

Abstract

Tilapia Mariculture: Biological, Environmental and Economical Feasibility

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As Jamaica's marine fisheries continue to decline, and freshwater resources continue to become limiting and expensive, Tilapia mariculture seems to be a reasonable alternative. The experiment involved acclimation and grow out in seawater of red hybrid tilapia fingerlings. The overall objective was to improve and refine the handling and treatment procedures used in the marine cage culture of tilapia as well as to evaluate the environmental impact and economical costs of such a project. Grow-out was done in cages and tanks. Fish were fed three times daily at 3% their body weight for the first 3 weeks and twice daily thereafter. Sampling and treatment of fishes was done every 3 weeks.

Sampling involved the measuring of standard lengths and weighing of fishes. From these results in both cages and tanks, growth and production data was calculated. Previous experiments using 1m³ cages provided data for comparison.

Experiments were also carried out to test the efficacy of treatments used for the parasite *Neobenedinea melleni*.

Environmental impact was also assessed and as such core samples were taken beneath the raft at the start and end of experiment to determine organic content, and water quality parameters measured at each sample.

The results from this experiment will provide a system of culturing Red Hybrid tilapia in seawater on a sustainable and successful basis. Growth was comparable to freshwater results and in the case of tank culture; the rate of growth was better.

At the end an economic analysis was done, examining figures directly associated with the project as well as a number of hypothetical scenarios. Our figures would prove an unsuccessful economic venture. However when a number of changes are made a positive economic return is possible.

Keywords: tilapia, mariculture, seawater, cages, Discovery Bay