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|  | Although my conclusions may not be valid, I must admit I learned much more about plant growth and vitamins and minerals than I expected. Although I spoke vaguely of respiration and ATP in my introduction, my research did help me to understand it better. In my research, I also learned not only about the importance of vitamins and minerals to plants, but also about their effects on the human body. I found this project to be interesting, although not performed in the ideal conditions, and strongly recommend that there is still a possibility that vitamins and minerals could increase plant growth if certain improvements were made on the experiment.  The first, and most important recommendation I would make would be to grow the radishes in the greenhouse. This would eliminate both the major factors that skewed my data. I personally chose not to do this because of my schedule; I wanted 24 hour access to my plants . However, I now realize that it would have been best if I kept them in the greenhouse because they would have been protected from the cold and my neighbor's cat.  I would also highly recommend a larger sample size. I only grew six radishes in each group and I believe that groups with 10 + radishes would have been better. Four of my Vitamin A radishes never sprouted, although the fact that Vitamin A is structured similar to a dormancy inducing hormone could have been the cause. Also, one of my Potassium radishes and one of the Control radishes never sprouted probably due to the cold. Five of my Vitamin C radishes sprouted, but one was eaten by the cat, and another sprout was pulled up while it was digging. The cat also ate two radishes from the Potassium group, three from the magnesium group and three from the control group. Since the sprouts were eaten in the second and third weeks, the data for these radishes was thrown out. Planting more radishes would have lead to a higher survival rate and a larger and more accurate sample.  However, if grown outside, I would recommend growing the plants in warmer weather. My radishes were slow growing. Radishes take 3- 10 days to germinate and only on the 10th day did the first few sprout. Better weather is also recommended because there were several cloudy days when the radishes received little sun light. I also recommend some type of protection from predators such as covering the planters with chicken wire, but be sure that any type of protection does not block the sun light.  I also made a major mistake by forgetting to test the soil pH. Plants are best grown in soils with a pH of about 6 or 7. My soil may have been too acidic or too basic.  Finally, I realize that my test of vitamins and minerals is confined to certain vitamins and minerals. Many more vitamins and minerals exist than those I tested, and I would highly recommend expanding the number beyond two vitamins and two minerals. None of the Vitamin B complex was tested, and Vitamins E and K, among others, were ignored. Minerals that are important to plant growth were also ignored. I was unable to obtain phosphorus which has been called the "master key to agriculture" ( Bubel 37 ) by many. Calcium also regulates soil pH and is important to plant growth as well. |

*This Web Site is Best viewed with 256 or more colors.*

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