

DOG SEMEN FREEZING AFTER 1, 2, OR 3 DAYS CHILLING

J.P. Verstegen¹, M. Iguer-ouada², M. Luz³, K. Onclin¹¹University of Florida, Veterinary College, LACS, SARC, Gainesville, FL, USA,²Department of animal and population Biology, college of Science and Nature, Abderahmane Mira Béjaia University, Algeria, ³Department of Animal Science, University do Espírito Santos, UFES, Alegre ES, Brazil

Semen freezing is the technique that allows for long-term semen storage. In small animal practice, there are several obstacles to the development of this technique, including high costs, especially travel expenses, availability of authorized and specialized centers for freezing and inseminating with frozen semen, and complex administrative formalities in frozen semen exchange between countries. An interesting alternative could be to sequentially combine chilling and freezing techniques. Indeed, chilling as been demonstrated to allow for viable semen preservation up to 11 days. In the present study, semen was frozen just after semen collection and after 1, 2, or 3 days of chilling. This duration is considered long enough to allow shipment of the chilled semen from place of collection to main freezing centers. To analyze the interest of this procedure, pool of semen were analyzed immediately after collection for motility, membrane integrity and acrosome reaction, before and after freezing realized at days 0, 1, 2, and 3 after semen collection. Post-thaw motility percentages of samples frozen immediately after collection or after 1, 2, and 3 days of chilling were, respectively, 82.2 ± 10.6 , 85.1 ± 8.2 , 84.3 ± 3.1 , and 75.1 ± 13.4 . Percentages of progressive spermatozoa were 47.4 ± 7.9 , 47 ± 4.3 , 38.8 ± 3.5 , and 31 ± 1.5 , respectively. VAP values were 77.4 ± 11.1 , 76.6 ± 1.9 , 63.9 ± 4.5 , and 59.6 ± 5 . VSL values were 67 ± 10.2 , 64.4 ± 2.2 , 53.3 ± 4.2 , 47.9 ± 5.5 , and VCL values were 111.3 ± 13.7 , 107.3 ± 6.3 , 93.7 ± 6.8 , 95.9 ± 8.7 , respectively. Statistical analysis demonstrated that there is no statistical difference in post-thaw motility, velocities, acrosome reaction and membrane integrity between samples frozen immediately after collection and samples conserved in egg-yolk Tris–Glucose extender up to 2 days (included). The chilled-frozen protocol can thus be an interesting alternative to international exchanges of semen in the dog.

Keywords: Semen; Dog; Semen chilling; Semen freezing