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## Effect of Different Conditions on the Hypoosmotic Swelling Test to Evaluate Functional Integrity of Canine Spermatozoa

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강원대학교 동물자원과학대학 낙농자원학과

The purpose of this study was to investigate the effect of different conditions (osmolality, solution, incubation times, comparison of fresh and frozen/thawed semen and storage times) on the swelling of canine spermatozoa.

Employing the hypoosmotic swelling test (HOST), the membrane integrity of spermatozoa in different solutions (sucrose, fructose, lactose, Na-citrate, Na-citrate plus sucrose, Na-citrate plus fructose and Na-citrate plus lactose) were 61.4%, 66.2%, 62.5%, 68.1%, 62.0%, 68.5% and 60.2%, respectively. In different incubation times (30, 45, 60, 75, 90, 105 and 120 min), we obtained the results of 77.3% in 30min and 78.0% in 40 min the better than any other groups (68.9%, 72.4%, 64.2%, 63.5% and 65.3% in 60, 75, 90, 105 and 120 min). Spermatozoa membrane integrity in storage temperature (4°C, 17°C and 20°C) were 70.8%, 79.9% and 82.3%, respectively. The effect of 150mosmol Na-citrate/Fructose solution with fresh and frozen/thawed semen were 78.3% and 44.0%, respectively.

These results indicated that different solutions, osmolality, incubation times, comparison of fresh and frozen/thawed semen and storage times were affects the spermatozoa membrane integrity.

Key words: *Canine spermatozoa, Hypoosmotic swelling test (HOST), Osmolality, Membrane integrity*