

## ABSTRAK

**Reza Andi Permana.** Penelitian ini bertujuan untuk mengetahui pengaruh lama penyimpanan terhadap kualitas spermatozoa ayam Brahma yang diencerkan menggunakan NaCl fisiologis. Materi yang digunakan dalam penelitian ini adalah semen ayam Brahma berumur  $\pm 1,5$ –2 tahun. Penelitian dilakukan dengan lama penyimpanan semen selama 1, 3, 5, dan 7 jam dengan suhu  $5^{\circ}\text{C}$ . Rasio pengenceran semen dengan pengencer NaCl fisiologis adalah 1:4. Variabel yang diamati meliputi motilitas, viabilitas, dan abnormalitas spermatozoa. Metode yang digunakan adalah metode percobaan dengan Rancangan Acak Lengkap (RAL). Data dianalisis menggunakan analisis variansi (ANOVA), dan apabila terdapat pengaruh nyata dilanjutkan dengan uji Beda Nyata Jujur (BNJ). Hasil analisis statistik menunjukkan bahwa lama penyimpanan semen ayam Brahma dengan pengencer NaCl fisiologis berpengaruh sangat nyata ( $P < 0,01$ ) terhadap motilitas dan viabilitas, serta berpengaruh nyata ( $P < 0,05$ ) terhadap abnormalitas spermatozoa. Semakin lama waktu penyimpanan, motilitas dan viabilitas spermatozoa cenderung menurun, sedangkan persentase abnormalitas meningkat. Hasil rata-rata motilitas sebesar  $72,00 \pm 5,70$ ;  $57,00 \pm 6,71$ ;  $41,00 \pm 8,94$ ; dan  $26,00 \pm 4,18$ . Rataan viabilitas sebesar  $79,63 \pm 7,67$ ;  $69,21 \pm 7,86$ ;  $63,37 \pm 8,92$ ; dan  $47,21 \pm 8,95$ . Rataan abnormalitas sebesar  $6,00 \pm 3,01$ ;  $8,63 \pm 1,85$ ;  $11,20 \pm 2,85$ ; dan  $13,99 \pm 2,99$ . Dapat disimpulkan bahwa kualitas spermatozoa ayam Brahma menurun seiring dengan bertambahnya lama penyimpanan semen, sehingga penyimpanan semen menggunakan pengencer NaCl fisiologis disarankan pada waktu penyimpanan yang singkat untuk mempertahankan kualitas spermatozoa yang optimal.

**Kata Kunci:** ayam brahma, NaCl fisiologis, lama penyimpanan, motilitas, viabilitas, abnormalitas

## ABSTRACT

**Reza Andi Permana.** This study aims to determine the effect of storage time on the quality of Brahma rooster spermatozoa diluted using physiological NaCl. The material used in this study was Brahma rooster semen aged  $\pm 1.5$ –2 years. The study was conducted with semen storage times of 1, 3, 5, and 7 hours at a temperature of 5°C. The semen dilution ratio with physiological NaCl diluent was 1:4. The observed variables included motility, viability, and spermatozoa abnormalities. The method used was an experimental method with a Completely Randomized Design (CRD). Data were analyzed using analysis of variance (ANOVA), and if there was a significant effect, it was continued with the Honestly Significant Difference (HSD) test. The results of the statistical analysis showed that the storage time of Brahma rooster semen, diluted with physiological NaCl diluent had a very significant effect ( $P < 0.01$ ) on spermatozoa motility and viability, and has a significant effect ( $P < 0.05$ ) on spermatozoa abnormalities. The longer the storage time, the motility and viability of spermatozoa tended to decrease, while the percentage of abnormalities increased. The average motility result was  $72.00 \pm 5.70$ ;  $57.00 \pm 6.71$ ;  $41.00 \pm 8.94$ ; and  $26.00 \pm 4.18$ . The average viability was  $79.63 \pm 7.67$ ;  $69.21 \pm 7.86$ ;  $63.37 \pm 8.92$ ; and  $47.21 \pm 8.95$ . The average abnormality was  $6.00 \pm 3.01$ ;  $8.63 \pm 1.85$ ;  $11.20 \pm 2.85$ ; and  $13.99 \pm 2.99$ . It can be concluded that the quality of Brahma rooster sperm decreases with increasing semen storage time. Therefore, storing semen using physiological NaCl diluent is recommended for short storage periods to maintain optimal sperm quality.

**Keywords:** Brahma rooster, physiological NaCl, storage time, motility, viability, abnormalities