

ABSTRAK

KUALITAS SEMEN BEKU SAPI PERANAKAN ONGOLE (PO) PADA MUSIM HUJAN DAN KEMARAU DI BALAI INSEMINASI BUATAN UNGARAN, JAWA TENGAH

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Kualitas spermatozoa dipengaruhi oleh beberapa faktor, salah satunya adalah musim. Curah hujan tinggi mengakibatkan intensitas cahaya rendah dan menghambat produksi hormon FSH yang berperan dalam spermatogenesis. Penelitian ini bertujuan untuk mengetahui kualitas semen beku sapi Peranakan Ongole (PO) dari Balai Inseminasi Buatan Ungaran pada musim hujan dan kemarau. Penelitian ini menggunakan 8 straw semen beku berasal dari Balai Inseminasi Buatan Ungaran. Semen beku di-*thawing* pada suhu 30-35°C selama 10-15 detik, selanjutnya semen dikeluarkan untuk pemeriksaan motilitas, viabilitas, dan integritas membran spermatozoa. Pemeriksaan motilitas dilakukan diatas gelas objek dan diamati dibawah mikroskop dengan perbesaran 100x. Pemeriksaan viabilitas dilakukan dengan pembuatan preparat apus dengan pewarnaan eosin-nigrosin, kemudian diamati dibawah mikroskop dengan perbesaran 400x. Pemeriksaan integritas membran dilakukan dengan uji *Hypo Osmotic Swelling Test* (HOST), sampel diinkubasi selama 45 menit, dibuat preparat apus, difiksasi dengan methanol dan diperiksa dibawah mikroskop dengan perbesaran 400x. Data dianalisis menggunakan *software Statistical Product and Service Solution* (SPSS) versi 16 dengan uji *ANOVA*. Hasil penelitian menunjukkan kualitas spermatozoa sapi PO pada musim hujan dan kemarau di Balai Inseminasi Buatan Ungaran, berturut-turut sebesar: motilitas 40,75% dan 44,25%, viabilitas 43,75% dan 60,25%, dan integritas membran 40,75% dan 53,25%. Selain itu, terdapat hubungan yang signifikan ($P < 0,05$) antara kualitas semen dan musim, sehingga disimpulkan bahwa kualitas semen beku sapi PO dipengaruhi oleh musim.

Kata kunci : integritas membran, motilitas, peranakan ongole, semen beku, sperma, viabilitas

ABSTRACT

FROZEN SEMEN QUALITY OF PERANAKAN ONGOLE (PO) IN THE RAINY AND DRY SEASON IN BALAI INSEMINASI BUATAN UNGARAN, JAWA TENGAH

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The quality of spermatozoa is influenced by several factors, which one of them was the season. High rainfall results in low light intensity and inhibits FSH production which plays a role in the spermatogenesis. This study aims to determine the quality semen of Peranakan Ongole (PO) from Balai Inseminasi Buatan Ungaran, Jawa Tengah during the rainy and dry season. This study used 8 straws of frozen semen from Balai Inseminasi Buatan Ungaran. Frozen semen was thawed at 30-35°C for 10-15 seconds, then semen was released for examination of motility, viability, and membrane integrity of spermatozoa. Motility examination was carried out on the object glass and observed under a microscope with 100x magnification. Viability examination was carried out by making smear preparation with eosin-nigrosine staining, then observed under a microscope with 400x magnification. Membrane integrity examination was carried out by Hypo Osmotic Swelling Test (HOST), the sample was incubated for 45 minutes, made smear preparation, fixed with methanol and observed under a microscope with 400x magnification. The data were analyzed using the Statistical Product and Service Solution (SPSS) software version 16 with the ANOVA test. The results showed the semen quality of Peranakan Ongole (PO) in the rainy and dry season in Balai Inseminasi Buatan Ungaran were: motility was 40.75% and 44.25% ; viability was 43.75% and 60.25% ;membrane integrity was 40.75% and 53.25%. Moreover, there were significant relationship ($P < 0.05$) between all of the factor of semen quality and season, thus indicating that quality of frozen semen on PO influenced by the season.

Key words: frozen semen, membrane integrity, motility, peranakan ongole, sperm, viability