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Seminal Attributes, Cooling Procedure and Post Thaw Quality of Semen of Indigenous Khari Bucks (Capra hircus) of Nepal

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Abstract : The study was conducted to evaluate the seminal attributes, effectiveness of cooling process and post-thawed semen quality of a Nepalese indigenous Khari buck. Thirty-two ejaculates, 16 from each buck were studied for seminal attributes of fresh semen: volume, color, mass activity, motility, viability, sperm concentration, and morphology. The pooled mean values for each seminal attributes were: volume 0.7±0.3 ml; colour 3.1±0.3 (milky white); mass activity 3.8±0.4 (rapid wave motion with formation of eddies at the end of waves to very rapid wave motion with distinct eddies formation); sperm motility 80.9±5.6%; sperm viability 94.6±2.0%; sperm concentration 2597.0±406.8x106/ml; abnormal acrosome, mid-piece and tail 10.7±1.8% and abnormal head 5±1.7%. For freezing semen, further 6 ejaculates from each buck were studied with Tris based egg yolk citrate extender. The pooled mean values of motility and viability of post diluted semen for 90 and 120 minutes each for cooling and glycerol equilibration were 73.8±4.8%, 88.1±2.6% and 69.2±6.0%, 85.0±1.7%, respectively. The pooled mean values of post thaw motility and viability with advancement of preservation time were: 0hour 49.0±4.6%, 81.2±1.9%; 2nd day 41±2.2%, 79±1%; 5th day 41±2.2%, 78.6±0.9% and 10th day 41±2.2%, 78.6±0.9%. We concluded from the above study that the seminal attributes and results of post-thaw semen quality were satisfactory and in accordance with other work in foreign countries, which indicated the feasibility of cryopreserving buck semen. For more validation, research with large number of bucks, different types of diluents and freezing trials by removing seminal plasma followed by pregnancy rate is recommended.

Keywords : cryopreservation, Nepalese indigenous Khari (Hill goat) buck, post-thaw semen quality, seminal attributes
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