Pengaruh Penambahan Maltosa dalam Pengencer Berbasis Lesitin terhadap Kualitas Spermatozoa Kambing Saanen (Capra aegagrus hircus) selama Kriopreservasi = Effect of Maltose Addittion in Lecithin Based Extender on the Quality of Saanen Goat (Capra aegagrus hircus) during Cryopreservation

Nur Fazrini, author

Abstrak

Kambing saanen merupakan jenis kambing penghasil susu yang potensial dikembangkan di Indonesia. Keberhasilan inseminasi buatan (IB) dengan semen beku sangat dipengaruhi oleh kualitas semen beku. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan maltosa pada tiga konsentrasi berbeda (0,2%, 0,4%, dan 0,6%) ke dalam pengencer semen berbasis lesitin (Andromed®) terhadap kualitas spermatozoa kambing saanen selama kriopreservasi. Metode penampungan semen menggunakan vagina buatan, semen kambing saanen diperiksa secara makroskopis dan mikroskopis. Teknik penyimpanan semen beku dengan teknik kriopreservasi pada suhu -196ºC selama 10 menit. Evaluasi kualitas semen meliputi viabilitas dan membran plasma utuh. Hasil yang diperoleh diuji secara statistik dengan uji ANAVA satu faktor. Hasil penelitian menunjukkan tidak terdapat perbedaan nyata (P>0,05) pada nilai rata-rata persentase viabilitas dan membran plasma utuh pascathawing. Nilai rata-rata persentase viabilitas pascathawing pada perlakuan Andromed® + Maltosa 0% (54,67±3,50%); Andromed® + Maltosa 0,2% (53,57±3,88%); Andromed® + Maltosa 0,4% (54,50±2,51%); Andromed® + Maltosa 0,6% (51,67±3,39%). Nilai rata-rata persentase membran plasma utuh pascathawing pada perlakuan Andromed® + Maltosa 0% (56,00±3,80%); Andromed® + Maltosa 0,2% (55,50±4,23%); Andromed® + Maltosa 0,4% (56,50±5,47%); Andromed® + Maltosa 0,6% (54,83±3,35%). Hasil Penelitian menyimpulkan bahwa penambahan maltosa dalam pengencer semen berbasis lesitin (Andromed®) tidak memiliki pengaruh dalam mempertahankan kualitas spermatozoa kambing saanen selama kriopreservasi.

.....Saanen goat is a type of goat that produces milk that potential to be developed in Indonesia. The success of artificial insemination (IB) with frozen semen is strongly influenced by the quality of frozen semen. This study aims to determine the effect of adding maltose at three different concentrations (0.2%, 0.4%, and 0.6%) to lecithin-based cement diluent (Andromed®) on the quality of saanen goat spermatozoa during cryopreservation. The semen collection method used an artificial vagina, and the semen of the saanen goat was examined macroscopically and microscopically. The technique for frozen semen storage was cryopreservation at -196ºC for 10 minutes. Evaluation of semen quality included viability and intact plasma membrane. The results obtained were tested statistically by one factor ANOVA test. The results showed that there was no significant difference (P> 0.05) in the mean value of the percentage of viability and intact plasma membrane post-thawing. The mean value of the percentage of post-thaw viability in the Andromed® + Maltose 0% (54.67 ± 3.50%); Andromed® + Maltose 0.2% (53.57 ± 3.88%); Andromed® + Maltose 0.4% (54.50 ± 2.51%); Andromed® + Maltose 0.6% (51.67 ± 3.39%). The mean value of post-thawing intact plasma membrane percentage in Andromed® + Maltose 0% (56.00 ± 3.80%); Andromed® + Maltose 0.2% (55.50 ± 4.23%); Andromed® + Maltose 0.4% (56.50 ± 5.47%); Andromed® + Maltose 0.6% (54.83 ± 3.35%). The results of the study conclude that the addition of maltose in lecithin-based cement diluent

(Andromed®) did not affect in maintaining the spermatozoa quality of the saanen goat during cryopreservation.