

Kualitas Semen Beku Kambing Saanen (*Capra aegagrus hircus*) pada Pengencer Semen berbasis Lesitin dan Liposom dengan Penambahan Maltosa = The Quality of Saanen Goat (*Capra aegagrus hircus*) Frozen Semen in Lecithin and Liposomes-based Semen Extender with Addition of Maltose

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Abstrak

Kambing Saanen merupakan salah satu kambing perah penghasil susu yang baik. Guna meningkatkan efisiensi reproduksi kambing Saanen, dikembangkan teknologi inseminasi buatan (IB). Salah satu faktor pendukung keberhasilan IB yaitu tersedianya semen beku sesuai kriteria. Tujuan dari penelitian yaitu mengetahui pengencer semen yang optimal untuk semen beku kambing Saanen dengan membandingkan pengencer semen berbasis lesitin (Andromed®) dan liposom (Optixcell®) dengan penambahan maltosa 0,4%. Metode koleksi semen dilakukan dengan menggunakan vagina buatan. Semen kambing Saanen kemudian diperiksa secara makroskopis dan mikroskopis. Teknik penyimpanan semen beku dengan teknik kriopreservasi pada suhu -196°C selama 10 menit. Evaluasi kualitas semen meliputi motilitas, viabilitas, dan membran plasma utuh (MPU). Hasil yang diperoleh diuji secara statistik dengan uji ANAVA satu faktor kemudian uji Tukey. Hasil penelitian menunjukkan tidak terdapat perbedaan nyata ($P>0,05$) pada nilai rata-rata persentase motilitas perlakuan Andromed® (50,83±3,76); Andromed® + Maltosa 0,4% (50,83±3,76); Optixcell® (50,83±3,76); Optixcell® + Maltosa 0,4% (48,33±6,06), nilai rata-rata persentase viabilitas Andromed® (54,67±3,50); Andromed® + Maltosa 0,4% (54,50±2,51); Optixcell® (56,50±3,45); Optixcell® + Maltosa 0,4% (52,83±5,78), dan nilai rata-rata persentase MPU spermatozoa Andromed® (56,00±3,80); Andromed® + Maltosa 0,4% (56,50±5,47); Optixcell® (53,83±5,31); Optixcell® + Maltosa 0,4% (53,33±6,06). Hasil penelitian menyimpulkan bahwa pengencer semen liposom menghasilkan kualitas yang sama baik dengan pengencer semen berbasis lesitin dan penambahan maltosa 0,4% pada pengencer semen berbasis liposom dan lesitin tidak berpengaruh terhadap kualitas semen beku kambing Saanen yang dihasilkan

.....The Saanen goat is a notable domestic goat that performs nicely in dairy production, such as milk. Efforts to improve the reproduction efficiency of Saanen goats, include the development of artificial insemination (IB) technology. A significant factor that effect AI is the availability of frozen semen according to satisfactory criteria. This research aims to determine the optimal semen extender for Saanen goat frozen semen by comparing lecithinbased extender (Andromed) and liposomes (Optixcell) when added 0.4% maltose. Semen collection utilises artificial vagina, then is examined macroscopically and microscopically. The semen storage technique used in this study was the cryopreservation technique at -196 for 10 minutes. Criteria of semen quality includes motility, viability, and intact plasma membrane. The result obtained were statistically tested with the ANAVA one way factor test then Tukey test. The result showed that there was no significant difference ($P>0.05$) in the average value of the motility percentage of treatments Andromed (50.83±3.76); Andromed + Maltosa 0.4% (50.83±3.76); Optixcell (50.83±3.76); Optixcell + Maltosa 0.4% (48.33±6.06), viability Andromed (54.67±3.50); Andromed + Maltosa 0.4% (54.50±2.51); Optixcell (56.50±3.45); Optixcell + Maltosa 0.4% (52.83±5.78), and intact plasma membrane

Andromed® (56.00±3.80); Andromed + Maltosa 0.4% (56.50±5.47); Optixcell (53.83±5.31); Optixcell + Maltosa 0.4% (53.33±6.06). The results of the study concluded that the liposomes extender produced the same quality as the lecithin-based extender and the addition of 0.4% maltose in liposomes and lecithinbased extender had no effect on the quality of the frozen semen Saanen goat.