

NEWLY FORMULATED EXTENDERS FOR BOAR SEMEN PRESERVATION

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Artificial insemination (AI) is the first generation reproductive biotechnology that has made a profound contribution to the genetic improvement. In Sri Lanka, AI in swine using chilled semen is becoming popular in medium and large-scale swine industries. However, there are no extenders for boar semen preservation available in the local market. Therefore, in this study two newly formulated extenders were evaluated for boar species semen preservation. Semen samples were collected from healthy boars using glove-hand technique. After assessing initial semen quality parameters such as volume, color, initial motility and concentration, each semen sample was separated into three fractions. Then, they were extended with two newly formulated extenders, B and S, (Both extenders were prepared using varied amounts of NaHCO₃, Na₃C₆H₅O₇, KCl, EDTA, HEPES, Energy and protein sources with suitable antibiotics) and with a commercial extender (control). The extended semen samples were evaluated just after extension, and 6, 12, 24, 36, 48, 60, 72, 96, 120, 144 and 168 hours after chilling at 17°C for semen quality parameters such as mass motility, acrosome integrity and live-dead ratio. The experiment was repeated six times using the semen collected from four different boars. Average volume, color, motility and sperm concentration of the freshly collected semen were 210±25 ml, creamy, 90±2, 5% and 60±15.1x10⁶ sperms/ml, respectively. The motility, acrosome intact live cell percentage and live dead ratio (LDR) were reduced with time and had the same pattern of reduction in all extenders. Moreover, all the extenders (extenders B and S, and commercial extender) maintained the required motility levels of 60% to perform AI until the end of day four. The results of the present study clearly indicate that newly formulated extenders are preserving the semen quality parameters comparably with the commercial extender. However, further studies to evaluate the success rate after insemination are recommended before being release of the two newly formulated extenders for commercial market.

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