The Environmental Impact of Sodium in Nature

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The purpose of this experiment was to scientifically look at the effects of sodium on greenery in nature. This project has 3 experiments: the first using beans, the second using algae (chlorella), and the third using desalination devices to purify water with sodium. The factors tested were Sodium Carbonate, Sodium Citrate, Sodium Nitrate, and Trisodium Phosphate in powder form. It was hypothesized that the chemicals being used in the experiment would boost the growth in beans and algae in some way and give them a longer life span. To start the first procedure, 32 plastic bottles were cut in half and filled with potting soil. Half a cup of water was then poured in each bottle . Two beans were then placed one inch under the soil and left next to a window. All plants were measured in cm daily after sprout. After 2 weeks, 1:50 and 1:100 dilutions were made and 10 mL of each chemical was placed in each corresponding plant. The second experiment contained algae (chlorella). Cultures with different concentrations of growth media were done in triplicates. Observations were made daily with a spectrometer chamber. Ending with the third experiment, desalination devices were made with plastic containers, plastic wrap, and metal washers. The same concentrations of sodium were placed inside each container and the purified water coming out of the containers was gathered in a plastic cup. The water was then placed in more bean sprouts to reexamine the first experiment. All data was displayed in tables and graphs for visual presentation. The data has shown that sodium could be a potential hazard for the environment, but could also help with other factors in nature.

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