The Effects of Gibberellic Acid and Temperature on Macroalgal Lipid Content

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Globally we burn through 11 billion tons of fossil fuels a year, but crude oil reserves are depleting at a rate of 4 billion tons a year. Over the last 150 years, burning fossil fuels has resulted in more than a 25 percent increase in the amount of carbon dioxide in our atmosphere. The amount of oil left continues to dwindle and the consequences behind the amount being burn becomes more detrimental, a new source of energy is needed. The purpose of this experiment is to determine which Gibberellic Acid level and water temperature combination will produce the most biofuel. In order to collect data, three different tanks will be set up with different water temperatures. Tank one will be room temperature, tank two will be 28 degree Celsius and tank three will be set at 33 degrees Celsius. 9 two-liter bottles will be filled with 1 liter of culture water. Bottles 4 through 6 will be treated with 100 milliliters of Gibberellic Acid. Bottles 7 through 9 will be treated with 300 milliliters of Gibberellic Acid. After a week, the algae will be removed from the bottles and place into the autoclave for 75 minutes, blended for five minutes and then mixed with methanol for 24 hours. The algae was heated evaporating off the alcohol and water. In conclusion the data did support my hypothesis. The algae that were grown in the 33ºC with 300 mL of Gibberellic Acid produced more lipid content and crude oil compared to the other experiments.