Can plants grow better with other liquids? Samriddhi singh 2c

When you think about watering plants you think about water, but in this research, I wanted to find out if there are there liquids that can make the plant grow faster.

So, I made a test case using with water, salty water, pond water and tea.

Hypothesis

Pond water (I have a bio pond in the house with lots of algae and fishes) and tea will be better since they contain minerals and that saltwater would result in poor growth of plants.

Why do plants even need water?

Here are some reasons:

* **Photosynthesis**

Photosynthesis is a chemical reaction that takes place to make energy.

This chemical reaction needs sun, carbon dioxide and **water.**

* **Transportation of nutrients**

Plants need the nutrients from the soil which they absorb with water.

* **Transpiration**

Water moves up the stem of a plant from root to leaf when water is lost from the plant due to evaporation.

Diagram

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This illustration describes the need of water

Method:

***Things I used*:**

* + Water
  + Respective liquids
  + Mung Sprouts (or a plant of your choice)
  + 4 cups
  + Cotton

**Process:**

* 1. Put Mung sprouts in water and let them germinate in the bowl for 48 hours
  2. Put some of the germinated sprouts in cotton covered bowls
  3. Soak the bowl with water
  4. Water 100ml of the respective liquids everyday
  5. Measure your plants everyday

Results:

After seeing my sprouts grow for 11 days, I had enough data to make conclusions. I had my data in a csv file and analysed it in my jupyter notebook. Here are my results:

Table

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Here I have calculated the count; mean; standard deviation; min; 25th, 50th & 75th percentile and the maximum

Table

Description automatically generated

This is my table of data with the index being the day

and the measurements sorted by kind and in cm.

Chart, bar chart

Description automatically generated

This bar graph helps us understand that Pond water did the best.

Chart, line chart

Description automatically generated

This line plot shows how the growth rate of my plants are lineal.

A tray of food on a table

Description automatically generated

tea

Pond water

water

saltwater

Conclusion:

My conclusion is that my hypothesis was correct, and that pond water was most suitable for the plant. And the growth of the plants was linear and similar.

Evaluation:

I only did my evaluation by the variable height. There are many others:

* Number of Leaves
* Number of seeds that germinate

The environment:

* temperature
* sunlight
* amount of Co2

I could have improved by adding more variables.