Erinda Trias Wardani, 2012, The Influence of Ginger Extract (Zingiber officinale Rosc.) var. Elephants on the Quality of Spermatozoa of Mice (Mus musculus) after Exposure to 2-Methoxyethanol. This scription was guidanced by Dr. Alfiah Hayati and Drs. I.B Rai Pidada, M.Si, Department of Biology, Faculty of Science and Technology Airlangga University, Surabaya.

ABSTRACT

The research has done to investigated the effect of various doses of ginger extract on the recovery quality of spermatozoa of mice (Mus musculus) after exposure to 2-Methoxyethanol. The quality of spermatozoa were observed include the count, morphology, motility, and viability of spermatozoa. The research used experimental animals in for 30 male mice (Mus musculus) strain BALB/C advanced in years 8-9 weeks with 23-27 g weight. Those mices were divided into 5 groups, each with consist 6 mice. $K_0$ is the positive control group were given 0.5 ml distilled water via gavage/day for 40 days. $K_1$ is the negative control group was given 200 mg/kg bw 2-ME through intraperitonial/day for 5 days + 0.5 ml distilled water via gavage/day for 35 days. $P_1$, $P_2$, and $P_3$ is the treatment group were each given 200 mg/kg bw 2-ME through intraperitonial/day for 5 days + ginger extract with variations of each dose 0.7 g/kg bw, 1.4 g/kg bw, and 2.8 g/kg bw via gavage/day for 35 days then has operation an took a part of cauda epididymis to get spermatozoa. The observations made on each mice to investigated count, morphology, motility, and viability of spermatozoa. The data was analyzed by ANOVA then continuing by LSD (Least Significant Differences). The results showed the count of spermatozoa of $5.238 \times 10^6$ sel/ml ($K_0$), $3.561 \times 10^6$ sel/ml ($K_1$), $5.100 \times 10^6$ sel/ml ($P_1$), $5.001 \times 10^6$ sel/ml ($P_2$), and $4.676 \times 10^6$ sel/ml ($P_3$). Morphology of spermatozoa of 73.0 % ($K_0$), 51.6 % ($K_1$), 72.8 % ($P_1$), 71.4 % ($P_2$), and 66.3 % ($P_3$). Motility of spermatozoa of 7.619 µm/detik ($K_0$), 4.491 µm/detik ($K_1$), 7.489 µm/detik ($P_1$), 7.248 µm/detik ($P_2$), and 6.716 µm/detik ($P_3$). Viability of spermatozoa of 70.0 % ($K_0$), 51.1 % ($K_1$), 69.1 % ($P_1$), 68.7 % ($P_2$), and 64.7 % ($P_3$). The conclusion of this study is the gift of ginger extract 0.7 g/kg bw and 1.4 g/kg bw influential recover the count, morphology, motility, and viability of spermatozoa of mice after exposure to 2-ME.

Keywords: ginger extract, 2-methoxyethanol, count, morphology, motility, and viability of spermatozoa.