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The effect of dilution rate and insemination protocol on fertilizing capacity of frozen-thawed Arabian horse sperm

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Forty-eight ejaculates were obtained from four Arab stallions to study the impact of three extenders (INRA Freeze[®], Tris egg-yolk and E-Z mix) on the fertilizing capacity of frozen-thawed sperm. Semen samples were diluted using the extenders with a dilution rate of 1:1 and 1:2 and cryopreserved in 0.5 ml plastic straws. Frozen straws were thawed either at 37°C for 30 sec or 75 °C for 7 sec. Results revealed that the percentages of progressive sperm motility, live sperm and abnormalities and characters of sperm motility like path velocity (VAP, $\mu\text{m/s}$), straight line velocity (VSL, $\mu\text{m/s}$), point to point velocity (VCL, $\mu\text{m/s}$) and lateral head displacement (ALH, μm) were significantly ($P < 0.01$) better in the INRA Freeze[®] extender after thawing at 37 °C with dilution rate 1:1 and 1:2. Sperm progressive motility after thawing at 75 °C were significantly ($P < 0.01$) higher by using INRA freeze[®] and E-Z mix extenders at rates of dilution 1:1 and 1:2. The conception rate in 40 Arab mares using 300 million forward motile sperm per insemination was significantly ($P < 0.01$) higher by using INRA freeze[®] extender that thawed at 37 °C at dilution rate of 1:1 (50%) than 1:2 (20%). The use of two times inseminations gave significantly ($P < 0.01$) better results (50%) than the use of one time insemination (28.57%). In conclusion, the fertilizing capacity of the frozen-thawed Arabian horse sperm was the best by using INRA freeze[®] extender in a dilution rate of 1:1 and two times inseminations.

Biography

Magdi Mohamed Waheed has completed his PhD from Cairo University and Professor Degree from Cairo University, Faculty of Veterinary Medicine. He has published more than 21 papers in reputed journals and has been serving as a Reviewer of repute.

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