

Effect of potential probiotic bacteria on growth and survival of tilapia *Oreochromis niloticus* L., cultured in the laboratory under high density and suboptimum temperatura

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Abstract

This study examined the effect of potential probiotic bacteria on growth and survival of the tilapia *Oreochromis niloticus*, under high density and suboptimum temperature. Presumptive *Bacillus* and lactic acid bacteria (LAB) were isolated from tilapia and from their culture system and were characterized for haemolytic and enzymatic activity, and antagonism against *Vibrio*. Selected strains were included in the diet of juvenile tilapia and evaluated during a 134- day assay. The experiment was conducted with four treatments: (1) fish fed with commercial feed plus Dry Oils; (2) fish fed with commercial feed plus LAB; (3) fish with bacilli in water; (4) fish with a mixture of treatments 2 and 3. Tilapias in all treatments, including bacteria, grew significantly better than fish fed with commercial feed plus Dry Oils (control group). Survival was similar in all treatments. The physicochemical parameters of the culture system were maintained within the optimal ranges for the species, with the exception of temperature. Animals fed diet supplemented with bacilli and LAB had good survival and the best growth performance, suggesting that bacteria are appropriate growth-stimulating additives in tilapia cultivation.