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| |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Recently Emerged leaves** | |  | | --- | | On this graph : | | Series 1 - 0% caffeine  Series 2 - 25% caffeine  Series 3 - 50% caffeine  Series 4 - 75% caffeine  Series 5 - 100% caffeine | | Here the 25% ones have less newborn leaves area than the 100%  does, that could be explained by the thing that the 25% ones are having flowers. In this case the 100% ones have the largest area of the newborns. It means hat the newborns are larger than the newborns of the 50% ones, 75% ones and a 0% ones. I can assume that adding caffeine makes newborns grow faster and larger. | | |  | |  | | --- | | The graph to the left is showing the area of all the small leaves for all the plant categories.  We can clearly see that the plants that are being watered with 75% caffeine solution have the largest area of medium size leaves. | | Series 1 - 0% caffeine  Series 2 - 25% caffeine  Series 3 - 50% caffeine  Series 4 - 75% caffeine  Series 5 - 100% caffeine | | | **Small Leaves comparison** | |  | | --- | | On the graph to the left there is:  Series 1 - 0% caffeine  Series 2 - 25% caffeine  Series 3 - 50% caffeine  Series 4 - 75% caffeine  Series 5 - 100%caffeine  The 100% ones had the larges area of small leaves. Maybe they had the largest area of large leaves - because I was noticing plants to have newborns when the first set of leaves reaches the medium size. The 25% ones don't count, because they were producing flowers closer to the end, and hey wereproducing flowers closer to the end and that will explain the fact that the leaves were not produced in large amounts to reach the small size. Instead, the recently emerged were the flowers. | | |  | |  | | --- | | If we were to compare the Series ato the left, we would notice that the leaves of the 100% caffeine concentration have the largest area, and the rest of the leaves just go in decreasing order - the 75% ones go after the 100% ones and the 50% is next, while the 0% are the shortest. The 25 % caffeine does not count because they were originally tall. The only thing that is interesting is that their leaves area was large from the very beginning, and the 100% plants leaves area was really small in compare with the 25% ones, and now the 25% have flowers, and their leaves are not growing much, while the 100% are far from having flowers and their leaves almost as large as the 25% ones.  From here I can see that adding caffeine to the soil does help plants to grow - makes their leaves larger. | | On the graph to the left :  Series 1 - 0% caffeine  Series 2 - 25% caffeine  Series 3 - 50% caffeine  Series 4 - 75% caffeine  Series 5 - 100% caffeine | | | **Tallness comparison** | |  | | --- | | On the map to the right you can see:  Series 1 - 0% caffeinne 1 - Week #1  Series 2 - 25% caffeine 2 - Week #2  Series 3 - 50% caffeine 3 - Week #3  Series 4 - 74% caffeine 4 - Week #4  Series 5 - 100% caffeine 5 - Week #5  The 100 % ones grew the tallest out of 0%, 50% and 75%. We are not looking at the 25% ones because they were planted a month before the rest of the plants and therefore are very old and can't be compared to the ones that have no caffeine in them. But the interesting thing is that the older they got, the faster they grew. If you look at my data journal, you will see there one place that I have noticed that the plants being watered with 50% concentrtion were the tallest out of 0%, 75% and 100%. Then as they got older, the opposite process was going on - the 100% ones became the tallest and the 75% ones were after them, and then there were the 50% ones, and the 0% were the still the shortest out of all the plants. When I thought about it, I realised that the explanation may lay in the thing that the caffeine is bad for young plants, actually for their development, and it is good for the plants that are older. It is just a guess, but it might as well be an explanation to the reaction of plants to adding caffeine to their soil. The picture was taken only when the change occurred between the 100% ones being the tallest and the rest of the plants to be shorter than that. Moreover between the 100% ones being the tallest and the rest of the plants to be shorter than them. Moreover, the change between the 50% being the tallest dissapeared within 3 to 4 days, so all the plants seemed to be almost of the same size again. I don't think that weather conditions influenced it so bad. So, the 100% ones appear to be the tallest ones, and their average height is 11.78 cm. | | | **Final Comparison**   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  | Large |  |  |  |  | Medium |  |  | | Weeks | 0 | 25 | 50 | 75 | 100 | 0 | 25 | 50 | 75 | 100 | | 1 | 73 | 59 | 48 | 37 | 11 | 66 | 27 | 33 | 31 | 40 | | 2 | 57 | 29 | 41 | 36 | 33 | 61 | 35 | 50 | 35 | 36 | | 3 | 21 | 37 | 36 | 35 | 27 | 4 | 55 | 57 | 56 | 45 | | 4 | 12 | 33 | 38 | 33 | 35 | 30 | 67 | 49 | 46 | 33 | | 5 | 22 | 38 | 37 | 36 | 34 | 32 | 55 | 46 | 38 | 57 |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  | Small |  |  |  |  | recently  emerged |  |  | | 0 | 25 | 50 | 75 | 100 | 0 | 25 | 50 | 75 | 100 | | 10 | 1 | 18 | 9 | 11 | 7 | 8 | 5 | 18 | 17 | | 39 | 26 | 10 | 23 | 24 | 15 | 7 | 5 | 9 | 9 | | 19 | 34 | 41 | 52 | 57 | 15 | 15 | 23 | 17 | 15 | | 17 | 29 | 29 | 27 | 25 | 30 | 44 | 25 | 23 | 29 | | 42 | 37 | 27 | 23 | 29 | 25 | 33 | 22 | 27 | 29 | | |  | | --- | | Lets look at the largest amounts of leaves in the final data collection week - Week #5. Not counting the 25% ones because they have got a lot of leaves because they are the oldest out of all the 100% ones got the largest amount of medium leaves and small leaves as well as newborns. It is only 3 large leaves behind the 50% caffeine large ones. If you look at the graph of the large leaves comparison and at he small and newborns leaves area comparison graphs, you will see that the 100% caffeine soluiton ones have the largest area of the eaves. Adding to that that there is a huge amount of medium size leaves ( in compare with the rest of them), and that the 100% ones came out to be the tallest plants, and the fact that having relatively large amount of large leaves and the largest area of large leaves, all this adds up to the fact that they areee the biggest plants with the largest surface area of the leaves. Comparing them to the rest of the plants we will see that the amount of 34 large produced 29 medium a while ago and then probably even more a while ago and now 57 medium have already produced 29 newborns, which had the largest leaf area among other caffeinne and non-caffeine concentrations. | |   [[Home](http://docs.google.com/home.html)][[Introduction](http://docs.google.com/introduction.html)][[Hypothesis](http://docs.google.com/hypothesis.html)][[Procedure](http://docs.google.com/procedure.html)][[Data](http://docs.google.com/data.html)][[Conclusions](http://docs.google.com/conclusions.html)][[Bilio/Links](http://docs.google.com/biblio.html)]  [[2001 Projects](http://docs.google.com/index.html)][[2000 Projects](http://docs.google.com/AP2000/index.html)][[1999 Projects](http://docs.google.com/AP99/index.html)][[1998 Projects](http://docs.google.com/AP98/index.html)] |