Algal Biofuel Production

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This project in its current form is the result of a three part experimentation on the relationship between the algae strain Chlorella and the amount of biofuel it produces. The purpose was to find how feasible, environmentally and economically growing algae is for biofuel production. Results from this experiment take a closer look at biofuel as an alternative energy source, its economic value, and its impacts on the environment The amount of biofuel produced was determined heavily by the lipid content, overall reproduction and growth. Three pools were set up to represent a micro-industrial scale within a greenhouse to allow the algae the proper growth conditions. After a four week growing period, the algae was harvested, dried, and weighed. The algae was then converted into a crude oil like substance by the use of the Folch method. Based on this experiment the environmental impacts show the propensity this technique of culturing has in the remediation and reduction of pollution and the harvesting of algae for fast, uncompetitive biomass. With refinement to the project, the process will become environmentally and economically feasible. The portion of the experiment that can be improved upon later is the method of conversion by using higher quality chemicals with a better procedure.

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