

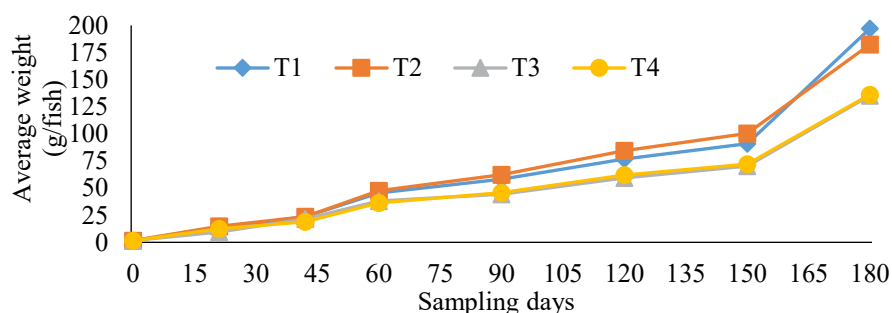
ORL-F&HN-02**Effect of Feeding Frequency on Growth and Production of Red Tilapia *Oreochromis* spp. in a Hapa System**

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An experiment was conducted at Fisheries Program, Agriculture and Forestry University, Rampur, Nepal to determine the effect of feeding frequency on growth and production of red tilapia (*Oreochromis* spp.). The experiment was conducted for 180 days and it included four treatments and three replicates. The treatments were four feeding frequencies: i) feeding once daily (T₁), ii) feeding twice daily (T₂), iii) feeding once on alternate day (T₃) and iv) feeding twice on alternate day (T₄). One month old sex reversed male red tilapia fries were stocked at a density of 4 fish/m² in 2 m² (2 m × 1 m × 1 m) hapa fixed in four concrete tanks (5 m × 5 m × 1.5 m). Stocking weight was 1.63±0.08, 1.69±0.04, 1.63±0.07 and 1.57±0.04 g/fish in treatments T₁, T₂, T₃ and T₄ respectively. Fish were fed with 28% CP commercial floating pellet at the rate of 4% of the body weight for first month, followed by 3% body weight for the second month and 2% body weight for the remaining experimental period. Ponds were limed at the rate of 500 kg/ha, and fertilized with urea and DAP at the rate of 4 g N/m²/day and 1 g P/m²/day respectively. Temperature, DO, and pH were recorded weekly while Secchi disk visibility, SRP, TAN and chlorophyll-a were recorded fortnightly.

Water quality parameters were in normal range and did not differ among treatments (p>0.05). The average harvest weight of fish in T₁, T₂, T₃ and T₄ were 197.08±5.19, 182.42±5.60, 135.33±9.18, 136.23±6.89 g/fish, respectively, and growth rate was 1.09±0.03, 1.00±0.03, 0.74±0.05, 0.74±0.04 g/fish/day. The gross yield of red tilapia was significantly higher (p<0.05) in T₁ and T₂ (7.22±0.26, 7.30±0.22 t/ha/180 days, respectively) than T₃ and T₄ (5.41±0.37, 5.21±0.21 t/ha/180 days, respectively). The net fish yield was significantly higher (p<0.05) in T₁ and T₂ (7.21±0.26, 7.29±0.22 t/ha/180 days) than T₃ and T₄ (5.41±0.37, 5.20±0.21 t/ha/180 days, respectively). Higher gross and net yields in T₁ and T₂ than T₃ and T₄ was due to higher feed intake providing nutrients for better fish growth. The apparent feed conversion ratio was significantly higher in T₁ and T₂ compared to T₃ and T₄ indicating better feed utilization on alternate day treatments. The gross margin did not differ significantly (p>0.05) among treatments and were 931000±4000, 906000±68000, 798000±92000, 727000±36000 NRs/ha/180 days, in T₁, T₂, T₃ and T₄, respectively. Based on higher fish growth rate and yields daily feeding is best for red tilapia.



T₁ = Daily feeding one time; T₂ = Daily feeding two times; T₃ = Alternate day feeding one time;
T₄ = Alternate day feeding two times

Figure: Average weight of male red tilapia in different treatments during the experimental period.