## Planting Science Journal

## 10/08/2021

Quinn planted our seeds and watered them with no salt to begin with. Most of the group wasn't there so nothing really happened. I wasn't present during the first day of planting.
10.13.21

All of the plants showed signs of growth except for one of the controls. We went on a call with our mentor.
Some notes from the meeting:

- Measure everyday
- Compare the health of plants to the control
- The highest point of the leaf average of each cup for chart
- Pull out the plant at the end of October + measure the longest root


### 10.14.21

We watered our plants and measured. Our water cycle is Monday, Wednesday, and Friday. With watering the plants 25 ml of water with a range of $1,4,8$, and 0 of salt. We have $1 / 2$ cup of soll in each pot and 5 plants in each one. We also have 3 replicates with all the concentrations.

| 10.14 .21 | Observatio <br> $\mathrm{n} 1(\mathrm{~cm})$ | Observatio <br> $\mathrm{n} 2(\mathrm{~cm})$ | Observatio <br> $\mathrm{n} 3(\mathrm{~cm})$ | Observatio <br> $\mathrm{n} 4(\mathrm{~cm})$ | Observatio <br> $\mathrm{n} 5(\mathrm{~cm})$ | Average <br> $(\mathrm{cm})$ |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Control 1 | 5 | 11 | 6 | 8.5 | 5.2 | 7.1 |  |  |  |
| Control 2 | 6.4 | 5.7 | 5.8 | 7.1 | 0 | 5 |  |  |  |
| Control 3 | 0 | 0 | 0 | 0 | 0 | 0 |  |  |  |
| 8 Salt <br> Concentrat <br> ion | 9.5 | 8.8 | 8.5 | 8.5 | 9.3 | 9 |  |  |  |
| 8 Salt <br> Concentrat <br> ion | 9.8 | 2 | 9 | 7 | 7 | 7 |  |  |  |
| 8 Salt <br> Concentrat <br> ion | 10 | 4 | 6.9 | 8 | 6 |  |  |  |  |
| 4 Salt <br> Concentrat <br> ion | 5 | 4.8 | 3.5 | 7 | 1.5 | 4.4 |  |  |  |
| 4 Salt <br> Concentrat | 5.5 | 4 | 4.5 | 5 | 0 |  |  |  |  |

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| ion |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| . Colt <br> Concentrat <br> ion | 6.5 | 8 | 4.5 | 0 | 10.5 | 5.9 |  |  |
| . Salt <br> Concentrat <br> ion | 8 | 9.5 | 8 | 7.6 | 8.5 | 8.3 |  |  |
| . Salt <br> Concentrat <br> ion | 9.9 | 1.3 | 7 |  |  |  |  |  |
| 1 Salt <br> Concentrat <br> ion | 6.3 | 9 | 6.8 | 6 |  |  |  |  |

### 10.15 .21

Today we watered with 25 ml of water each and measured. I noticed that the .1 and .4 concentrations were yellowing some of the leaves but not many and the 8 concentration had brown splotches at the base but was doing the best. The control did well too.

| 10.15.21 | Observation 1 (cm) | Observation 2 (cm) | Observation 3 (cm) | Observation 4 (cm) | Observation 5 (cm) | Average (cm) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Control 1 | 11 | 14 | 17 | 7 | 9 | 11.6 |
| Control 2 | 9 | 12 | 9.5 | 9.5 | 0 | 8 |
| Control 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| . 8 Salt Concentration | 8 | 11 | 12 | 11 | 10.5 | 10.5 |
| . 8 Salt Concentration | 4 | 12 | 8 | 10 | 11.3 | 9.1 |
| . 8 Salt Concentration | 5 | 9.5 | 10 | 11 | 14.5 | 10 |
| . 4 Salt Concentration | 4 | 9 | 7.3 | 8.5 | 11 | 7.9 |
| . 4 Salt Concentration | 9 | 8.3 | 10 | 8 | 0 | 9 |
| . 4 Salt Concentration | 9.5 | 11 | 15 | 7.8 | 0 | 11 |
| . 1 Salt Concentration | 7.3 | 11.5 | 10.5 | 12 | 6.8 | 9.6 |
| . 1 Salt Concentration | 11.5 | 10.5 | 10.5 | 12 | 0 | 11 |

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| .1 Salt |  |  |  | 12 | 10.8 | 10.6 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Concentration | 10.3 | 7.25 | 12.8 | 12 | 10.8 |  |


10.18 .21


Today we measured and watered the plants. There were clear signs of growth and it seems that the 8 concentration is doing the best...oddly. So I assume our hypothesis was incorrect but that is all about sciencel I also noticed that the 1 concentration leaves were turning a bit pale and yellow. That's all for todayl
Here are todays averages:

| 10.18 .21 | Average (cm) |
| :--- | :---: |
| Control 1 | 22.4 |
| Control 2 | 18.4 |
| Control 3 | 3.2 |
| .8 Salt |  |
| Concentration | 15.2 |
| .8 Salt |  |
| Concentration | 47.6 |
| .8 Salt |  |
| Concentration | 51.4 |
| .4 Salt | 12.4 |
| Concentration | 11 |
| .4 Salt | 13.5 |
| Concentration | 17.5 |
| .4 Salt | 12.6 |
| Concentration | 17.8 |
| .1 Salt |  |
| Concentration |  |
| .1 Salt | Concentration |

## Concentration

### 10.19 .21

We measured today and I noticed that most of the salt concentration stems were turning brown. The only ones who were still green were the controls and the 8 concentrations.
Todays averages:

| 10.19 .21 | Average (cm) |
| :--- | :---: |
| Control 1 | 24.12 |
| Control 2 | 18.66 |
| Control 3 | 4.94 |
| .8 Salt |  |
| Concentration | 14.7 |
| .8 Salt | 15.9 |
| Concentration | 14.1 |
| .8 Salt |  |
| Concentration | 13 |
| .4 Salt |  |
| Concentration | 12.8 |
| .4 Salt |  |
| Concentration | 13.4 |
| 4 Salt <br> Concentration | 21.8 |
| .1 Salt |  |
| Concentration | 16.9 |
| .1 Salt |  |
| Concentration | 23.7 |
| .1 Salt |  |

That's all for now.

The stems were red today and the plants are drooping. I hope to see more growth. Also, it seems that the plants were drowning. So, we have decided to water every wednesday instead of monday, wednesday, and friday. The 8 concentration growth is kind of stubbed and is now currently growing slowly. We did not measure today.

### 10.21.21

Almost everything has stayed the same. We haven't noticed many changes since yesterday. They are still doping but probably because we watered them too much. We also need to figure out a way to support them.

### 10.22 .21

After not measuring for a while the plants seemed to be growing better and started to pick up. The ones with the larger salt concentrations are thicker. The color also seems to be better. In some of the pots we put pipe cleaners to support the plants who were not picking up. In addition, some of the plants were browning at the tips too. They seem to be a darker, deep, lime color while others seem to be pale, yellow, lime, or a dark green. Again, the 8 concentrations are doing the best and seem to be the healthiest, but the growth seems to be stubbing or is slowed down than the others. We are checking every Tuesday and if the plants are not ready we are going to water them every Wednesday.
10.25.21

Today was devastating. The plants all were practically shriveled up and were wilting. So we decided to move the plants near a grow light, hoping it will help it regrow. We measured and will be watering this wednesday.
10.26.21

Todays averages:

|  |  |
| :--- | :--- |
| Control 1 | 16.8 |
| Control 2 | 24.3 |
| Control 3 | 24.8 |
| .8 Salt | 13.9 |
| Concentration | 10.7 |
| .8 Salt | 11.8 |
| Concentration | 15.3 |
| .8 Salt |  |
| Concentration |  |
| 4 Salt <br> Concentration |  |

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| .4 Salt |  |
| :--- | :---: |
| Concentration | 8.2 |
| .4 Salt | 15.2 |
| Concentration | 21.2 |
| .1 Salt |  |
| Concentration | 23.4 |
| .1 Salt |  |
| Concentration | 25.6 |
| .1 Salt |  |



Today we are watering and all the plants are dead. Two plant stems fell off. The pip cleaners don't seem to help the plants. (Edit: At this point I think that I lost hope and I thought this failed.)
10.28 .21

Todays measurements:

| 10.28.21 | Average (cm) |
| :--- | :---: |
| Control 1 | 26.3 |
| Control 2 | 24 |
| Control 3 | 20.8 |
| .8 Salt |  |
| Concentration | 14.2 |
| .8 Salt | 9.4 |
| Concentration | 9.7 |
| .8 Salt |  |
| Concentration | 17.1 |
| 4 Salt |  |
| Concentration |  |


| .4 Salt | fell out |
| :--- | :---: |
| Concentration | 14.1 |
| 4 Salt <br> Concentration | 19.8 |
| .1 Salt |  |
| Concentration | 19 |
| 1 Salt <br> Concentration <br> 1 Salt <br> Concentration | 24.8 |

Comparing the control to the 4 concentration I can see that the tips are full brown and some of them are all shriveled up. I can conclude that we over-watered them and there wasn't enough sunlight. The control is doing better than the others but not by much. The controls seem in better shape as of height and how green they are. The control showed some signs of dying but not as much as the 8 or the .4 concentration. Otherwise the plants are doing the same as they have been. I think the turning point in this experiment is 10.19.21 that is when things started to go downhill. That's all for now.
10.29 .21

Today we measured for the last time. During this project communication was a huge problem. I have never been in a group where this was a problem. Not my favorite project but I hope to do more. Today was normal. The plants are all fully brown now except for the controls and the . 4 s. Comparing all of them I can see that the control did the best as of signs of healthiness (how green it is, how much it wilts) and the .4 did the best too. The others not much. From the beginning to now I can conclude that corn can grow in "marsh" conditions but for very long.
Todays Avengers:

| 10.29 .21 | Average (cm) |
| :--- | :---: |
| Control 1 | 23.6 |
| Control 2 | 24.4 |
| Control 3 | 18.3 |
| 8 Salt <br> Concentration | 9.8 |
| 8 Salt <br> Concentration | 12.7 |
| 8 Salt <br> Concentration | 15.5 |
| 4 Salt <br> Concentration | 19.8 |
| 4 Salt <br> Concentration | 18.7 |

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| .4 Salt |  |
| :--- | :---: |
| Concentration | 0 |
| .1 Salt |  |
| Concentration | 18.2 |
| .1 Salt | 22.2 |
| Concentration |  |
| .1 Salt | 24 |
| Concentration |  |

