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

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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.