Apparent nutrient digestibility, growth performance and feed utilization of juvenile Nile tilapia, *Oreochromis niloticus* L., as influenced by stocking density and feeding frequency

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**Abstract.** Experiments were carried out to study the effects of stocking density and feeding frequency on apparent nutrient digestibility, growth performance and feed utilization efficiency of tilapia, *Oreochromis niloticus* juveniles. Significantly higher (P < 0.05) weight gain (%), specific growth rate (SGR %/day), feed conversion ratio (FCR), protein efficiency ratio (PER), apparent nitrogen utilization (ANU %) and carcass nitrogen deposition (CND mg/day) were achieved by the fish stocked at 0.5/L and receiving either 3 or 4 meals/day. Significantly lower growth performance was observed in all groups of fish fed twice/day. At all stocking densities tested, apparent digestibility coefficients (ADC) for protein were significantly better when the fish were fed 3 meals/day. In general the ADC values obtained in this experiment were low for all nutrients which may be attributed to the excreta collection method applied in this study.

**Key words:** *Oreochromis niloticus*, apparent nutrient digestibility, growth performance, feed utilization efficiency, stocking density, feeding frequency

**Introduction**

Tilapia culture is an expanding industry throughout the world with the trend toward conversion to semi-intensive and intensive industry. The demand for studying the performance of fish under high-density conditions is intensifying. A crucial factor determining the feasibility of an aquaculture organism is the maximum