

**AKTIVITAS TESTIS
TIKUS PUTIH (*Rattus norvegicus*, Berkenhout 1769)
PADA FOTOPERIODE PENDEK**

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INTISARI

Reproduksi merupakan salah satu cara makhluk hidup untuk mempertahankan jenisnya. Faktor eksternal yang dapat mempengaruhi sistem reproduksi hewan salah satunya adalah cahaya. Tujuan penelitian ini untuk mengetahui pengaruh fotoperiode pendek terhadap aktivitas gonad tikus putih jantan ditinjau dari Indeks Gonadosomatik, berat kelenjar asesoris, spermatogenesis, dan kualitas spermatozoa. Sebanyak 12 ekor tikus putih jantan dibagi menjadi 4 kelompok. Masing-masing kelompok terdiri atas 3 ekor tikus. Kelompok 1 sampai dengan kelompok 4, diperlakukan dengan fotoperiode pendek dalam irama sirkadian 12T, 9T, 6T, dan 3T. Perlakuan fotoperiode selama 6 minggu menggunakan cahaya lampu dengan intensitas 120 lux. Parameter yang diamati meliputi, Indeks Gonadosomatik, berat kelenjar asesoris, jumlah sel spermatogenik, dan kualitas spermatozoa. Analisis aktivitas spermatogenesis dilakukan dengan pembuatan sediaan histologis menggunakan metode parafin. Data dianalisis menggunakan *Analysis of Variance* (ANOVA) dan *Duncan's Multiple Range Test* (DMRT). Hasil penelitian menunjukkan bahwa fotoperiode pendek menghambat perkembangan spermatogenesis, motilitas spermatozoa, viabilitas spermatozoa, dan jumlah spermatozoa. Fotoperiode pendek tidak berpengaruh signifikan terhadap Indeks Gonadosomatik dan berat kelenjar asesoris.

Kata kunci : Fotoperiode pendek, spermatogenesis, spermatozoa

***TESTICULAR ACTIVITY
IN WISTAR RAT (*Rattus norvegicus*, Berkenhout 1769)
ON SHORT PHOTOPERIOD***

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ABSTRACT

Reproduction is one way to preserve the species living things. The external factors can be affecting the animal reproduction systems is light. Purpose of this study is to determine the activity of the testicular white rat to find the influences of short photoperiod are determined from the Gonadosomatic Index, weight accessories gland, spermatogenesis, and quality of spermatozoa. Twelve male rats were divided into 4 groups. Each group consisted of 3 rats. Group 1 until group 4 were treated with short photoperiod in circadian rhythm 12T, 9T, 6T, 3T. Photoperiod treatments was conducted during 6 weeks. On the light treatment, each group was exposed to light with the lamp in 120 lux intensity. The measured parameters were consisted of gonadosomatic index, weight accessories gland, amount of spermatogenic cells, and quality of spermatozoa. Spermatogenesis activity was examined by histological preparation using paraffin method. The data were analysis used Analysis of Variance (ANOVA) and Duncan's Multiple Range Test (DMRT). The result of this research showed that short photoperiod inhibit the development of spermatogenesis, spermatozoa motility, percentage of viability, and amount of spermatozoa. Meanwhile it did not significantly on gonadosomatic index, and weight accessories gland.

Keywords : Short photoperiod, spermatogenesis, spermatozoa