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Effect of Reduced Glutathione Supplementation on cryopreservation induced Sperm cryoinjuries in Murrah Bull semen

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HIGHLIGHTS

- Preservation of semen in liquid nitrogen for artificial insemination leads to cryo injuries or apoptotic changes in the sperm during semen storage.
- Majority of damage occurs due to oxidative degeneration.
- A number of additives have been used previously, in present study reduced glutathione an antioxidant, was supplemented to reduce the cryopreservation induced sperm apoptosis in Murrah Bull semen.
- Limited study has been undertaken in buffalo specially Murrah Bull, which is an elite class of buffalo breed in India.

Abstract

The experiment was conducted to study cryopreservation induced sperm cryoinjuries and the protective effect of reduced Glutathione supplementation in Murrah bull semen. A total of 20 semen ejaculates were split into two parts after initial examination and were extended in glycerolated egg yolk TRIS diluter (Control group) and glycerolated egg yolk TRIS diluter +0.5mM reduced Glutathione (Treatment Group). The diluted semen samples were loaded into 0.25 ml French mini straw and sealing of straws were done. Thereafter, semen straws were kept for equilibration for 4 hour at 5⁰C and semen was frozen using a

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