

Biology Coursework

Aim: To monitor cress and see if different water types affect their growth.

Prediction: I predict that the mineral water will help the cress grow best because all the best minerals are still in the water and haven't been filtered out. Most of the waters have gone through some kind of process and when they do this some of the minerals are removed from the water e.g. things are removed from sparkling water and distilled water so you can drink it but the things are good for plants.

Apparatus:
 15 x cress seeds
 5 types of water
 Measuring cylinder
 Planting pots
 Ruler
 Soil

Method: First, I will get all the 15 cress seeds and put them each in a separate planting pot with some soil. I will make sure to use the same amount of soil with each seed as the soil contains nutrients as well as the water. Then I will measure out a certain amount (100ml) of each water type and water the seeds accordingly. The difference in growth will be caused because some of the water types have better nutrients in e.g. the tap water has not been filtered or had many things removed from it which is why some people but it in filters, which a plant can use to grow than others. For example, salt water will probably have the smallest growth, if any, shown in its cress as if there is too much salt then the plant will not grow. The plant that grows the most over a certain period of time most probably has the best water. In order to make a fair test, I will make sure that the cress seeds are mixed randomly so that one pot doesn't get better seeds than the rest, I will use a dry measuring cylinder for each pot so that there is no excess from previous watering. I will also make sure that there is always the same volume (50ml) of water for each seed. I will perform this experiment three times as to make sure of no special seeds and to make an average. I will measure the cress in mm every day. This way there will be the same amount of time between measurements. This experiment will be performed over a period of 11 days.

Results (in mm)

	Distilled Water			Salt Water			Mineral Water			Sparkling Water			Tap Water		
Day 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Day 2	0	0	0	0	0	0	1	1	2	2	2	3	3	3	4
Day 3	1	0.75	1	0	0	0	7	7	7	6	5	6	9	7	8
Day 4	2.5	2	2.5	0	0	0	14	13	14	13	14	15	17	17	19
Day 5	4	3.5	4	0	0	0	20	19	21	17	18	19	24	22	25
Day 6	5.5	4.5	5.5	0	0	0	24	26	22	27	30	25	35	32	31
Day 7	6	5.25	6	0	0	0	27	30	27	31	35	32	40	40	41
Day 8	6.5	5.5	6.5	0	0	0	35	31	34	37	42	47	51	49	54
Day 9	6.5	6	6.5	0	0	0	46	37	40	44	56	54	68	54	61
Day 10	7	6.5	7	0	0	0	48	42	43	50	52	51	79	60	68
Day 11	7	6.5	7	0	0	0	55	46	51	55	69	65	90	65	80
Average	6.83mm			0mm			50.6mm			63mm			78.3mm		

Conclusion

From my results I have come to the conclusion that cress grows best in tap water and it doesn't grow at all in salt water. This shows me that the minerals are not just provided

from the water but also from the soil otherwise I assume that the mineral water would have grown the best cress as it has “the best nutrients”.

Evaluation

If I was to do this experiment again to get better results there are two things I would change. Firstly, I would have taken results over about a month to give the seeds a real chance to grow and so there may have been a bigger range of growth to compare the water types in. If there were a greater time to grow, maybe another water type would have shown the greater results instead of tap water. Secondly, I would have used more types of water as one of them may combine all the good things from each type of water to make really good water to grow cress in.



