

Team Name: Dirt Dwellers

Group Member: Dylan

Independent Variable: Water

[illegible]

	Qualitative Observations: (What else do you notice about the seeds that your numbers do not show?) I couldn't really measure how long they were because the roots were getting tangled up.
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Group Member: Colin

Independent Variable: Beef broth

Day	Seed 1	Seed 2	Seed 3	Seed 4	Seed 5	Seed 6	Seed 7	Seed 8	Seed 9	Seed 10
3	1 ½ cm	1 cm	1 ¼ cm	½ cm	1 cm	not germ	½ cm	1 ½ cm	1 cm	not getrm
	Qualitative Observations: The tips are brown and the roots are small.									
4	1 ½ cm	1 cm	1 ½ cm	1 cm	1 cm	not germ	1 cm	1 ½ cm	1 ¾ cm	not germ
	Qualitative Observations: It looks like the tips of the root are dying. The closer the root is to the seed the more white-ish it gets.									
5	1 1/2 cm	1 ½ cm	1 ½ cm	1 cm	1 ¼ cm	not germ	1 cm	1 ½ cm	2 cm	not germ
	Qualitative Observations: Seed 10 has mold. Throwing out seed ten. Others are looking well. Still have brown tips									
6	1 3/4 cm	1 ½ cm	1 ¾ cm	1 ½ cm	1 ½ cm	not germ	1 ¼ cm	1 ½ cm	2 cm	not germ
	Qualitative Observations: Seed 5 now has a bunch of mold on it. Most grew a little bit.									
7	2 cm	1 ½ cm	1 ¾ cm	1 ½ cm	2 cm	not germ	1 ½ cm	1 ½ cm	2 cm	not germ

	Qualitative Observations: Seed 4 grew mold. I am starting to see the shoots a little. tips still look dead
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Group Member: Tim

Independent Variable: Apple Juice

Day	Seed 1	Seed 2	Seed 3	Seed 4	Seed 5	Seed 6	Seed 7	Seed 8	Seed 9	Seed 10
3/8	Not germ	Not germ	Not germ.	germ.	germ.	Not germ.	germ.	Not germ.	Not germ.	Not germ.
	Qualitative Observations: (What else do you notice about the seeds that your numbers do not show?) All seeds but seed 4 have strange white ends on the opposite side that the other seeds are germinating. Seed 4 is cracking its shell. Only tiny, tiny sprouts germinated.									
3/9	Not germ.	2mm	1mm	8mm	2mm	1mm	germ.	Not germ.	Not germ.	2mm
	Qualitative Observations: (What else do you notice about the seeds that your numbers do not show?) The paper towel became moldy, with some green , splotches and a strange red one near the edge of the bag. The seeds seem to be SLOWLY growing. Seed 4 is shedding its seed coat. I think that the white splotches are part of the seed.									
3/10	Moldy	Moldy	2 mm	1 cm	1 mm	2mm	2mm	3mm	Barely germ.	Not germ.
	Qualitative Observations: (What else do you notice about the seeds that your numbers do not show?) The paper towel had some green mold on it. The first seed was pretty fuzzy, and the second was only slightly, I threw both of them out. Some of the seeds have wet-ish, dusty-looking white splotches. Had to throw out the paper towel again. There was some gray mold also.									
3/11	n/a	n/a	moldy	moldy	1mm	3mm	5mm	3mm	3mm	1mm

	Qualitative Observations: (What else do you notice about the seeds that your numbers do not show?) My seeds are being moldy very often. I had to throw out two more seeds. One of the seeds has a brown-tipped root.									
3/12	n/a	n/a	n/a	n/a	4mm	3mm	3mm	5mm	5mm	2mm
	Qualitative Observations: (What else do you notice about the seeds that your numbers do not show?) I have a mold farm. I have at least two, maybe three varieties of mold in my bag. I have a fuzzy yellow, a faint orange/red, and some non-descript whitish-gray. Some of my seeds' roots have brown tips. Also, my bag wasn't completely closed. Apparently, I also had a few dots of grayish-green mold.									

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Group Member: Landon

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3/8	Not germ	Not germ	Not germ	Not germ	Not germ	Not germ	Not germ	Not germ	Not germ	Not germ
	Qualitative Observations: none of them even germinated. Sanitizer soaked into the paper towel really quickly and made the seeds dry. Water daily or else the liquid will soak the paper towel more than the seeds.									
3/9	Not germ	Not germ	Not germ	Not germ	Not germ	Not germ	Not germ	Not germ	Not germ	Not germ
	Qualitative Observations:nothing really changed I think hand sanitizer is a bad idea									
3/10	Not germ	Not germ	Not germ	Not germ	Not germ	Not germ,	Not germ	Not germ	Not germ	Not germ
	Qualitative Observations: that the liquid is to thick for them to use to germinate or to even sprout									

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Group Member: Joseph

Independent Variable: Carbonated water

Day	Seed 1	Seed 2	Seed 3	Seed 4	Seed 5	Seed 6	Seed 7	Seed 8	Seed 9	Seed 10
3/8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Qualitative Observations: (What else do you notice about the seeds that your numbers do not show?) I was not here so I don't know.									
3/9	Germ	Germ	Not Germ	Germ	Germ	Germ	Germ	Germ	Germ	Germ
	Qualitative Observations: (What else do you notice about the seeds that your numbers do not show?) Some of the roots are not growing into the paper towel, instead some are growing up and rooting into the bag instead. The roots are white with yellow shading. Very strange that they are not growing into the towel, must investigate further. The paper towel is so wet that I can see my own hand through the baggy. I will not water today, in fear that we are drowning the seeds. Seeds 2, 5 and 6 have the longest white vine/roots.									

3/10	Germ	Germ	Dead?	Germ	Germ	Germ	Germ	Germ	Germ	Germ
	Qualitative Observations: (What else do you notice about the seeds that your numbers do not show?) Seed 3 still has not germinated. I think it might be dead. I watered them today but when a member of my team watered mine on monday, they forgot to close the bottle all the way and the water is not carbonated. I watered them anyway. Will get more Carbonated water tomorrow. The roots are starting to grow hairs.									
3/11	Germ	Germ	<b>Dead</b>	Germ	Germ	Germ	Germ	Germ	Germ	Germ
	Qualitative Observations: (What else do you notice about the seeds that your numbers do not show?) The roots are starting to branch out and have multiple branches. Seeds 1, 2 and 6 ( I think) is shedding its coat, not finished yet. Now 8 out of the ten are growing into the paper towel and not the bag. Seed 3 is DEAD. Seed 4 and 5 ( I think) have fused together and their roots have tangled.									
3/12	7cm	12cm	DEAD	6cm	4cm	2cm	10cm	6cm	5cm	10cm
	Qualitative Observations: (What else do you notice about the seeds that your numbers do not show?) They each have long hairy roots that are branching off in many directions. Some roots ran into each other and tangled stopping the growth of a few of them. Most of them were starting to grow leaves and shed their coats. This is the last day of observation, I will not water today, instead I will throw them away.									