

## Preliminary Results of Acclimation of Jamaican Tilapia to Seawater

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### ABSTRACT

The effect of varying schedules of acclimation to sea water (34 ppt) on Red Hybrid and *Oreochromis niloticus* fingerlings spawned and reared in freshwater was investigated. The objective of this study was to determine the relative salt tolerance of the two strains of locally available fish.

Red Hybrids tested displayed no mortality when subjected to salinity increases of 0 – 34 ppt over 72 and 48 hour periods; subject to direct transfer to 34 ppt, 100% mortality was observed. *O. niloticus* displayed a high (75%) mortality along with disease problems when subjected to salinity increases of 0 – 34 ppt over a 5 day period. The remaining fish died due to handling. Mortality and severe disease problems became apparent when the salinity to which fish were exposed was greater than or equal to 21 ppt.

As a result of the high tolerance displayed to full strength seawater by the Red Hybrid, growth trials were conducted to compare survival and growth of the fingerlings in freshwater and seawater. Fingerlings with average weight 21 – 22 g were grown in rectangular plastic containers (volume of 1000 L) at a density of 50 fish/tank for 4 weeks. The growth rate of fish acclimated to seawater (0.88 g/day) was observed to be significantly higher than 0.64 g/day in freshwater. This ability of the Red Hybrid to survive under fully marine conditions is a positive factor for possible development of Tilapia mariculture in Jamaica.