The Effect of Ocean Acidification on Carbon Sequestration by Nannochloropsis

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This study examines carbon sequestration by Nannochloropsis algae when cultivated in solutions with different pH levels. If Nannochloropsis is grown in a solution with a pH between 7.5 and 8.1, less carbon dioxide will be found in the atmosphere because Nannochloropsis will photosynthesize more due the increase in carbon dioxide available in the water for photosynthesis. Algae was grown in sealed chambers, and these were measured for atmospheric CO2 concentration every 2 days. At the end of the experiment, a colorimeter was used to quantify algal growth as an indicator of carbon sequestered and held in biomass. Results suggested that algae grown in more acidic solutions may lower CO2 concentration in the atmosphere. ANOVA and Post-Hoc Tukey HSD tests found no significance of the results. It can be concluded that ocean acidification may slightly increase the productivity of Nannochloropsis and its efficacy of carbon sequestration, but not to a statistically significant degree. The null hypothesis was accepted.

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