



**CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY**

Name(s) Otto A. Rahmel	Project Number 36182
Project Title Algae Farm: Finding the Best Nourishment for Biofuel Algae Growth	
Abstract Objectives/Goals The objective of my project was to find the best nourishment (in the form of various types of water) for algae to be used to create biofuel. Methods/Materials Homemade grow-box with grow lights and reflective surfaces inside, algae, different types of water. I let the algae sit for 1 week with the grow-lights constantly on. At the end of this period, I measured the average amount of cells per drop for each trial. Results Algae was put in several different types of water to test the best water for algae to grow in, determined by the average amount of cells per drop. The water with the highest average cells per drop, or is the best water for algae to grow in, is sugar water. Initial results showed tap water with more cells per drop but further analysis showed that sugar water had produced large clumps of cells not always found in each drop. Conclusions/Discussion Algae was put in different types of water to find which water it grows the best in. It is concluded that the algae grew the best in sugar water. This information is important to us because we now know the best way to grow algae for biofuel purposes.	
Summary Statement I measured the average amount of algae cells per drop in each type of water to find the best water for algae to grow in for biofuel, and found that algae grew the best in sugar water.	
Help Received David Rahmel, my father, helped me with basic designing for the grow box. Other than that, I conducted the experiment and built the grow box on my own.	