

## **PENGARUH BOBOT BADAN TERHADAP KUALITAS SEMEN SAPI LIMOUSIN DI BALAI INSEMINASI BUATAN UNGARAN JAWA TENGAH**

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### **INTISARI**

Penelitian bertujuan untuk mengetahui pengaruh bobot badan terhadap kualitas semen sapi Limousin di Balai Inseminasi Buatan Ungaran, Kabupaten Semarang, Jawa Tengah. Penelitian menggunakan data sekunder kualitas semen sapi Limousin dari bulan Januari 2022 sampai dengan Februari 2023. Penelitian dibagi dalam tiga kelompok perlakuan berdasarkan bobot badan. Kelompok 1 bobot badan rendah 756 sampai 800 kg, kelompok 2 bobot badan sedang 801 sampai 845 kg, dan kelompok 3 bobot badan tinggi >846 kg. Parameter kualitas semen yang diamati meliputi warna, nilai pH, volume, konsistensi, gerak massa, konsentrasi, dan motilitas spermatozoa. Data yang diperoleh dianalisis menggunakan rancangan acak lengkap (RAL) pola searah. Hasil jika terdapat perbedaan antar kelompok bobot badan dilakukan uji lanjut *Duncan Multiple Range Test* (DMRT). Hasil menunjukkan bahwa bobot badan memberikan perbedaan ( $p < 0,05$ ) pada warna, volume, konsistensi, gerak massa, konsentrasi, dan motilitas spermatozoa. Kelompok bobot badan rendah memiliki warna krem, nilai pH  $6,53 \pm 0,13$ , volume  $7,37 \pm 2,19$  ml, konsistensi sedang, gerak massa cepat (++), konsentrasi  $1010,95 \pm 493,17 \times 10^6/\text{ml}$ , dan motilitas spermatozoa  $56,48 \pm 22,51\%$ . Kelompok bobot badan sedang memiliki warna krem, nilai pH  $6,52 \pm 0,12$ , volume  $6,86 \pm 1,88$  ml, konsistensi sedang, gerak massa cepat (++), konsentrasi  $1173,31 \pm 450,84 \times 10^6/\text{ml}$ , dan motilitas spermatozoa  $56,62 \pm 16,04\%$ . Kelompok bobot badan tinggi memiliki warna krem, nilai pH  $6,53 \pm 0,12$ , volume  $7,64 \pm 2,06$  ml, konsistensi sedang, gerak massa cepat (++), konsentrasi  $971,45 \pm 640,67 \times 10^6/\text{ml}$ , dan motilitas spermatozoa  $40,39 \pm 30,08\%$ . Disimpulkan bahwa bobot badan berpengaruh terhadap kualitas semen sapi Limousin. Sapi kelompok bobot badan sedang memiliki kualitas semen yang paling baik.

Kata kunci: Sapi Limousin, Bobot badan, Kualitas semen.

## THE EFFECT OF BODY WEIGHT ON SEMEN QUALITY OF LIMOUSIN BULL AT THE ARTIFICIAL INSEMINATION CENTRE OF UNGARAN CENTRAL JAVA

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### ABSTRACT

This study was aimed to determine the effect of body weight on the semen quality of Limousin bull at the Artificial Insemination Center of Ungaran, Semarang Regency, Central Java. The study used secondary data on the semen quality of Limousin bull from January 2022 to February 2023. The bull were divided into three groups based on body weight. Group 1 consisted of bull with low body weight of 756 to 800 kg, group 2 consisted of bull with medium body weight of 801 to 845 kg, and group 3 consisted of bull with high body weight >846 kg. Semen quality parameters observed included colour, pH value, volume, consistency, mass motility, concentration, and motility of spermatozoa. The data obtained were analyzed using a complete random design (RAL) unidirectional pattern, continued with Duncan Multiple Range Test (DMRT) if there was a significant result. The results showed that body weight provided a significant difference ( $p < 0.05$ ) in colour, volume, consistency, mass motility, concentration, and spermatozoa motility. The semen of low body weight bull showed a cream colour, pH value of  $6.53 \pm 0.13$ , volume of  $7.37 \pm 2.19$  ml, medium consistency, mass motility of ++, concentration of  $1010.95 \pm 493.17 \times 10^6/\text{ml}$ , and spermatozoa motility of  $56.48 \pm 22.51\%$ . The semen of medium body weight bull showed a cream colour, pH value of  $6.52 \pm 0.12$ , volume of  $6.86 \pm 1.88$  ml, medium consistency, mass motility of ++, concentration of  $1173.31 \pm 450.84 \times 10^6/\text{ml}$ , and spermatozoa motility of  $56.62 \pm 16.04\%$ . The semen of high body weight bull showed a cream colour, pH value of  $6.53 \pm 0.12$ , volume of  $7.64 \pm 2.06$  ml, medium consistency, mass motility of ++, concentration of  $971.45 \pm 640.67 \times 10^6/\text{ml}$ , and spermatozoa motility of  $40.39 \pm 30.08\%$ . The conclusion of this study was that body weight affects the semen quality of Limousin bull. The bull of medium body weight had the best semen quality.

Keywords: Limousin bull, Body weight, Semen quality.