

## **Cryoinjuries in Sperm Cells: Effect of Adaptation of Steps in Cryopreservation Protocol for Boar Semen upon Post-Thaw Sperm Quality**

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**Abstract :** Cryopreservation of semen is one of the key factors for a successful breeding business along with other factors. To achieve high fertility in boar, one should know about spermatozoa response to different treatments proceeds during cryopreservation. The running project is highly focused on cryopreservation and its effects on sperm quality parameters in both boar and bull semen. Semen sample from A, B, C, and D, were subjected to different thawing conditions and were analyzed upon different treatments in the study. Parameters like sperm cell motility, viability, acrosome, DNA integrity, and phospholipase C zeta were detected by different established methods. Different techniques were used to assess different parameters. Motility was detected using computer assisted sperm analysis, phospholipase C zeta using luminometry while viability, acrosome integrity, and DNA integrity were analyzed using flow cytometry. Thawing conditions were noted to have an effect on sperm quality parameters with motility being the most critical parameter. The results further indicated that the most critical step during cryopreservation of boar semen is when sperm cells are subjected to freezing and thawing. The findings of the present study provide insight that; boar semen cryopreservation is still suboptimal in comparison to bull semen cryopreservation. Thus, there is a need to conduct more research to improve the fertilizing potential of cryopreserved boar semen.

**Keywords :** cryopreservation, computer assisted sperm, flow cytometry, luminometry

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