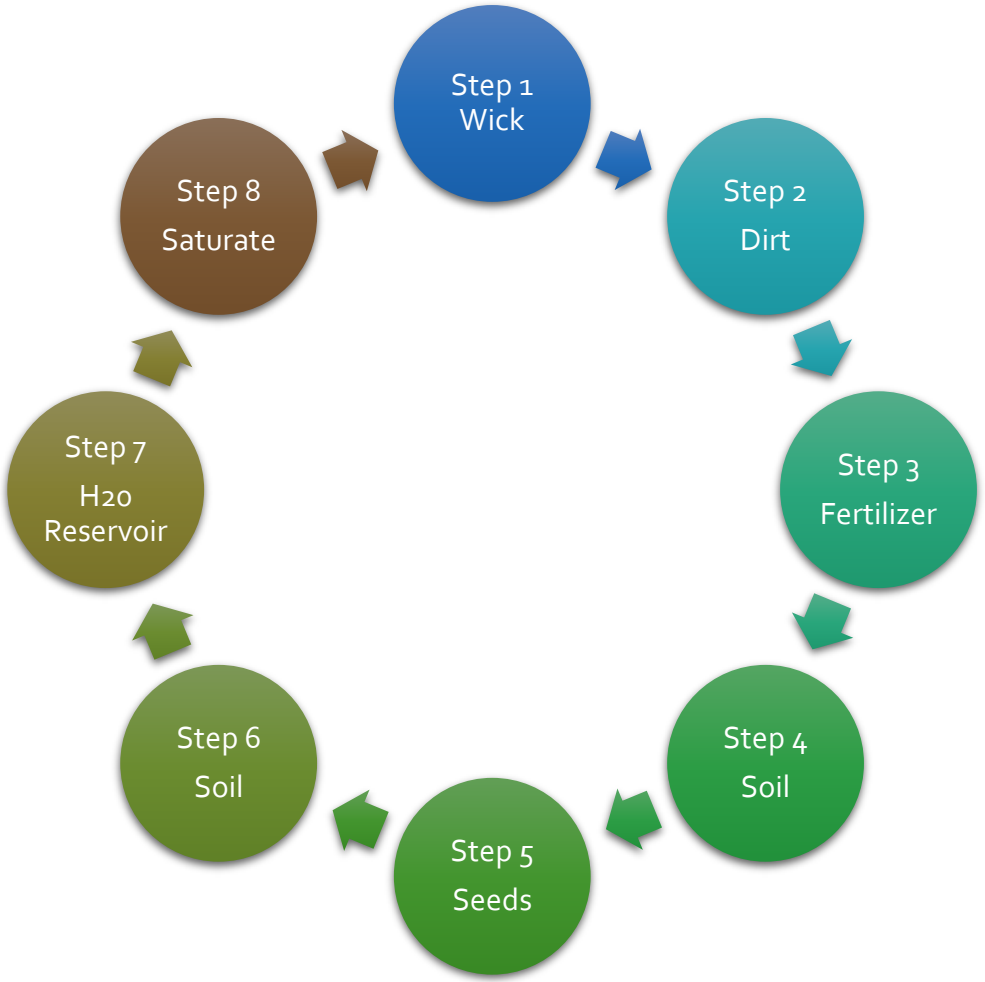
- Background: Club soda contains carbonated water, potassium bicarbonate, potassium citrate, and potassium sulfate which we think would make the *Brassica rapa* grow more.
- We watered plants with club soda to see if it would increase the growth rate of *Brassica rapa* over a 3 week period.

Introduction (cont.)

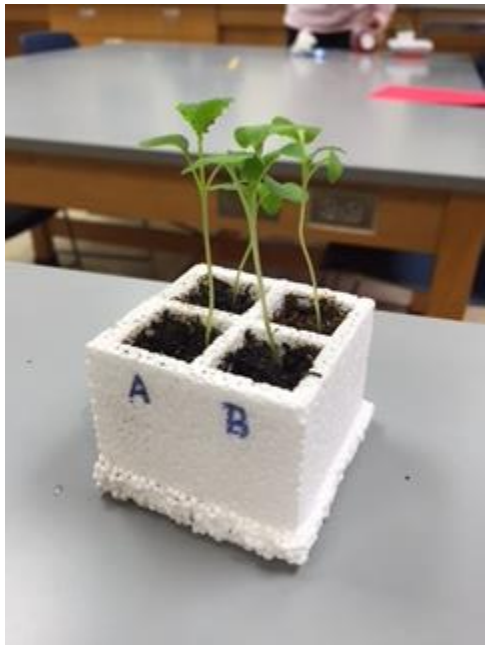
- Question: By watering *Brassica rapa* with club soda instead of with tap water over a period of three weeks, we wanted to determine if there was a measurable growth increase in the stem, root, and leaf length?
- Hypothesis: Based on the ingredients in club soda, *Brassica rapa* will have a higher growth rate than the control (water).

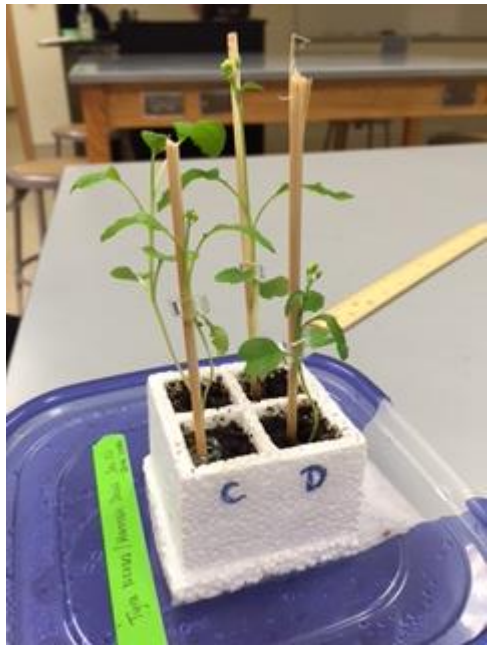
Materials & Methods

- Preparation:
  - 1 Bottle Commercial Club Soda
  - Wisconsin Fast Plants™ Kit
- Followed standard Wisconsin Fast Plants™ setup
- Germinated with club soda
  - Contains: carbonated water, potassium bicarbonate, potassium citrate potassium sulfate.

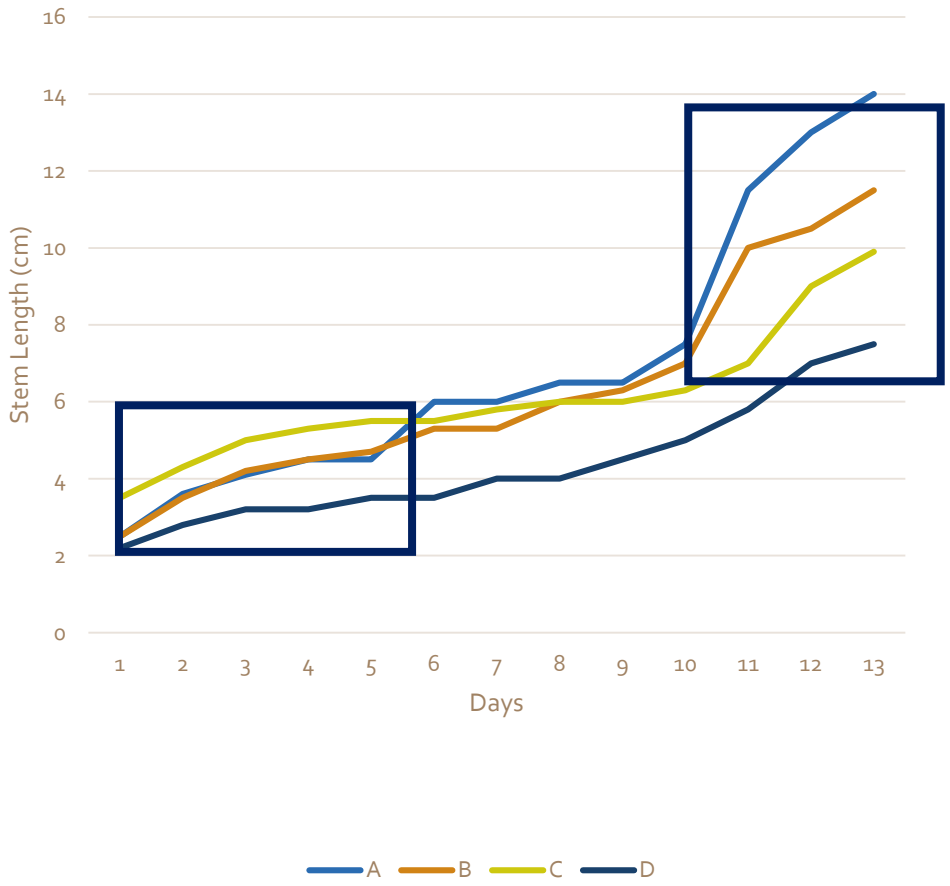


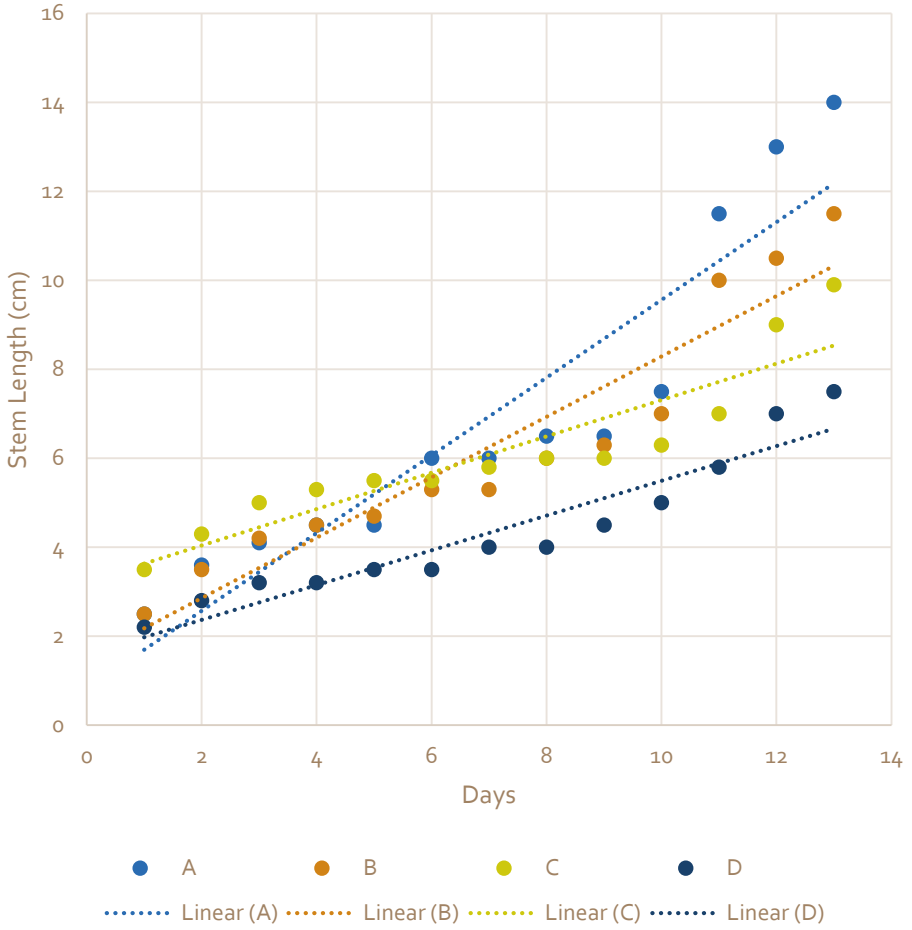
Experimental Analysis



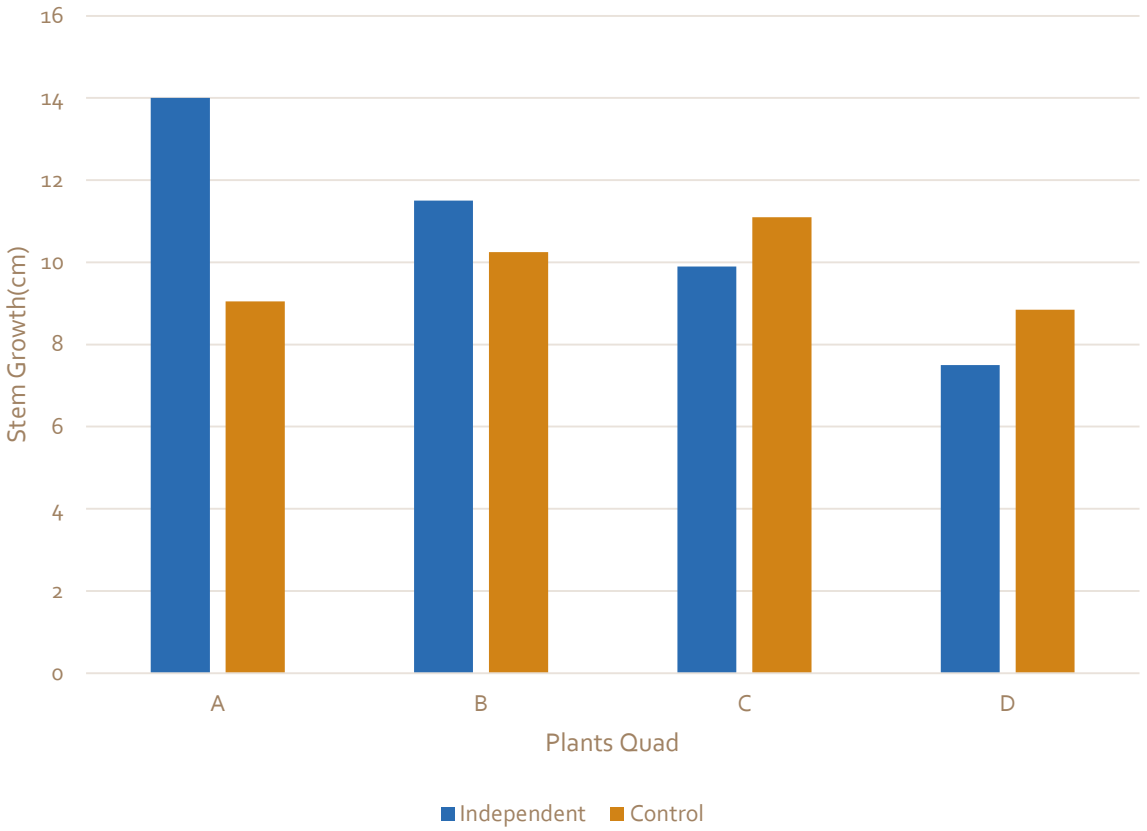


Stem Growth Rate

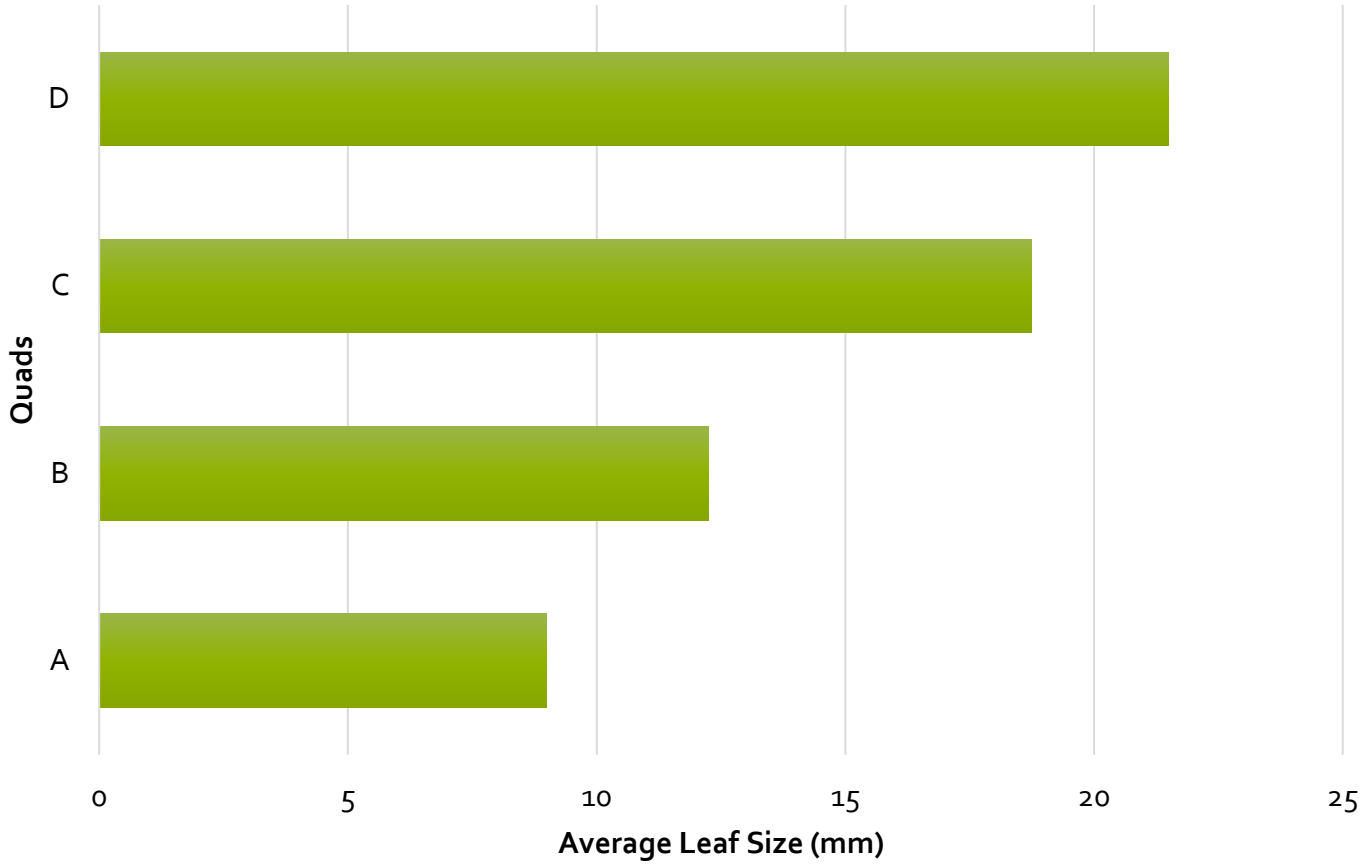




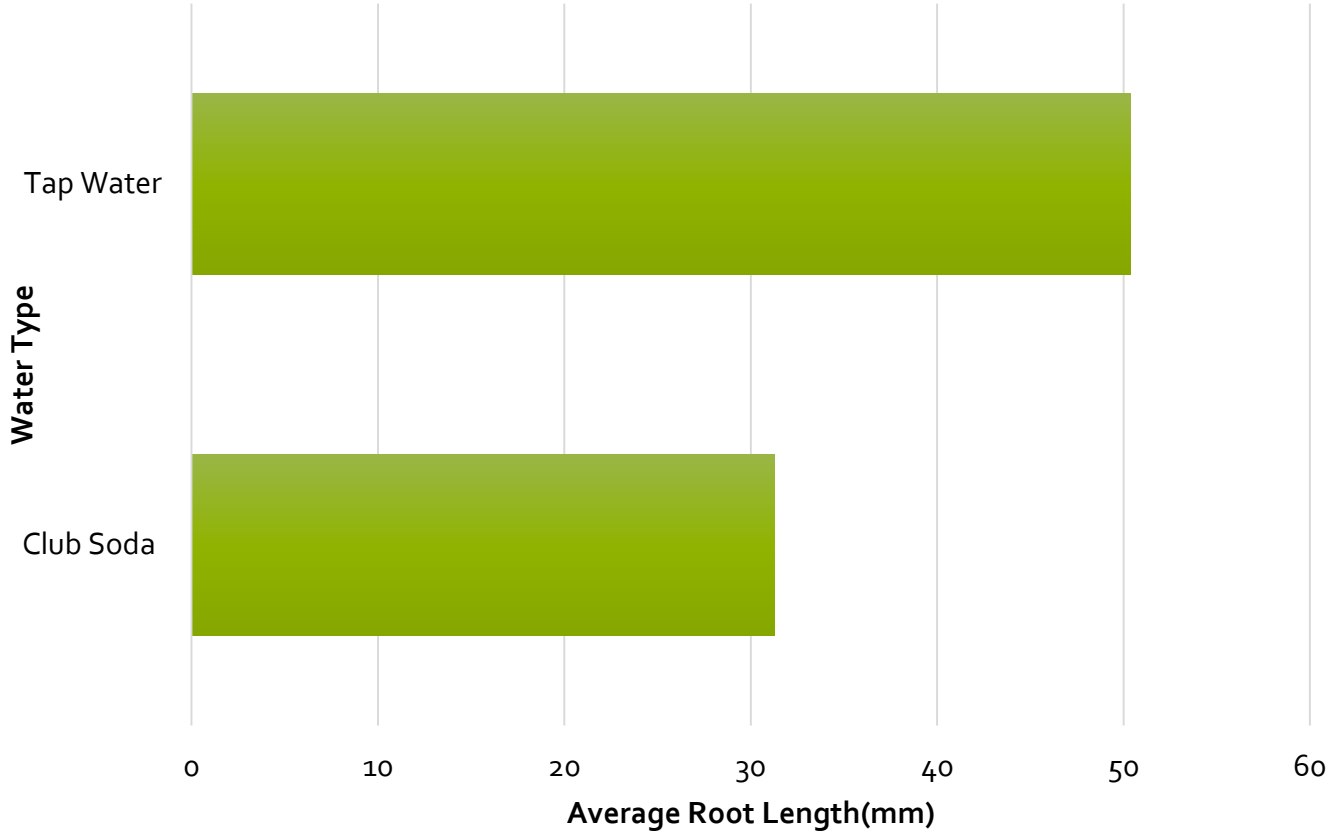
Stem Growth


16
14
12
10
8
6
4
2
0
Stem Growth(cm)
A
B
C
D
Plants Quad
Independent
Control

Average Leaf Size



Average Root Length



Discussion

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

- Based on the stem length we rejected the hypothesis because only half of our data was supported
- Control has a stable growth rate, all of the measurements are around the same height.

Discussion

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

- Based on the root length of the experimental and control variables our hypothesis was rejected.
- We think the potassium citrate in the club soda counteracted the growth.
- New experiment: water the plants with 2/3 club soda and 1/3 water

Questions?