

Growth of Three Strains of Nile Tilapia Cultured in the Rock Salt Water

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Abstract

This study aimed to assess growth performance of three strains of Nile tilapia (Chitralada 3, Uttaradit and Superblack) cultured in the salinity of 0, 5 and 15 ppt of rock salt water. The experiment was conducted between July 2015- November, duration of culture was 4 months. The 3x4 factorial (3 strains 4 salinity) in completely randomized design was used. Fish (average initial weight of Chitralada 3, Uttaradit and Superblack were 0.66 ± 51.01 , 1.76 ± 51.59 and 0.25 ± 50.14 g, respectively) were randomly stocked in each of 36 fiber glass tanks (600 L). Stocking density was 115 fish/m³, the fish were fed twice a day. All fish cultured in 25 ppt were died within 12 hours after experiment started. Results showed that the Average Daily Gain (ADG) of superblack strain (1.480 ± 0.14 g/day) was significantly higher than those of Uttaradit strain (1.190 ± 0.11 g/day) and Chitralada 3 strain (1.100 ± 0.47 g/day) ($P < 0.05$). ADG of all three strains cultured in 5 ppt and 0 ppt were no significantly different ($P > 0.05$). Feed Conversion Ratio (FCR) of Chitralada 3, Uttaradit and Superblack were 0.23 ± 1.38 , 0.50 ± 1.27 and 0.51 ± 1.45 , respectively. FCR of three strains and three salinity levels were no significantly different ($P > 0.05$). Survival rate of Chitralada 3, Uttaradit and Superblack were 70.77%, 70.53% and 84.79%, respectively. Survival rate of three strains were no significantly different ($P > 0.05$). Survival rate of fish cultured in 0, 5 and 15 ppt were 85.52%, 84.30% and 56.27%, respectively. Survival rate of fish cultured in 15 ppt was significantly lowest ($P < 0.05$). There were no interaction between strain and salinity level ($P > 0.05$).

Keywords: Nile tilapia, strain, salinity, rock salt