

RINGKASAN

KHAIRUL AWALUDIN. Penelitian “Pengaruh *SpermGrad* dalam Medium Putih Telur Terhadap Kualitas Semen Cair dan Semen Beku Pasca *Thawing* Hasil Separasi Seks Domba Dorper” bertujuan mengetahui pengaruh penambahan *SpermGrad* ke dalam medium putih telur terhadap kualitas semen cair dan semen beku pasca thawing hasil separasi seks pada domba Dorper. Penelitian dilaksanakan pada bulan September – November di Laboratorium Kesehatan Ternak dan Bioteknologi Peternakan Intergrated Academic Building (IAB) Universitas Jenderal Soedirman. Materi penelitian menggunakan dua ekor Domba Dorper jantan usia 24 bulan dengan bobot tubuh 50 kg. Penelitian dilakukan secara eksperimen yang dirancang kedalam 2 (dua) kelompok perlakuan P_0 yaitu semen hasil separasi seks tanpa penambahan *SpermGrad* dan P_1 yaitu semen hasil separasi seks dengan penambahan *SpermGrad*. Masing-masing perlakuan diulang 10 kali berupa periode penyadapan. Medium putih telur yang digunakan sebagai separasi seks dengan konsentrasi gradien 15:30 % dengan lama inkubasi 45 menit pada suhu 37°C. Variabel yang diukur meliputi motilitas, viabilitas, abnormalitas, dan konsentrasi spermatozoa pada semen cair hasil separasi seks dan semen beku pasca thawing. Hasil penelitian evaluasi semen cair pasca separasi seks yaitu motilitas $P_0 = 53 \pm 3,50\%$, $P_1 = 55,5 \pm 3,69\%$; viabilitas $P_0 = 56,55 \pm 3,54\%$, $P_1 = 59,55 \pm 4,59\%$; abnormalitas $P_0 = 7,4 \pm 1,20\%$, $P_1 = 6,35 \pm 1,42\%$; konsentrasi $P_0 = 311 \pm 27,26 \times 10^6$ sel/ml, $P_1 = 308 \pm 33,60 \times 10^6$ sel/ml Hasil penelitian evaluasi semen beku pasca *thawing* yaitu motilitas $P_0 = 6,5 \pm 2,42\%$, $P_1 = 8 \pm 2,58\%$; viabilitas $P_0 = 10,7 \pm 3,02\%$, $P_1 = 11,8 \pm 2,86\%$; abnormalitas $P_0 = 11,19 \pm 1,56\%$, $P_1 = 10,75 \pm 1,51\%$; konsentrasi $P_0 = 52,5 \pm 4,25 \times 10^6$ sel/ml, $P_1 = 50,8 \pm 4,69 \times 10^6$ sel/ml. Hasil analisis uji t tidak berpasangan pada penelitian ini menunjukkan tidak berbeda nyata ($P > 0,05$) antara tanpa penggunaan *SpermGrad* dan dengan penggunaan *SpermGrad* terhadap motilitas, viabilitas, abnormalitas, konsentrasi pasca separasi seks dan pasca *thawing*. Kesimpulan pada penelitian ini yaitu kualitas semen pasca separasi seks dan semen beku pasca *thawing* serta laju penurunan kualitas semen dengan penambahan *SpermGrad* sama dengan semen tanpa penambahan *SpermGrad*.

Kata kunci: domba dorper; separasi seks; putih telur; *spermgrad*; kualitas spermatozoa

SUMMARY

KHAIRUL AWALUDIN. The study 'The Effect of SpermGrad in Egg White Medium on the Quality of Liquid Semen and Frozen Semen after Thawing from Sex Separation in Dorper Sheep' aims to determine the effect of adding SpermGrad to egg white medium on the quality of liquid semen and frozen semen after thawing from sex separation in Dorper sheep. The study was conducted from September to November at the Animal Health and Biotechnology Laboratory of the Integrated Academic Building (IAB) at Jenderal Soedirman University. The study used two male Dorper sheep aged 24 months with a body weight of 50 kg. The experiment was designed into two treatment groups: P₀, which consisted of semen from sex-sorted semen without the addition of SpermGrad, and P₁, which consisted of semen from sex-sorted semen with the addition of SpermGrad. Each treatment was repeated 10 times in the form of collection periods. The egg white medium used for sex separation had a gradient concentration of 15:30% with an incubation time of 45 minutes at 37°C. The measured variables included motility, viability, abnormalities, and sperm concentration in the liquid semen from sex separation and frozen semen after thawing. The results of the evaluation of liquid semen post-sex separation were as follows: motility P₀ = 53 ± 3.50%, P₁ = 55.5 ± 3.69%; viability P₀ = 56.55 ± 3.54%, P₁ = 59.55 ± 4.59%; abnormality P₀ = 7.4 ± 1.20%, P₁ = 6.35 ± 1.42%; concentration P₀ = 311 ± 27.26 x10⁶ cells/ml, P₁ = 308 ± 33.60 x10⁶ cells/ml. The results of the evaluation of frozen semen post-thawing were as follows: motility P₀ = 6.5 ± 2.42%, P₁ = 8 ± 2.58%; viability P₀ = 10.7 ± 3.02%, P₁ = 11.8 ± 2.86%; abnormality P₀ = 11.19 ± 1.56%, P₁ = 10.75 ± 1.51%; concentration P₀ = 52.5 ± 4.25 x10⁶ cells/ml, P₁ = 50.8 ± 4.69 x10⁶ cells/ml. The results of the unpaired t-test analysis in this study showed no significant difference (P > 0.05) between the use of SpermGrad and no use of SpermGrad in terms of motility, viability, abnormality, concentration after sex separation, and concentration after thawing. The conclusion of this study is that the quality of semen after sex separation and frozen semen after thawing, as well as the rate of decline in semen quality with the addition of SpermGrad, is the same as semen without the addition of SpermGrad.

Keywords: Dorper sheep; sex separation; egg white; spermgrad; sperm quality