

Pheerachai Jairakkla 2011: Effect of Wastewater from Oxidation ponds in Hematology and Blood Chemistry in Nile Tilapia (*Oreochomis nilotica*) at Leam Phak Bia Royally Initiated Environment Research and Development Project in Phetchaburi Province. Master of Science (Environmental Science), Major Field: Environmental Science, College of Environment. Thesis Advisor: Associate Professor Nipon Tungkananuruk, Ph.D. 101 pages.

This research paper was to study the quality of wastewater treatment in oxidation ponds which affected the hematological values of Nile fish such as the red blood cell count, the white blood cell count, the packed cell volume (hematocrit), the concentration of hemoglobin and the chemical blood values of sodium ion, chloride ion, calcium ion. The experimental fish was divided into 4 groups, with 10 fish in each group in serial oxidation ponds and the experiment was investigated in summer, winter and rainy seasons. Water and blood samples were collected for every 4 months in one year. It was found that the high organics content in oxidation pond affecting the quality of the fish living and the hematological values of the fish. In addition, the ammonia in oxidation pond was from the biodegradation of the nitrogen organic substance, waste product excretion, fossil, fertilizer and feedstuff waste. Which the concentration was higher than 0.5 mg/L. It would cause the fish stress, showing in higher concentration of the hemoglobin and the red blood cell count. However, in the rainy season was less suitable for the fish because of the short time of wastewater treatment in each oxidation pond. The third wastewater treatment pond was the most suitable pond for the fish according to the hematological values of the fish in each season.

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