

CHANNEL CATFISH *Ictalurus punctatus* FOOD CONVERSION RATIOS, FEEDING RATES AND GROWTH

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Food conversion ratio (FCR) and percent body weight (% BW) fed are important components of channel catfish growth and production biology. If one knows individual weight, FCR and % BW fed it is relatively simple to calculate growth. Sufficient information has been reported about channel catfish in the literature to plot FCR and % BW fed values as a function of weight. Using the data in Table 1 for channel catfish weighing from 27 g to 1362 g, equations were developed for both FCR and % BW fed, as a function of weight. These same data can be used to determine channel catfish growth rate at optimum temperatures.

Power and natural log functions had the best fit for the data plotted. Correlation was high for both FCR and % BW fed. Power and natural log equations for FCR were: $y = 0.6742x^{0.1694}$ ($R^2 = 0.984$) and $y = 0.2803\ln(x) + 0.0293$ ($R^2 = 0.976$), respectively, where $y = \text{FCR}$ and $x = \text{fish weight}$. Power and natural log equations for % BW fed were: $y = 16x^{-0.378}$ ($R^2 = 0.97$) and $y = -0.866\ln(x) + 7.0132$ ($R^2 = 0.976$), respectively, where $y = \% \text{ BW fed}$ and $x = \text{fish weight}$. These equations can be used to calculate FCR and % BW fed for individual catfish ranging from 27 g to 1362 g. Moreover, these mathematical relationships can be used to create feeding tables and generate equations that estimate channel catfish growth rate.

Fish Size (g)	FCR	Daily Feed (% BW)
27.2	1.15	4.25
45.4	1.35	3.75
136.2	1.50	2.75
272.4	1.70	2.25
340.5	1.85	1.75
454	1.95	1.40
908	2.10	1.15
1362	2.30	1.05