

## **AN ABSTRACT OF A THESIS**

### **THE USE OF BIVALVE MOLLUSKS IN THE FILTRATION OF ALGAE FROM SYNTHETIC SEAWATER**

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**Master of Science in Chemical Engineering**

The goal of the Department of Chemical Engineering's mariculture project is to raise shrimp economically for human food in a total recycle system. As part of that overall goal, this project examines ways to use bivalve mollusks to remove algae from synthetic seawater. The algae would grow using the soluble waste produced by the shrimp and would need to be removed from the seawater. If bivalve mollusks can grow on this algae, then they would provide a secondary cash crop in addition to water treatment.

The project was not successful in producing a working filtration system that would remove algae from synthetic seawater. Both clams and oysters were used in a variety of filters, but no set of conditions resulted in the mollusks living for more than six months. This thesis documents the circumstances that led to mollusk mortality.

In building a lab-scale mariculture system, this project led to a number of techniques and pieces of equipment that will be useful in future work. This thesis documents the strengths and weaknesses of these techniques and this equipment.

# THE USE OF BIVALVE MOLLUSKS IN THE FILTRATION OF ALGAE FROM SYNTHETIC SEAWATER

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William K. Kelly

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**CERTIFICATE OF APPROVAL OF THESIS**

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