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Estimation of Biological Filter of Closed Fish Farming System

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Abstract: The aim of this study is to solve one of the most important problems faced fisheries in the closed fish farming system to estimate the efficiency of biological filter and whether the biological filter reached the highest level of effectiveness. This study was conducted in Kazan governmental university for Energy Science, Kazan city in the Russian Federation (R38V+GG) for the period from February to May 2018. The results showed the efficiency of the biological filter is determined by the relationship between the quantity of O_2 and the time. The lower time required for the consumption of O_2 in the filter after stopping the flow of water and air to the filter, the less time needed to consume O_2 increased the efficiency of the biological filter and closer to highest level. The efficiency when the time required for consumption of all O_2 reaches less than 10 minutes. The study recommends finding a table for amount of ammonia provided by fish depending on the amount of food eaten by the fish as well as depending on the amount of protein in the diet by through the equation above.

Keywords: Biological filter, Closed farming system, Fish