Comparison of Hazardness Caused by Different Levels of pH on Phytoplankton

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The purpose of this experiment was to demonstrate the effect of pH level on phytoplankton. They are base of food chain, feeding a wide range, controlling carbon dioxide, and producing 85 percent of oxygen. Without phytoplankton, the ecosystem would be totally ruined with hundreds of jobless people. Everyone on Earth should care and would benefit by this project. If we put phytoplankton in acid ocean water, their mortality rate will increase as more acidic water will make it difficult for phytoplankton to absorb nutrients, rendering them vulnerable to diseases and toxins. pH level of 8.2, 7.5, 5.5, and 3.5 were chosen. Mixture of alive phytoplankton was then put into water with an appropriate temperature and a plastic stick moved gently to mix them with water. For every six hours, the aquariums were observed and the rates of mortality were measured with chlorophyll sensor. The procedures were repeated for 4 times. After 24 hours, mortality in the ocean water with pH 3.5 was 100 percent, with pH 5.5 was 64.5 percent, with pH 7.5 was 20.7 percent, and with pH 8.2 was 11.6 percent. Since the control group also decreased 7.1 percent, this number will be taken in consideration as margin of error for all the other groups. The most acidic ocean water was most harmful for phytoplankton as predicted. As global warming is decreasing the pH of ocean water, further research is needed to prevent from pH dropping.