Pengaruh sistein dan EDTA terhadap integritas DNA dan morfometri kepala spermatozoa sapi friesian holstein (bos taurus) Pascapengeringbekuan = Effects of cysteine and EDTA on DNA integrity and head morphometry of friesian holstein (bos taurus) cattle spermatozoa after freeze-drying

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Abstrak

ABSTRACT
Telah dilakukan penelitian untuk mengetahui pengaruh penambahan asam amino sistein dan agen pengkelat EDTA dalam larutan Tris-buffer terhadap integritas DNA dan morfometri kepala spermatozoa sapi friesian holstein (Bos taurus) pascapengeringbekuan. Semen dikoleksi seminggu sekali selama enam minggu. Sampel semen sapi diencerkan dengan larutan Tris-buffer yang ditambahkan dengan asam maino sistein dan EDTA. Kelompok perlakuan terbagi menjadi empat, yaitu kelompok larutan pengencer Tris-buffer tanpa ditambahkan asam amino sistein atau EDTA (KK), larutan pengencer Tris-buffer ditambahkan asam amino sistein (KP1), larutan pengencer Tris-buffer ditambahkan dengan EDTA (KP2), larutan pengencer Tris-buffer ditambahkan asam amino sistein dan EDTA (KP3). Hasil integritas DNA spermatozoa sapi friesian holstein pascapengeringbekuan pada semua kelompok perlakuan 100% stabil dan tidak mengalami kerusakan. Hasil analisis varians (ANAVA) menunjukkan bahwa pemberian asam amino sistein 10 mM dan EDTA 50 mM terhadap panjang dan area morfometri kepala spermatozoa sapi friesian holstein (Bos taurus) pascapengeringbekuan tidak berbeda nyata antar kelompok (P>0,05), sedangkan terhadap lebar morfometri kepala spermatozoa sapi friesian holstein pascapengeringbekuan berbeda nyata antar kelompok (P<0,05).
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ABSTRACT
The research was conducted to assess the effect of cysteine and EDTA chelating agent on DNA integrity and head morphometry of friesian holstein (Bos taurus) cattle spermatozoa after freeze-drying. Semen was collected every once a week for six weeks. The control group, semen diluted in Tris-buffer solution without cysteine or EDTA chelating agent, while in treatment groups semen diluted in Tris-buffer solution with addition of 10 mM cysteine, addition of 50 mM EDTA chelating agent, then the last group with addition of 10 mM cysteine and 50 mM EDTA chelating agent. Based on the result, DNA integrity of freeze dried spermatozoa, showed that 100% DNA stablized in control and all groups. Result of variances (ANAVA) one factor test, showed that addition of cysteine 10 mM and EDTA chelating agent 50 mM were not significantly different in length and area morphometry between groups parameter (P > 0,05), while addition of 10 mM cysteine and 50 mM EDTA chelating agent were significantly different in width morphometry between groups parameter (P < 0,05).