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Research Highlight

# CRYOPRESERVATION OF SPERMATOZOA

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Artificial Insemination (AI) has showed significant genetic improvement in domestic animals. The concept of cryopreservation is almost identical for spermatozoa of most mammalian species but sperms of different species have different morphologies and biochemical constituents that's why they have different ways to react to freezing. Therefore, a cryopreservation protocol developed for one specie may not be ideal for sperm of other species.

Hence, in order to maximize the effectiveness of frozen goat semen production of superior germplasm for broad application, it is necessary, not only to reduce the losses because of poor freezability of samples but also to enhance the quality of semen to get better fertility outcomes following AI[1].

The vital principle of cryopreservation is same for spermatozoa of most mammalian species. Accordingly, cryopreservation cycle involves the complete procedure of semen collection, dilution, equilibration as well as freezing during which of the spermatozoa can lose the capability to fertilize normally[2].

Considering this situation, scientists conducted an experiment in order to examine the alterations in motility characteristics of Boer cross spermatozoa during equilibration at 5°C by Computer Assisted Semen Analysis (CASA) method as well as its relevance in post-thaw survival of spermatozoa[3].

At the end of this experiment, scientists found that velocity of sperm motion plays a crucial role in evaluating the post-thaw quality of frozen semen. During this study, cryopreservation was found to considerably influence the quality of frozen semen by reducing all the motion characteristics of post-thawing.

Moreover, this research also revealed that the duration of exposure of spermatozoa to the cryoprotectant during equilibration is vital in cryopreservation of Boer cross goat semen. Conclusively, scientists suggested that a shorter duration of 2 h of equilibration with glycerol at 5°C can be valuable for Boer goat semen cryopreservation. It is also suggested that the usage of CASA technique plays a potent role in improving the quality and quantity of semen frozen in goats.

## REFERENCES

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