

Cleveland State University

EngagedScholarship@CSU

Undergraduate Research Posters 2016

Undergraduate Research Posters

2016

Life Behind Glass: Bioreactor studies on the Salt-water adaptation of *Scenedesmus dimorphus*

Joshua Hartranft

Cleveland State University

Alex Fedai

Cleveland State University

Sahar Ataya

Cleveland State University

Follow this and additional works at: https://engagedscholarship.csuohio.edu/u_poster_2016



Part of the [Engineering Commons](#), [Life Sciences Commons](#), [Medicine and Health Sciences Commons](#), and the [Physical Sciences and Mathematics Commons](#)

[How does access to this work benefit you? Let us know!](#)

Recommended Citation

Hartranft, Joshua; Fedai, Alex; and Ataya, Sahar, "Life Behind Glass: Bioreactor studies on the Salt-water adaptation of *Scenedesmus dimorphus*" (2016). *Undergraduate Research Posters 2016*. 36.

https://engagedscholarship.csuohio.edu/u_poster_2016/36

This Book is brought to you for free and open access by the Undergraduate Research Posters at EngagedScholarship@CSU. It has been accepted for inclusion in Undergraduate Research Posters 2016 by an authorized administrator of EngagedScholarship@CSU. For more information, please contact library.es@csuohio.edu.



Life Behind Glass: Bioreactor studies on the Salt-water adaptation of *Scenedesmus dimorphus*

College of Sciences and Health Professions and Washkewicz College of Engineering

Student Researchers: Joshua Hartranft, Alex Fedai, and Sahar Ataya

Faculty Advisors: Joanne Belovich and Yan Xu

Abstract

Algae has considerable promise as source for liquid biofuel because of high productivity and because algae farms do not compete with food crops for arable land. Freshwater algae is preferred over saltwater algae because of the higher lipid content in the former. Unfortunately, freshwater algae “farms” would require a vast amount of fresh water, and given the scarcity of fresh water, this is not a viable long-term solution. Therefore, the adaption of a fresh-water species of algae to a salt-water environment is a potential solution. In this study, it was shown that the growth rate of the freshwater algae *S. dimorphus* increased over 3-fold in a salt-supplemented growth medium (16.6% of the salinity of pure ocean water) compared to that in standard growth media. Additional research will be needed to determine the level of salinity that can be tolerated by this species.