ABSTRACT

JACQUELINE M.F SAHETAPY. Toxicity of heavy metal’s lead (Pb) and its effects on oxygen consumption and hematological response of juvenile tiger grouper (*Epinephelus fuscoguttatus*). Supervised by D. DJOKOSETIYANTO and EDDY SUPRIYONO.

Lead (Pb) is a toxic and dangerous heavy metal, most found as contaminants and tend to interfere the survival of aquatic organisms. The aim of this research was to analyze the effect of lead toxicity at various concentrations to the level of oxygen consumption, blood glucose level, hematological response (hematocrit, hemoglobin, number of erythrocyte and leukocytes), survival and growth of tiger grouper fish. This study was conducted in the two stages, those are: acute and sub–chronic test. The results showed that the impact of lead toxicity in juvenile tiger grouper fish would reduce the level of oxygen consumption, hematocrit, hemoglobin and the number of erythrocyte, those were equal to 0.34 mg O$_2$/gr of body weight / hour; 9.66%; 2.64 % and 0.77x10$^6$ cells/mm$^3$. Besides the effect of lead toxicity also increases the number of leukocytes (0.81x10$^6$ cells/mm$^3$), blood glucose levels (90.79 mmol / liter), effect growth rate and reduce the survival rates.

*Keywords*: Lead; toxicity; juvenile tiger grouper