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Title: Tilapia culture in saline waters: a review

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Abstract: This review attempts to evaluate the potential of tilapia culture in saline waters and in the process employs biological, economic and environmental considerations in the analytical framework. Biological potential of many commercially important tilapiine species is promising. They tolerate, grow and even reproduce in saline waters, although this capacity is somewhat offset under high salinity conditions. Particularly, they are sensitive to handling and succumb to secondary infections in seawater salinities. However, it is technically feasible to produce seed by clutch-removal management technique in salinities less than 18 ppt and to grow the fish in 35 ppt. A range of 10-20 ppt is optimal for growth. Optimal dietary protein content is 20-25% and feeding rates close to satiation levels lead to the highest growth. Various production systems ranging from earthen ponds to intensively stocked tanks, raceways and cages have been tested for grow-out; choice of a particular system would largely depend on the economics of water use. Production technology needs to be verified in several locations and, in light of the fact that tilapia get easily established as feral populations in natural ecosystems, extreme caution should be exercised in the introduction of fish into those culture systems connected to estuaries and mangroves.

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