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Snail Mucus Enhances the Motility of Fresh Goat Semen Preserved in Egg Yolk Extender

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Abstract

The effect of snail mucus on sperm motility (SM) and viability (% live-dead ratio) (LDR) of fresh goat semen extended in egg-yolk was evaluated. Semen was collected from four adult West African Dwarf (WAD) bucks using an electro ejaculator under diazepam (0.3mg/kg) and ketamine (5mg/kg) anaesthesia. After collection, the semen were pooled together and divided into four different extenders comprising: (a) 20 mls of egg yolk (E); (b) 10 mls of egg yolk and 10 mls of 1% snail mucus (EM_1); (c) 5mls of egg yolk and 15mls of 1% snail mucus (EM) and (d) 20mls of 1% snail mucus (M) respectively at the rate of 5ml of extender to 0.5 ml of goat semen. Each part was again split into three parts and either refrigerated (5°C), stored at room temperature (25°C) or placed in water bath (37°C) respectively. Both the SM and LDR were assessed at 0,1,3,5,12 and 24 hours of storage. The procedure was repeated four times and the means values determined. Data were compared using 2-way analysis of variance (ANOVA), with a 5% significance level. In this study, none of the extenders was able to maintain sperm motility for up to 12 hours. The SM was significantly ($P < 0.05$) higher in EM_1, than in other extenders. Only EM_1 extender was able to maintain the sperm motility above 50% for up to five hours of storage time. Similarly, the LDH was significantly ($P<0.05$) higher in EM_1, compared to other extenders. Also, none of the storage temperatures significantly ($P> 0.05$) influenced SM and LDR of the semen. It was therefore, concluded that addition of snail mucus to egg yolk improved the motility and percentage live-dead ratio of fresh goat semen for up to five hours, however this effect was dependent on the volume of the snail mucus added.

Key Words: Snail, mucus, goat, semen, motility, viability.