Research article

**Improvement of buffalo semen freezability by using TRIS extender enriched with different concentrations of trehalose/sucrose**

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**Abstract**

The present study was designed to display the role of Trehalose / Sucrose addition to Tris-Fructose-Egg yolk-Glycerol extender on the rate of freezability and post-thawed characters of buffalo frozen semen. For extension and freezing, buffalo semen samples were extended in Tris-Fructose-Egg yolk-Glycerol without the addition of Trehalose / Sucrose as a control (TFEG-C) and with the addition of different concentrations of Trehalose or Sucrose. The best sperm motility, sperm livability, sperm abnormality, sperm cell membrane and DNA integrities appeared with TFEG-T100 mM/l (33.50±1.50%, 69.40±2.11%, 11.60±0.67%, 64.00±2.76%, 96.50±0.92 and 11.60±0.67%, respectively) and TFEG-S50 mM/l (33.00±2.81%, 68.80±2.25%, 10.40±0.54%, 66.10±2.68% and 95.60±1.44%, respectively). From the present study, it can be concluded that addition of Trehalose (100 mM/l) / sucrose (50 mM/l) to Tris-Fructose-Egg yolk-Glycerol extender might help in improvement of the post-thawed characteristics of buffalo frozen semen.

**Key words:** Buffalo, Semen, Freezability, Extender, Trehalose, Sucrose.

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