

Maris'  
Final Report

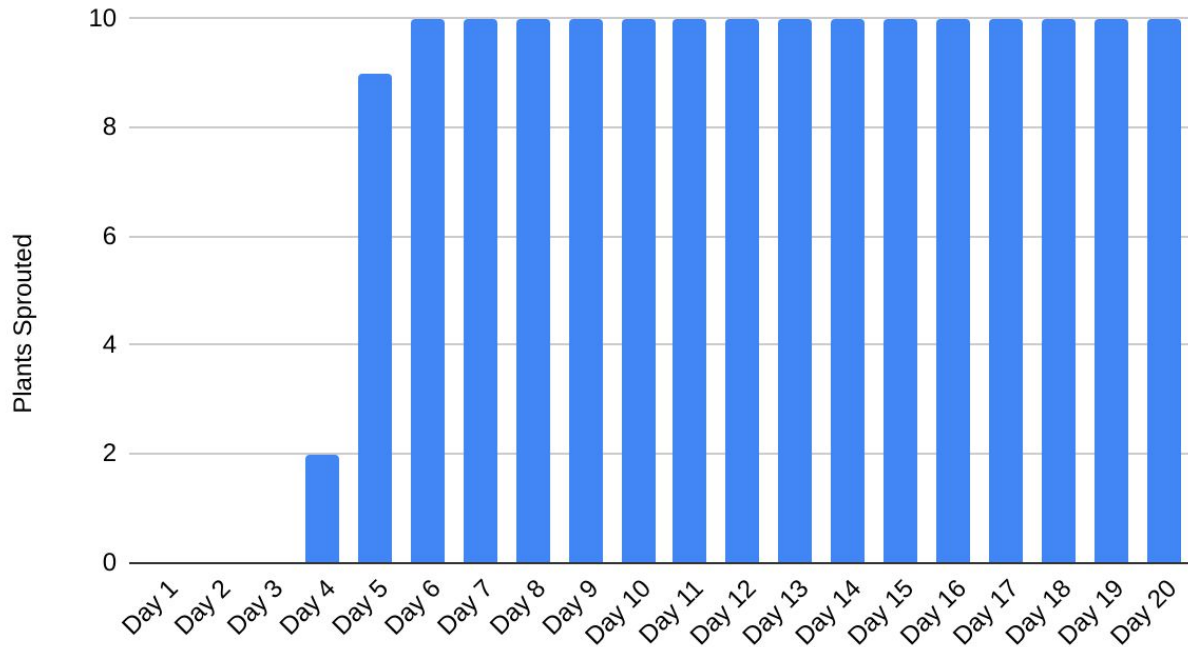


## The Bad Bees: Maris, Ava, and Matea

Ava and Matea were in my group that was named the Bad Bees. For our project, we planted pearl millet seeds. We watered it with 5 different substances, water, tea, coffee, pickle juice, and dye. We collected data almost every day we were at school. Our conclusion is that watering the plants with coffee was the best. These plants grew the strongest and grew the fastest as well. Pickle juice was the one who did the worst, all the plants molded and only a few of them actually sprouted. But even then they didn't grow very tall. And water surprisingly did mid, it didn't grow slow or fast. Although it was pretty strong, it was just about the same as the Dye Plants.

# Water data, and Data Chart

Quantitative Chart for Water



Days # of plants sprouted

Day 1- 0

Day 2-0

Day 3-0

Day 4- 2

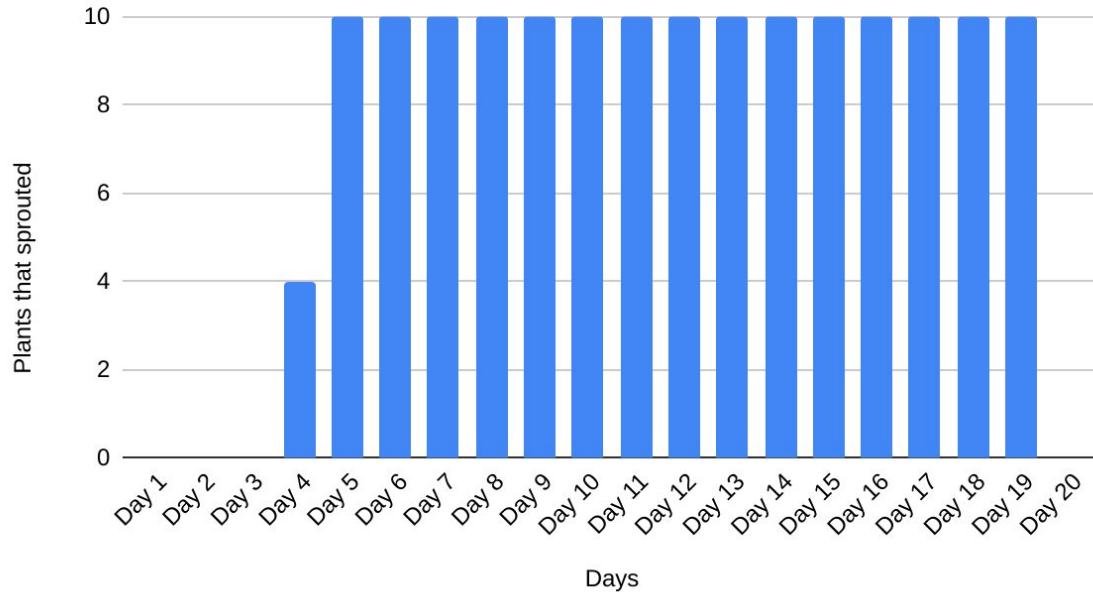
Day 5- 9

Days 6-20- 10

Water did pretty well, they all sprouted within 6 days. Water doesn't have as much nitrogen as tea and coffee, but the dye has almost the same data as water. The dye though didn't really change the data geriatricly.

# Coffee Data, and Data Chart

Quantitative Chart for Coffee



Days # of plants sprouted

Day 1- 0

Day 2- 0

Day 3- 0

Day 4- 4

Day 5- 10

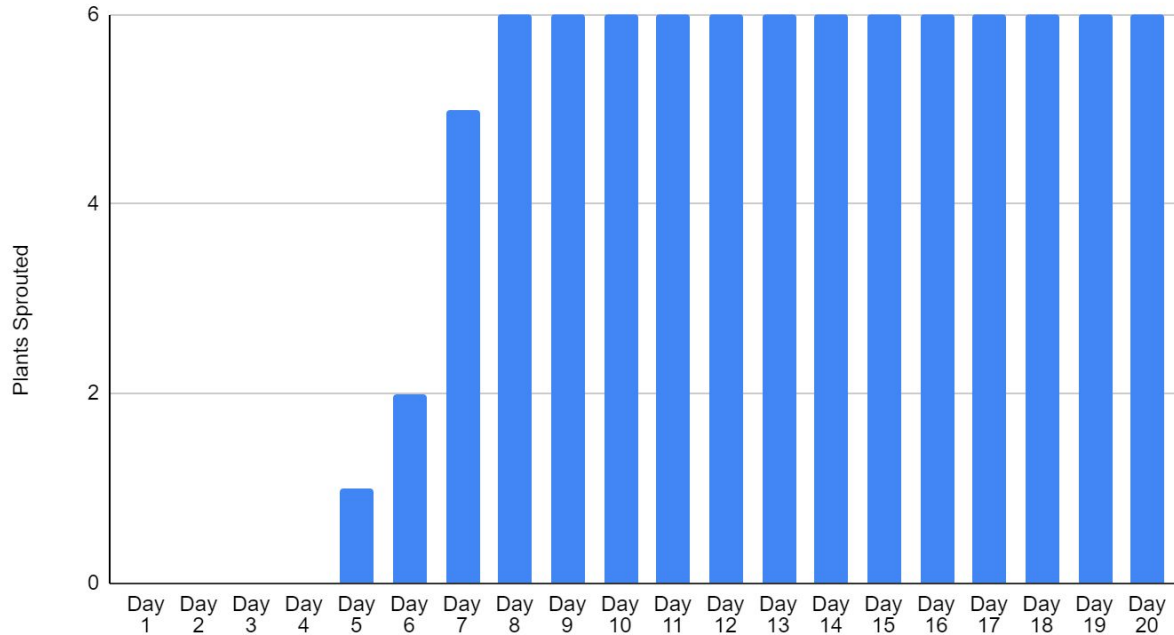
Day 6-10

Days 7-20- 10

Coffee did really well it had the best germination rate than any other plant that we planted. It is because of the source of nitrogen for the plants, which makes the stems greener and stronger than regular plants watered by water.

# Pickle Juice Data Chart and Data

Plants Sprouted vs.



Days # of plants sprouted

Day 1- 0 Day 6- 2

Day 2- 0 Day 7- 6

Day 3- 0 Day 8- 6

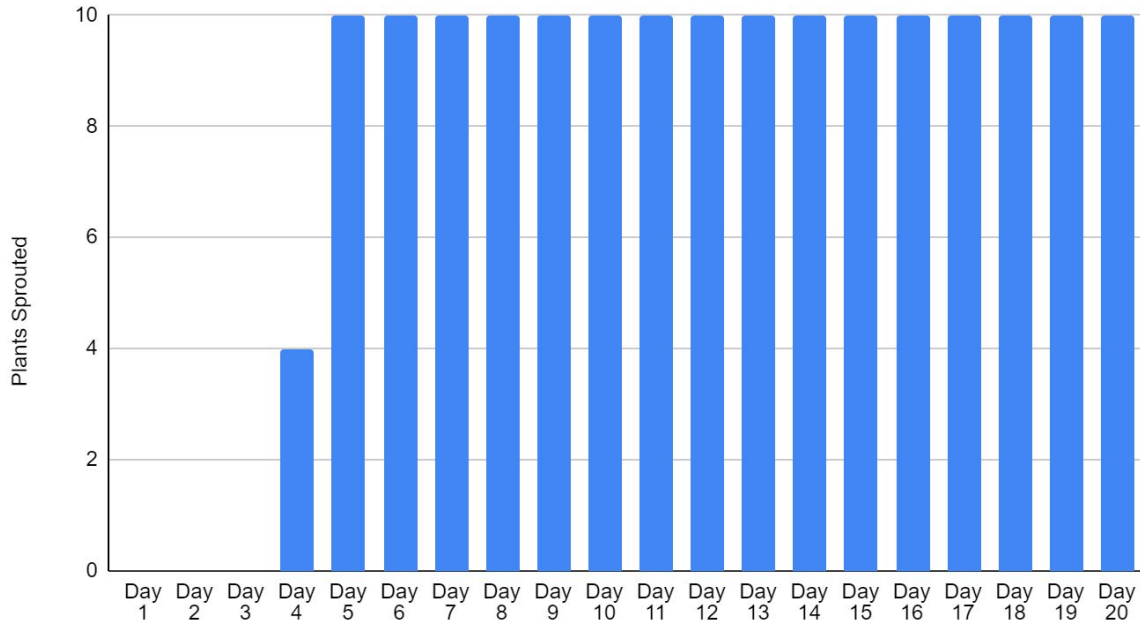
Day 4- 0 Days 9-10- 6

Day 5- 1

Pickle juice didn't do good at all, all of them had mold and only 6 sprouted. The salt and vinegar in the pickle juice takes the moisture out of the roots which decreases the amount of nutrients the plant needs to survive.

# Tea Data Chart, and Data

Plants Sprouted vs.

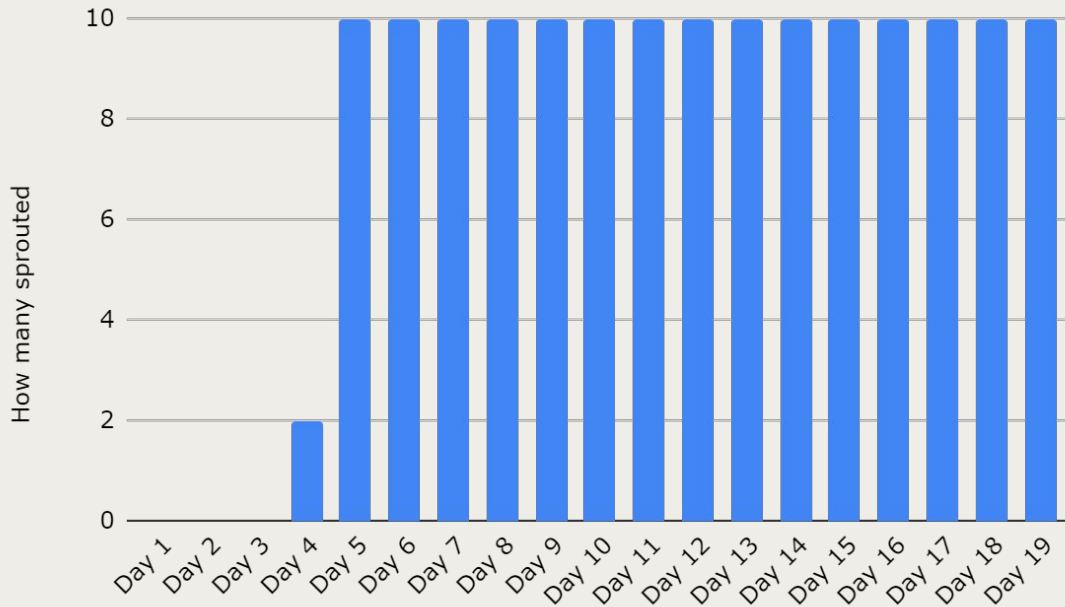


Days # of plants sprouted  
Day 1- 0      Day 4- 4  
Day 2- 0      Day 5-20- 10  
Day 3- 0

Tea did pretty well. They all sprouted within 5 days. Tea is very organic so it is a huge contributor to healthy soil. Also the tannic acid in tea helps regulate growth and is used as a natural pesticide. Tea as well as coffee has nitrogen inside of it, which again is helpful with growing faster and having healthier stems.

# Dye Data Chart and Data

Dye Quantitative Chart



Days # of plants sprouted

Day 1- 0

Day 2- 0

Day 3- 0

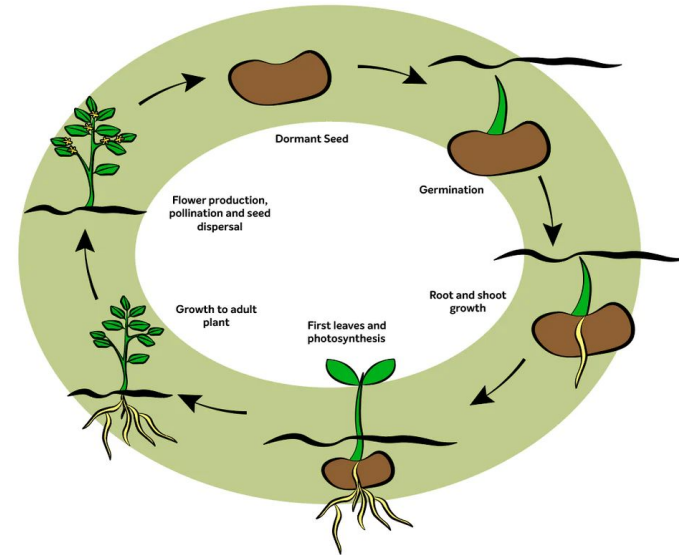
Day 4- 2

Day 5-20- 10

Dye did a little bit better than water. It might've affected the photosynthesis process because red and blue dye colors have a positive impact on plants photosynthesis process, and our color was purple. So there might've been an impact.

# Life Cycle of a Plants

The plant life cycle consists of germination, growth, reproduction, pollination, and spreading the seeds. Plants need sunlight, water, air, nutrients, and proper temperature. Those are that factors that plants need to survive. Plants grow because the cells inside of them differentiate, then it uses the nutrients from the soil and the water and grows.





# How the Group Worked

I think my group worked really well together we got things done but also made it fun. We always split up the work evenly, and if one person finished they made sure that nobody else in our group needed help. We also helped each other try to figure things out weather it was understanding a word our scientist mentioned or how to do something on the computer. I don't think we had any huge issues. In fact I don't think we had any. We all finished our work on time if not early. It was also really easy to work with Ava and Matea if we disagreed we would figure it out together, instead of going off and trying to figure it out on our own.

# How This Project Ties in with Real Life

I do not have a green thumb at all but this project taught me how to care for plants. It taught me how much to water a plant, and what would happen if I watered it too much. Also how to collect data, and be more organized on my work. Because we did have to restart, and the 2nd time we were more organized and efficient.

# Scientific Method

The steps are ask questions, write a prediction, collect data, analysis the data, then draw a conclusion. It helps you be organized with your work and helps you understand your next steps. The "Ask your question" step helps you figure out what the experiment will be. Then the prediction is to see what you thought at the beginning and comparing it to the end. Collecting data is to see how things work and what worked well and what didn't. Analysing data helps put it into a visual view and not just numbers. The conclusions is like the end of your experiment, to see how things played out.

# My Observations

I think the coffee did the best, it grew fast and was strong. Although not many people use coffee to water their plants. I was questioning this wondering why, but when I had to water the 10 coffee plants I then realized that it was a struggle. It would mold every 4 days and it would smell gross. But tea was the same way though, so people moved to the next best thing, water. I do however understand why people don't use pickle juice. It just kills the plant and smells gross.