

# Pengaruh pemberian asam amino sistein terhadap kualitas spermatozoa sapi Sumba ongole (*Bos indicus*), pascakriopreservasi = The effect of cysteine in various concentration on spermatozoa quality of Sumba ongole (*Bos indicus*) cattle, postcryopreservation

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Abstrak

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Telah dilakukan penelitian untuk mengetahui pengaruh pemberian berbagai konsentrasi asam amino sistein 3 mM, 5 mM, dan 7 mM terhadap kualitas spermatozoa sapi sumba ongole *Bos indicus* pascakriopreservasi. Seekor sapi sumba ongole SO dijadikan sebagai donor semen. Semen dikoleksi setiap satu minggu sekali selama enam minggu untuk memenuhi pengulangan yang dibutuhkan. Sampel semen sapi SO diencerkan menggunakan pengencer Tric Citrite Fructose Yolk TCFY dan penambahan sistein. Kelompok kontrol 0 mM, semen diencerkan dalam TCFY tanpa penambahan asam amino, sedangkan pada kelompok perlakuan semen diencerkan dalam TCFY dengan penambahan sistein sebesar 3 mM; 5 mM; dan 7 mM. Semen yang telah diencerkan diekuilibrasi dan dibekukan dalam nitrogen cair. Parameter kualitas spermatozoa yang dievaluasi meliputi motilitas, viabilitas, membran plasma utuh MPU, dan integritas DNA. Berdasarkan hasil penelitian, terjadi peningkatan persentase motilitas, viabilitas, dan MPU pada kelompok perlakuan berbagai konsentrasi sistein 3 mM; 5 mM; dan 7 mM jika dibandingkan dengan 0 mM. Hasil uji ANAVA satu faktor menunjukkan pemberian berbagai konsentrasi asam amino sistein memiliki nilai rata-rata persentase motilitas, viabilitas, dan MPU yang berbeda nyata.

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**ABSTRACT**

The research was conducted to assess the effect of cysteine in various concentration 3 mM, 5 mM, and 7 mM on spermatozoa quality of sumba ongole *Bos indicus* cattle postcryopreservation. Sumba ongole SO cattle serve as donors of semen. Semen was collected every once a week for six weeks to meet the repetition needed. The semen samples were diluted in Tric Citrite Fructose Yolk TCFY extender and the addition of cysteine. The control group 0 mM semen diluted in TCFY without cysteine, while in the treatment group, semen diluted in TCFY with the addition of cysteine 3 mM 5 mM and 7 mM. Semen has been diluted equilibrated and frozen in liquid nitrogen. The parameters of quality of spermatozoa are evaluated include motility, viability, membrane plasma integrity and DNA integrity. Based on the result, the increase in the percentage of motility, viability, and membrane plasma integrity compared to just added extender TCFY 0 mM. The one factor ANOVA showed that various concentrations of cysteine were significantly different between treatment group and control group.