Pengaruh penambahan glutation terhadap kualitas spermatozoa sapi peranakan ongole (PO) pascapengeringbekuan dengan suhu pembekuan -80oc = The effect of glutathione on spermatozoa quality of ongole crossbred cattle post freeze drying using freezing temperature of 80oc

Oktisa Durrah, author

Abstrak

ABSTRAK
Telah dilakukan penelitian untuk mengetahui pengaruh penambahan berbagai konsentrasi glutation dalam medium pengencer terhadap kualitas spermatozoa sapi peranakan ongole PO , 48 jam pascapengeringbekuan dengan suhu pembekuan -80OC. Sampel semen dikoleksi dua kali dalam seminggu dari dua ekor jantan pendonor, selama tiga minggu. Semen sapi PO diencerkan dalam pengencer Tris-kuning telur 20 yang mengandung glutation 0 mM KK ; glutation 0,5 mM KP1 ; glutation 1 mM KP2, dan glutation 1,5 mM KP3. Semen yang telah diencerkan selanjutnya diekuilibrasi, dibekukan, lalu dikeringbekukan pada suhu -60OC dan tekanan 0,011 mbar. Parameter kualitas spermatozoa yang diamati meliputi integritas membran, abnormalitas, dan integritas DNA spermatozoa. Hasil uji analisis variansi ANAVA pola satu faktor yang dilanjutkan dengan uji Tukey menunjukkan perbedaan nyata P le;0,05 antara KK 29,00 3,03 dengan KP2 46,67 6,90 dan KP3 45,75 5,63 terhadap persentase integritas membran spermatozoa, serta antara KK 26,8 4,88 dengan KP1 20,6 2,11 dan KP2 18,9 2,11 terhadap persentase abnormalitas spermatozoa. Integritas DNA KP1 = 88,1 2,78 ; KP2 = 93,4 2,06 ; KP3 = 90,0 2,94 spermatozoa pada tiap kelompok perlakuan cenderung mengalami peningkatan jika dibandingkan dengan kelompok kontrol KK = 86,0 3,37 pascapengeringbekuan.
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ABSTRACT
The present study was conducted to assess the effect of glutathione in various concentration on ongole crossbred spermatozoa quality, 48 hours post freeze drying using freezing temperature of 80OC. Semen samples was collected twice in a week for three weeks from two donor bulls. The samples were diluted in Tris egg yolk extender with glutathione additives at concentration 0 mM KK 0,5 mM KP1 1 mM KP2, and 1,5 mM KP3. Diluted semen was equilibrated, freezed, and immediately freeze dried at 60OC with 0,011 mbar pressure. Parameters of spermatozoa quality include membrane integrity, abnormal morphology, and DNA integrity of spermatozoa were assessed. One factor analysis of variance ANAVA test continued with Tukey test showed a significant differences P le 0,05 between KK 29,00 3,03 and KP2 46,67 6,90 along with KP3 45,75 5,63 on the percentage of sperm membran integrity, and between KK 26,8 4,88 and KP1 20,6 2,11 along with KP2 18,9 2,11 on the percentage of sperm abnormal morphology. The DNA integrity of post freeze drying spermatozoa in additive groups KP1 88,1 2,78 KP2 93,4 2,06 KP3 90,0 2,94 showed an increasing patterns as compared to the control goup KK 86,0 3,37 .