Citra Maruliyananda, 2012, The effect of Ethanol Extract of Green Bean Sprout (*Phaseolus radiatus*) on Sperm Quality of Mice (*Mus musculus*) After Exposure of 2-*Methoxyethanol*, SKRIPSI, under guidance Dr. Alfiah Hayati and Drs. I. B. Rai Pidada, M.Si, Departement of Biology, Faculty of Science and Technology, Airlangga University, Surabaya.

ABSTRACT

Male infertility causes by many factor, one of them is toxic chemical 2-*methoxyethanol* (2-ME). The green bean sprout (*Phaseolus radiatus*) containt the antioxidant vitamin E. Vitamin E as antioxidant can avoid free radicals and break the chain of lipid peroxidation process in cell membrane. The ethanol extract of green bean sprout was used to overcome the effect of 2-ME. This main aim of this study to know the influence of ethanol extracts green bean sprout (*Phaseolus radiatus*) to mice sperm quality after exposure of 2-ME. Thirty BALB/C male mice (*Mus musculus*) 8-9 week old, weighed 25-28 grams, was divided into 5 groups, 2 control groups and 3 treatment groups. Negative control group (Kn) were given aquades 0,1 ml by *gavage* within 40 days, positive control group (Kp) were given 2-ME 200 mg/kg body weight daily by *intraperitoneal* injection within 5 days, and continued by giving aquades 0,1 ml within 35 days, treatment groups (P1, P2, dan P3) were given 2-ME 200 mg/kg body weight daily within 5 days, continued by giving extract green bean sprout in three doses 0,5 ; 1 ;and 2 g/kg BB within 35 days. Mice were sacrified, epididimis were collected and examined. Count, normal morphology, viability and motility of spermatozoa were observed. The data analyzed by One-way ANOVA to investigate the influenced of treatment groups. Then LSD test to show the differences *mean* between treatment groups. The result showed that 2-ME can decrease sperm count, normal morphology, viability and motility. The green bean sprout ethanol extract can increase sperm count, normal morphology, viability and motility after exposure of 2-ME. The conclution of this study, the green bean sprout ethanol extract at dose of 1 g/kg can increased sperm count and viability, whereas the dose of 2 g/kg can increase normal morphology and sperm motility. The green bean sprout ethanol extract at dose of 1 g/kg can recover sperm motility, whereas the dose of 2 g/kg can recover sperm count, normal morphology, viability and sperm motility.

Keyword : 2-ME, green bean sprout, spermatozoa