

ABSTRACT***THE INFLUENCE OF TAMARILLO (*Solanum betaceum*) EXTRACT ON TESTOSTERONE LEVELS AND SPERMATOZOA CONCENTRATION OF MICE (*Mus musculus*) EXPOSED BY LEAD ACETATE***

Environmental pollution is an issue of special concern throughout the world. One of the pollutants that are harmful to humans is lead. Lead exposure can perturb the reproductive system, cause serious damage to the testes and lead to male infertility because of increased production of Reactive Oxygen Species (ROS). Moreover, increasing oxidative stress which causes changes in Sertoli cells and Leydig cells as a production of the hormone testosterone so that caused disruption of spermatogenesis. This research was conducted to determine the potential of Tamarillo fruit (*Solanum betaceum*) as an antioxidant that can prevent oxidative stress due to exposure to lead acetate. This study used a posttest only control group design with a sample of 40 male rats. Rats were divided into 5 groups that were given oral care. The positive control group was given 75 mg / kg BW of lead acetate treatment. The administration group was given lead acetate and Tamarillo extract at various doses of 100 mg/kgBW (P1), 200 mg/kgBW (P2), and 400 mg/kgBW (P3). The results showed the average concentration of spermatozoa in groups K0 (5.96 million/ml), K1 (4.08 million/ ml), P1 (9.53 million/ml), P2 (7.62 million/ml), P3 (7.27 million/ml). Statistical test results showed significant differences in each group $p = 0.005$ ($p < 0.05$). Test results for testosterone levels K0 (23.55 nmol/L), K1 (20.76 nmol/L), P1 (13.57 nmol/L), P2 (12.77 nmol/L), P3 (7.98 nmol/L). Statistical test results showed a significant difference in each group $p = 0,000$ ($p < 0.05$). The conclusion is the Tamarillo (*Solanum betaceum*) extract can increase sperm, but testosterone levels show a significant decrease.

Keywords: *Tamarillo, stress oksidatif, antioksidant, spermatozoa concentration, testosterone levels,*