

## FEEDING FREQUENCY FOR TILAPIA CAGE PRODUCTION IN RURAL RESERVOIRS

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The experiment was conducted during 113 days (September 12, 2008 to April 1, 2009), and the objective was to evaluate the best feeding frequency for tilapia cage production in rural reservoirs. All the fish were distributed in 12 cages of 2m<sup>3</sup> installed in a rural reservoir at the Research Unit APTA, located at Monte Alegre do Sul, SP. All the cages were stocked with 180 fishes that were fed with a commercial extruded feed containing 40% of crude protein until they reach an average weight of 70 grams, replaced for a 32% feed until the fish reached 160 grams, and finally all the fish were fed with a 28% feed until the end of the experiment. Four treatments (T) were tested: T1- feeding twice a day (9 a.m. and 4p.m.) during 7 days a week; T2- feeding once a day (4p.m.) during 7 days a week; T3- feeding twice a day (9 a.m. and 4p.m.) during 5 days a week, not receiving feed during the weekends; T4- feeding once a day (4p.m.) a week, not receiving feed during the weekends. Initially, all the fish received feed based on 5% of their body weight (BW) until they reach 113 grams. After that, the fish received feed based on 4% of their body weight until they reach 176,3 grams. And, finally the fish were fed until the end of the experiment with 2,5% of their body weight. Water quality analyses were conducted monthly to evaluate the following physical and chemical variables: temperature, pH, conductivity, turbidity; total dissolved solids, dissolved oxygen; salinity, nitrogen, phosphorous and chlorophyll a.

The statistical design used was totally random with 4 treatments with 3 replicates. All data were submitted to ANOVA and the statistical differences detected were submitted to Tukey test ( $P < 0,05$ ). The average values of the zootechnical indexes evaluated and the coefficient of variation (CV%) obtained by the statistical analysis were: daily weight gain (DWG), weight gain (WG), average initial weight (AIW), average final weight (AFW), survival (S%), apparent food conversion rate (AFCR), condition factor (CF) and rate of specific growth (RSG), presented in Table 1.

Regarding water quality, only turbidity presented higher results that could be related to the occurrence of heavy rains. The results showed that the best AFCR was obtained when the fish received feed once a day, during 5 days a week. However, the best weight gain was obtained when the fish received feed twice a day, during 7 days a week. Based on the data related to weight gain, which is the most important index for the fish farmers, it is possible to indicate this treatment as the best feeding strategy for tilapia cage production in small rural reservoirs for that size of fish, which should be further evaluated with an economical analysis.

Table 1: Zootechnical indexes of tilapia production under different feeding rates during 113 days.

Treatment	WG (g)	AWG (g)	AIW (g)	AFW (g)	S (%)	AFCR	CF	RSG
2X/day-7days	A 216,98	A 1,92	A 40,52	A 257,50	A 88,67	A 1,81	A 23,01	A 1,63
1x/day-7days	B 162,57	B 1,43	A 40,07	B 201,64	A 93,67	B 1,62	B 21,70	AB 1,44
2x/day-5days	B 152,28	B 1,34	A 41,41	B 193,69	A 86,33	C 1,41	C 21,18	AB 1,36
1x/day-5days	C 122,35	C 1,08	A 38,88	C 160,73	A 86,67	D 1,35	D 19,87	B 1,26
CV%	6,42	6,42	9,22	4,22	18,68	22,47	1,48	7,42

\* Averages with the same letter on the column did not presented any differences by Tukey's test ( $P < 0,05$ ).



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**ABSTRACTS**



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