PENGARUH BAHAN PENDINGIN STRAW BEKU MENGGUNAKAN ES DAN GARAM DAPUR TERHADAP MOTILITAS SPERMATOZOA SAPI BRAHMAN

YESI OKTAVIA SUPRIADI
NIM: 17022072

INTISARI*

Penelitian ini bertujuan untuk mengetahui pengaruh penggunaan bahan pendingin es dan garam terhadap motilitas spermatozoa sapi Brahman. Penelitian ini dilaksanakan pada tanggal 10 September - 10 Oktober 2019 di Laboratorium Unit Pelaksana Teknis Dinas Balai Pengembangan Bibit, Pakan Ternak dan Diagnostik Kehewanan (UPTD BPBPTDK) Unit Semen Beku Provinsi Yogyakarta. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) pola searah yang terdiri dari empat perlakuan dengan masing-masing tiga kali ulangan. Faktor yang digunakan adalah media P0 (Es), P1 (Es dan garam 5%), P2 (Es dan garam 10%), P3 (Es dan garam 15%). Variabel yang diamati yaitu motilitas spermatozoa. Data dianalisis dengan menggunakan *Analysis of Variance* (ANOVA), jika ada perbedaan nyata dilanjutkan dengan uji *Duncan's New Multiple Range Test* (DMRT). Data hasil penelitian menunjukkan motilitas spermatozoa dalam es, es garam 5%, es garam 10%, es garam 15% yaitu 46,06; 49,95; 59,96; 61,61 .Hasil penelitian dalam waktu 0,5 jam, 1 jam, 1,5 jam, 2 jam, 2,5 jam dan 3 jam menunjukkan hasil rata-rata motilitas sebagai berikut 59,12 ; 57,87; 59,55; 54,95; 48,7; 46,2. Hasil penelitian menunjukkan penggunaan bahan pendingin es dan garam berpengaruh nyata ($P<0,05$) terhadap motilitas spermatozoa sapi Brahman. Berdasarkan hasil penelitian dapat disimpulkan bahwa penggunaan bahan pendingin es dan garam dapat menjaga motilitas spermatozoa diatas standar kelayakan motilitas spermatozoa untuk Inseminasi Buatan. Bahan pendingin yang paling baik dalam mempertahankan motilitas spermatozoa adalah es dan garam 15% dengan motilitas sebesar 61,61.
Kata kunci : Pendingin, es, garam, straw beku, motilitas, spermatozoa, sapi Brahman.

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THE EFFECT OF USING FROZEN STRAW COOLING MATERIALS WITH ICE AND KITCHEN SALT (NaCl) TOWARD BRAHMAN CATTLE'S SPERMATOZOA MOTILITY

YESI OKTAVIA SUPRIADI
NIM: 17022072

ABSTRACT*

This study aims to determine the effect of ice and salt (NaCl) as cooling agents on the spermatozoa motility of Brahman cattle. This research was carried out on 10 September until 10 October 2019 at the Laboratory of the Technical Implementation Unit, Animal Husbandry Seed Development Office, Animal Feed and Diagnostic Veterinary (UPTD BPBPTDK) Frozen Cement Unit of Yogyakarta Province. This study used a Completely Randomized Design (CRD) in one way analysis of variance consisting of four treatments with three replications each. The factors used are media P0 (Ice), P1 (Ice and salt 5%), P2 (Ice and salt 10%), P3 (Ice and salt 15%). The observed variable was spermatozoa motility. Data were analyzed using Analysis of Variance (ANOVA), if there were real differences followed by Duncan's New Multiple Range Test (DMRT). The research data showed the motility of spermatozoa in ice, 5% salt ice, 10% salt ice, 15% salt ice, namely 46.06; 49.95; 59.96; 61.61. The results of the study within 0.5 hours, 1 hour, 1.5 hours, 2 hours, 2.5 hours and 3 hours showed the average motility results as follows 59.12; 57.87; 59.55; 54.95; 48.7; 46.2.The results showed the use of ice and salt as cooling material significantly affected ($P < 0.05$) the spermatozoa motility of Brahman cattle. Based on the results of the study it can be concluded that the use of ice and salt as cooling agents can maintain the spermatozoa motility above the spermatozoa motility standard for Artificial Insemination. The best cooling agent in maintaining spermatozoa motility is ice and salt 15% with motility of 61.61.

Keywords: Coolant, ice, salt, frozen straw, motility, spermatozoa, Brahman cattle.

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