Bioeconomic analysis of ration size in intensive tilapia culture

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Balanced feed represents approximately 60% of production costs in fish culture and ration size has significant effects on this parameter. Ration size varies according to culture strategies and producer knowledge. It can also have environmental implications since feed can be a pollutant. A bioeconomic model was developed for an intensive system with recirculation considering different ration sizes (100% recommended levels, 80%, 50% and satiety). Assumptions for model parameterization were based on previous production experiments and market factors in Mexico. The 80% ration resulted in the greatest reduction in water changes, energy and operating capital, and was profitable. The 50% and satiety rations were not profitable, and the latter had the highest water change and operating capital requirements.