The Effectiveness of Algae as a Negative Emission Technology

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Climate change is a growing problem in the world. The biggest contributor to this conflict is excessive carbon dioxide emissions. Plants, which take in carbon dioxide to carry out photosynthesis, could be the answer to this ever growing dilemma. The purpose of the experiment is to test what algae culture is the most effective at consuming carbon dioxide. Algae was chosen because of its abundance and versatility. To test this, a LabQuest 2, Carbon Dioxide Sensor, Nalgene bottle and dry ice was used. Dry ice was used to raise the carbon dioxide concentration in the Nalgene bottle to 1100-1400 ppm. Each algae culture was then placed in the bottle and were tested separately. The Carbon Dioxide reader took a reading every four seconds for ten minutes. After this was completed a line of best fit was calculated and a graph constructed. Isochrysis, a brown-golden algae, was the most effective. This was determined through rate of change and line of best-fit. This research could lead to a significant reduction of carbon dioxide in the atmosphere, slowing climate change.