

**THE EFFECT OF WATERMELON'S INNER RIND EXTRACT (*Citrullus lanatus*) TOWARDS THE INTEGRITY OF THE PLASMA MEMBRANE AND SPERMATOZOA MORPHOLOGY ABNORMALITY OF MALE NORWAY RATS (*Rattus norvegicus*) AFTER BEING EXPOSED TO HOT TEMPERATURE**

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**ABSTRACT**

This study aims to determine the effect of watermelon's inner rind extract (*Citrullus lanatus*) towards the integrity of the plasma membrane and morphological abnormalities of male Norway rats' spermatozoa (*Rattus norvegicus*) after being exposed to hot temperature. The content of lycopene in the inner rind of watermelon serves as an antioxidant counteracting free radicals. A total of 20 male Norway rats (*Rattus norvegicus*) were used in this study with an average age of 2 months. The study was divided into five treatments and four replications, consisting of: K(-) as negative control given CMC Na 0.5% as much as 0.5 ml, P0 as positive control was exposed to 40° C for 1 hour and CMC Na 0.5% of 0.5 ml. P1, P2 and P3 are exposed to 40° C for 1 hour and inner rind extracts of watermelon with a multilevel dose of P1: 20mg/head/day, P2: 40mg/head/day, and P3: 80mg/head/day that each dose was dissolved in CMC Na 0.5% of 0.5 ml. The results showed that giving inner rind extract of watermelon to the rats increased the integrity of the plasma membrane and decreased morphological abnormalities of male rat's spermatozoa (*Rattus norvegicus*). The result of increased the integrity of the plasma membrane and highest decreased morphological abnormality was shown by P3 group given a dose of 80 mg/head/day.

**Key words:** Lycopene, antioxidant, inner rind of watermelon, integrity of the plasma membrane, morphological abnormalities of spermatozoa