



TINGKAT KERUSAKAN DNA SPERMATOZOA SAPI BALI DAN SAPI MADURA PASCA THAWING

Wisnu Oka Purwantoro

18/424609/PT/07661

INTISARI

Penelitian ini bertujuan untuk mengetahui tingkat kerusakan DNA *spermatozoa* sapi Bali dan sapi Madura pasca *thawing*. Penelitian ini dilakukan di Laboratorium Fisiologi dan Reproduksi Ternak, Fakultas Peternakan, Universitas Gadjah Mada, Yogyakarta. Delapan belas *straw semen* beku dari sapi Bali dan sapi Madura digunakan dalam penelitian ini. Data yang diamati yaitu motilitas, abnormalitas, dan kerusakan DNA *spermatozoa*. Motilitas diamati berdasarkan gerakan individu *spermatozoa* dan abnormalitas diamati berdasarkan abnormal bentuk kepala dan ekor *spermatozoa*. Pengujian kerusakan DNA dilakukan dengan penambahan *Low Melting Point Agarose (LMP-agarose)* 0,8%, *Lysis Solution (LS)* II, pewarnaan *eosin* dan diamati menggunakan mikroskop perbesaran 400 kali. Data yang diperoleh dianalisis secara deskriptif. Hasil penelitian menunjukkan bahwa rata-rata motilitas, abnormalitas dan kerusakan DNA *spermatozoa* sapi Bali pasca *thawing* secara berturut-turut yaitu $56,94 \pm 3,89$ %, $13,06 \pm 3,33$ %, dan $0,55 \pm 0,35$ %. Rata-rata motilitas, abnormalitas dan kerusakan DNA *spermatozoa* sapi Madura berturut-turut yaitu $54,72 \pm 3,63$ %, $13 \pm 3,74$ %, dan $0,62 \pm 0,35$ %. Berdasarkan hasil penelitian yang dilakukan dapat disimpulkan bahwa bahwa motilitas, abnormalitas berada pada kisaran normal dan kerusakan DNA *spermatozoa* sapi Bali dan sapi Madura masih berada di bawah nilai standar DNA Fragmentasi Indeks (DFI).

Kata kunci: Kerusakan DNA *spermatozoa*, pasca *thawing*, sapi Bali, sapi Madura



LEVEL OF SPERMATOZOA DNA DAMAGE OF BALI BULLS AND MADURA BULLS AFTER THAWING

Wisnu Oka Purwantoro

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ABSTRACT

The purpose of this study was to investigate the level of spermatozoa DNA damage of Bali bulls and Madura bulls after thawing. This research carried out at Laboratory of Animal Physiology and Reproduction, Faculty of Animal Science, Universitas Gadjah Mada, Yogyakarta. Eighteen frozen semen straws from Bali and Madura bulls were use in this research. The data observed were motility, abnormality and *spermatozoa* DNA damage. Motility was observed based on individual movements of spermatozoa and abnormality observed based on abnormal head and tail of spermatozoa shape. DNA damage testing was carried out by adding 0,8% Low Melting Point Agarose (LMP-Agarose), Lysis Solution II, stained with eosin and observed using a microscope with a magnification of 400. The data obtained were descriptive analyzed. The results showed that the average motility, abnormality, and DNA damage of spermatozoa of Bali bulls after thawing were $56.94 \pm 3.89\%$, $13.06 \pm 3.33\%$, and $0.55 \pm 0.35\%$, respectively. The average motility, abnormality, and DNA damage of Madura bull's spermatozoa were $54.72 \pm 3.63\%$, $13 \pm 3.74\%$, and $0.62 \pm 0.35\%$, respectively. Based on results of this research it is known that the motility and abnormality were in the normal range. Spermatozoa DNA damage Bali bull and Madura bull were still below the standard value of DNA Fragmentation Index (DFI).

Keywords: *spermatozoa* DNA damage, after thawing, Bali bull, Madura bull