

PENGARUH PERBEDAAN UMUR TERHADAP KUALITAS SEMEN SEGAR SAPI SIMMENTAL DI BALAI INSEMINASI BUATAN (BIB) UNGERAN

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INTISARI

Kontrol kualitas semen perlu dilakukan untuk menjamin kualitas produksi semen beku agar dapat digunakan untuk perbaikan genetik ternak melalui proses inseminasi buatan (IB). Penelitian ini bertujuan untuk mengetahui pengaruh perbedaan umur terhadap kualitas semen segar pejantan sapi Simmental secara makroskopis dan mikroskopis yang ada di Balai Inseminasi Buatan (BIB) Ungaran. Semen dikoleksi dari enam pejantan sapi Simmental berumur tiga, lima dan tujuh tahun. Koleksi semen dilakukan dengan metode vagina buatan/*artificial vagina* (AV). Semen yang sudah dikoleksi kemudian diperiksa secara makroskopis (volume, pH, warna) dan mikroskopis (gerak massa, motilitas, konsentrasi). Data yang diperoleh dianalisis menggunakan uji *one way* ANOVA, apabila terdapat perbedaan signifikan akan dilanjutkan dengan uji *Duncan*. Umur pejantan berpengaruh secara signifikan ($P < 0,05$) terhadap kualitas makroskopis semen segar dalam hal volume ($6,10 \pm 1,44$ ml; $7,20 \pm 2,25$ ml; $7,00 \pm 1,56$ ml), sedangkan secara mikroskopis umur pejantan berpengaruh signifikan ($P < 0,05$) terkait motilitas ($70,45 \pm 2,61\%$; $69,26 \pm 3,05\%$; $40,67 \pm 8,80\%$) dan konsentrasi ($1.292,06 \pm 366,36$ juta/ml; $1.589,68 \pm 216,72$ juta/ml; $931,30 \pm 246,65$ juta/ml). Uji mikroskopis semen segar dalam hal gerak massa berkategori baik (++) dimiliki oleh pejantan berumur lima, tiga dan tujuh tahun secara berturut-turut yaitu 91,18%, 78,79% dan 33,33%. Kualitas terbaik semen segar pejantan sapi Simmental secara makroskopis dan mikroskopis diperoleh pada umur lima tahun.

Kata kunci: kualitas, umur, semen segar, Simmental

EFFECT OF DIFFERENCES AGE ON QUALITY FRESH SEMEN OF SIMMENTAL CATTLE AT UNGARAN ARTIFICIAL INSEMINATION CENTER

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ABSTRACT

Semen quality control is required to ensure the quality of frozen semen production for use in livestock genetic's improvement through artificial insemination (AI). This study aims to determine the effect of age differences on the quality of fresh semen of Simmental bulls macroscopic and microscopic at the Ungaran Artificial Insemination Center (AIC). Semen was collected from six Simmental bulls aged three, five, and seven years. Semen collection was performed using the artificial vagina (AV) method. The collected semen was then examined macroscopically (volume, pH, color) and microscopically (mass movement, motility, concentration). The obtained data were analyzed using a one-way ANOVA; if significant differences were found, Duncan's test was applied. The age of the bulls significantly affected ($P < 0.05$) the macroscopic quality of fresh semen in terms of volume (6.10 ± 1.44 ml; 7.20 ± 2.25 ml; 7.00 ± 1.56 ml). Microscopically, the age of the bulls significantly affected ($P < 0.05$) motility ($70.45 \pm 2.61\%$; $69.26 \pm 3.05\%$; $40.67 \pm 0.80\%$) and concentration ($1,292.06 \pm 366.36$ million/ml; $1,589.68 \pm 216.72$ million/ml; 931.30 ± 246.65 million/ml). Furthermore, the microscopic examination of fresh semen in terms of mass movement categorized as good (++) was observed in bulls aged five, three, and seven years, at 91.18%, 78.79%, and 33.33% respectively. The best quality of fresh semen from Simmental bulls, both macroscopically and microscopically, was obtained at the age of five years.

Keywords: quality, age, fresh semen, Simmental