Compost Project

By Phoebe

Why

The reason I did this this project was because I wanted to understand more about compost and the effect it has on plant. I have also always loved plants, so I knew I wanted my project to include them.

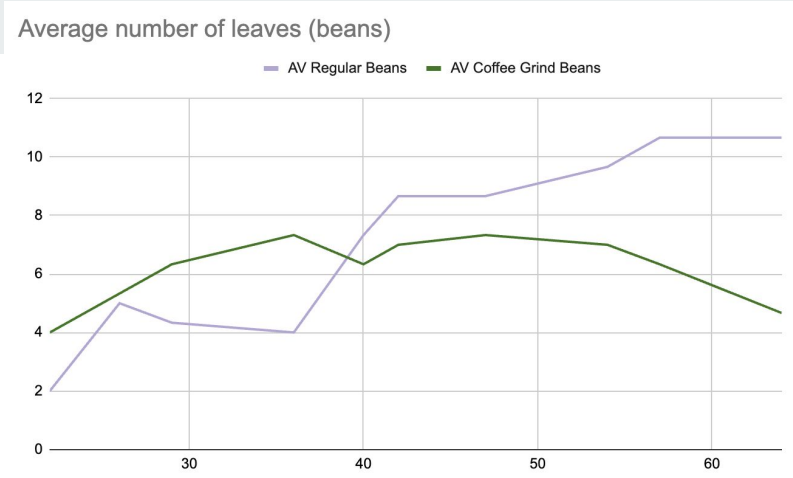
How

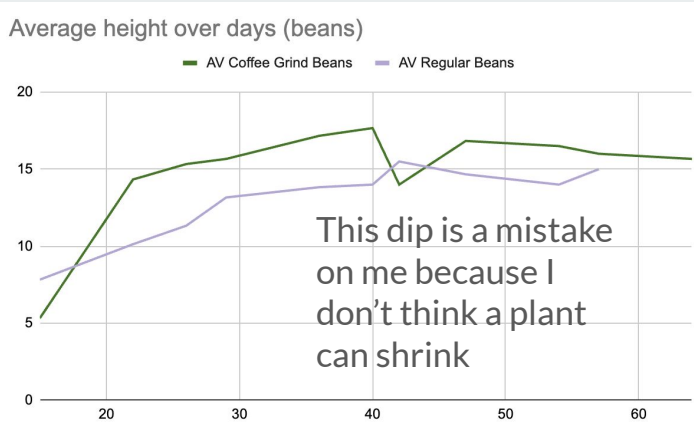
My project was to make compost including coffee grind , banana peel, and eggshell compost. (But the banana peel and eggshells took way too long to decompose so I couldn't include them.) I collected the coffee grinds from home and from school and once they were ready I planted bush beans. I did a row (3 pots) of coffee grind beans (0.3 oz CG, 1.7 oz soil) , and a row of regular (2 oz of soil). A week later I planted the watermelon seeds the same way. As they were growing I the beans started breaking stems and falling over. Ms. Tory recommended I use a mini trellis and it really helped!

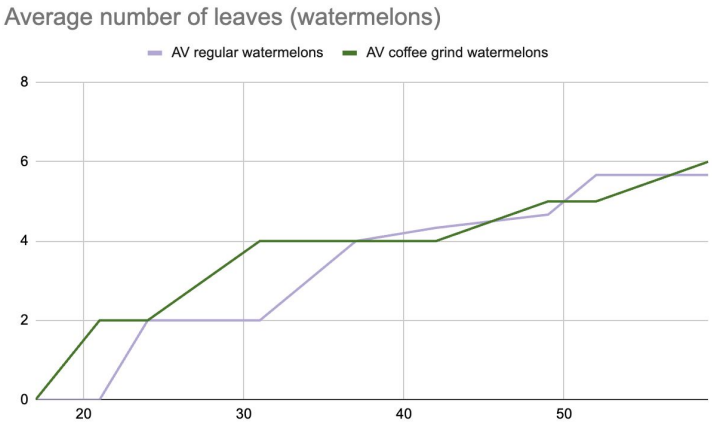
Belief

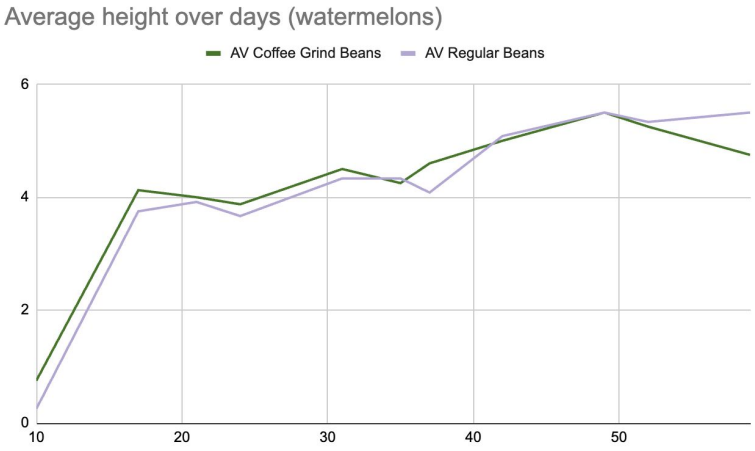
Since March 14 I have been keeping track of the beans a watermelons growth. For each plant I have been measuring the number of leaves, the length of leaves, height, and the number of bean pods and buds. I have put some of these categories of data into graphs (slide below). For the coffee grind beans, it looks like they grew leaves quicker than the regular ones but then lost a bunch. Where as the regular ones maintained a steady trajectory. For the height of the coffee grind beans, it looks like they stayed a couple of inches above the the regular ones, but then have a mysterious dip (which I am 99.999% sure is a mistake on my part in measuring). And I don't see a big difference between the regular watermelons and the coffee grind ones

Graphs


Average number of leaves (beans)
AV Regular Beans
AV Coffee Grind Beans
12
10
8
6
4
2
0
30
40
50
60

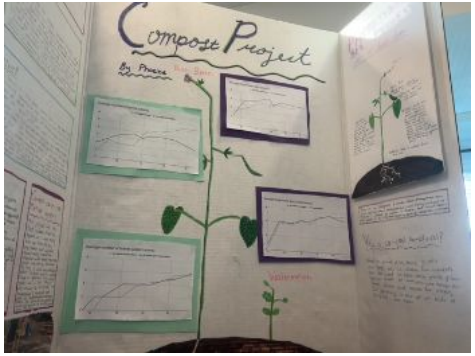

Average height over days (beans)
AV Coffee Grind Beans
AV Regular Beans
20
15
10
5
0
20
30
40
50
60
This dip is a mistake on me because I don't think a plant can shrink


Average number of leaves (watermelons)
AV regular watermelons
AV coffee grind watermelons
8
6
4
2
0
20
30
40
50


Average height over days (watermelons)
AV Coffee Grind Beans
AV Regular Beans
6
4
2
0
10
20
30
40
50

Phases

1. Making the composts
   - Collecting the materials (CG, banana peels, eggshells)
   - Researching what makes a good compost
2. Planting & Measuring
   - Figuring out the ratio of CG to soil
   - Collecting the data and adding it to Google Sheets (I loved this part because I got to see the plants grow!)
3. Planting the beans and watermelons outside!
4. Analyzing data
   - Making graphs
   - Analyzing graphs
5. Making and IMPposium presentation



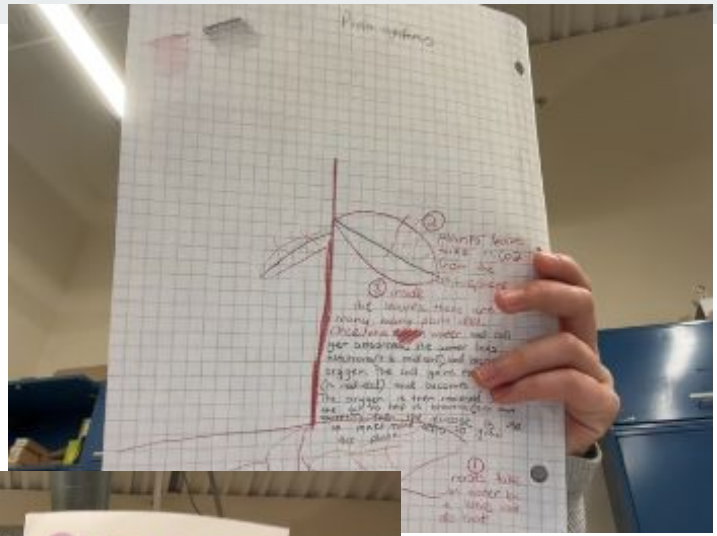
Mentor Support

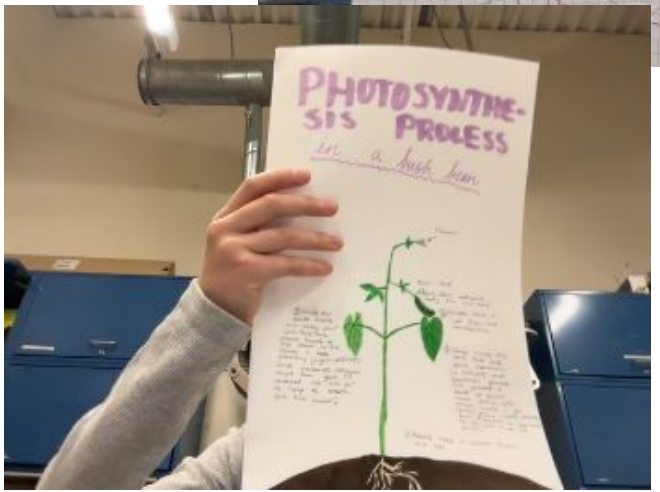
This project was my very first science project by myself, so I was really lost at first. Ms. Tory (my mentor and content coach) really helped me organize and shape my project, which was really important. Ms. Tory is also very enthusiastic about science and so whenever I had a question she always gave me a full thought-out answer to truly help me understand. I remember when I was really confused about photosynthesis she spent maybe 35 min explaining it to me and I am so grateful. Thank you Ms. Tory!

Diagram

This is a diagram I made of photosynthesis. When I was learning about photosynthesis I was really confused at first, so I wanted to create a diagram that would explain the process in a way that is easier for people new in science.

This was my first draft





This is my final draft

Why is compost beneficial?

When a plant dies, there is still nutrients left in them. This nutrients can be used to help other plants grow. Certain kinds of compost are better for some plants and worse for others. But generally, a good mix of all kinds of compost is great. Compost is a great way to use unwanted part of a vegetable, fruit, or other things like coffee grinds and eggshells to help plants grow! A plant worked hard to grow that, it shouldn't go to waste.