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THANYA PROMSORN : EFFICIENCY OF SBR SYSTEM IN THE REMOVAL OF LOW-SALINITY BLACK TIGER SHRIMP POND WASTEWATER. THESIS ADVISORS : SUVIT SHUMNUMSIRIVATH , M.S., KRISANA TEANKAPRASITH M.S., UDOMSAK KONGMUANG, M.S. 101 P. ISBN 974-665-012-2

The objective of this study was to determine the efficiency of the SBR system in the removal of BOD, TKN, and SS from the wastewater of low-salinity black tiger shrimp pond. The experiment was divided into 2 Running conditions : Running I (2 hrs. anoxic, 4 hrs. oxic time) and Running II (4 hrs. anoxic, 2 hrs. oxic time). Each Running was divided into 2 parts : Part I (F/M ratio 0.01-0.02) and Part II (F/M ratio 0.02-0.04). The removal efficiency of BOD, TKN, and SS of SBR system was investigated. Raw wastewater from one shrimp culture farm in Samutprakan was used for the experiment.

The removal efficiency of Running I (Part I and Part II) was 86.84 % and 85.84 %, 55.78 % and 57.21 %, 79.10 % and 77.23 % for BOD, TKN, and SS respectively. The removal efficiency of Running II (Part I and Part II) was 64.60 % and 67.16 % , 54.37 % and 53.54 %, 57.59 % and 52.39 % for BOD, TKN, and SS respectively.

The Univariate Analysis of Variance at 0.05 significance level showed that the removal efficiency of Running I for BOD, TKN, and SS was significantly better than that of Running II. The BOD and TKN removal efficiency of Part I and Part II was not significantly different; however, the SS removal efficiency of Part I was significantly better than that of Part II. The results of the study showed that the effluent with characteristics better than the standard required was obtained by the best Running SBR which was achieved by 2 hrs. anoxic, 4 hrs. oxic time with F/M ratio of 0.01-0.02.