

Kanchana Thuyviang 2012: Study of Dominant Bacteria in Primary Wastewater Treatment from Frozen Seafood Industry. Master of Engineering (Environmental Engineering), Major Field: Environmental Engineering, Department of Environmental Engineering. Thesis Advisor: Miss. Peerakarn Banjerdkit, D.Tech.Sc. 75 pages.

Wastewater with high organic composition (High COD) treated by using bacteria to decompose organic substances in wastewater, is the efficient and cost-effective method. In this project, it is the study of bacteria used in the wastewater treatment (Primary treatment) for the frozen food industry in the province of Samutsakorn. The study follows a group of bacteria, *Pseudomonas* sp., *Nitrosomonas* sp., *Acinetobacter* sp., and *Zoogloea* sp., based on information from the wastewater parameters, BOD, COD, TKN, Suspended Solids, Grease & Oil and Total phosphate. The utilized technique was to culture bacteria in Spread plate Isolate pure bacteria by Streak plate method and Biochemical test

The study of morphology with Gram stain is found that identification of bacteria with the most population of bacteria in wastewater treatment at the 1st factory are *Pseudomonas* sp., of 5.4×10^8 CFU/ml, *Nitrosomonas* sp., of 1.6×10^6 CFU/ml, *Zoogloea* sp., of 3.6×10^8 CFU/ml, and *Acinetobacter* sp., of 4.0×10^7 CFU/ml respectively, At the 2nd factory, the most of bacteria are *Nitrosomonas* sp., of 1.0×10^6 CFU/ml, *Acinetobacter* sp., of 7.3×10^7 CFU/ml, *Zoogloea* sp., of 2.5×10^6 CFU /ml, and *Pseudomonas* sp., of 2.2×10^6 CFU /ml respectively. At the 3rd factory, the most of bacteria are *Zoogloea* sp., of 4.0×10^8 CFU /ml, *Pseudomonas* sp., of 8.3×10^8 CFU /ml, *Nitrosomonas* sp., of 1.3×10^6 CFU /ml, and *Acinetobacter* sp., of 5.5×10^7 CFU /ml respectively

According to the result, The bacteria with the majority of the population in Primary Wastewater Treatment at the 1st factory are *Pseudomonas* sp. At the 2nd factory, the most of bacteria are *Acinetobacter* sp., At the 3rd factory, the most of bacteria are *Pseudomonas* sp.

Student's signature

Thesis Advisor's signature

