

Effect of exogenous glutathione in extender on the freezability of Nili-Ravi buffalo (*Bubalus bubalis*) bull spermatozoa

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Abstract :

The study was designed to investigate the effect of exogenous glutathione supplementation (0.0, 0.5, 1.0, 2.0 and 3.0 mM) in tris-citric acid extender on post-thaw sperm motility, viability, plasma membrane and acrosomal integrity of buffalo (*Bubalus bubalis*) spermatozoa at 0, 3 and 6 hours after thawing. Glutathione supplementation of the extender upto 2.0 mM concentration increased ($P < 0.05$) sperm motility, viability, plasma membrane integrity and acrosomal integrity at 0, 3 and 6 hours after thawing in a dose-dependent manner compared to the control. However, glutathione supplementation at higher concentration (3.0 mM) was not beneficial for any of semen quality parameters. It is concluded that glutathione supplementation (up to 2.0 mM) of the extender improves the post-thaw quality of buffalo bull spermatozoa.

Key Word :

Buffalo spermatozoa, cryopreservation, glutathione, post-thaw semen quality

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