



A034 FTAI, FTET and AI

Bovine cooled semen with or without glycerol in extender for fixed-time artificial insemination in beef cattle

**J.C. Borges¹, M.R. Silva², E. Nogueira¹, D.S. Costa³, L.O.F. Oliveira¹, U.P.G. Abreu¹,
D.B. Marinho⁴, R. Sartori⁵**

¹EMBRAPA, Corumbá; ²Melhore Animal Consultoria Ltda, Jaboticabal; ³UFMS, Campo Grande;
⁴Ema Pantanal Agropecuária Ltda, Corumbá; ⁵ESALQ-USP, Piracicaba.

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Cooled semen is not submitted to the freeze-thaw process and suffers fewer injuries, resulting in greater viability and better fertility rates, when compared with frozen-thawed semen (J. C. Borges-Silva et al., *Reproduction Fertility and Development*, on line, 2015). However, the composition of the extenders are issues that warrants attention and additional research. For example, the effects of glycerol on sperm remain unclear, and could be toxic during the cooling process. This study evaluated the use of cooled semen with or without the cryoprotectant glycerol in egg-yolk extender in a fixed-time artificial insemination (FTAI) program in beef cattle. Ejaculates of three bulls were collected (on D9 of a FTAI protocol) and divided into two treatments: 1) cooled semen with glycerol and 2) cooled semen without glycerol. Straws (25x10⁶ sperm) were submitted to cooling for preservation at 5°C for 24 h, after which FTAI was performed. Nelore cows (n = 346) submitted to FTAI received 2mg estradiol benzoate (EB, RIC-BE®, im, Tecnopec-Agener União, Brazil), and an intravaginal progesterone device (Primer®, Tecnopec-Agener União, Brazil) on D0 which remained for 8 d, and 150µg d-cloprostenol (Prolise®, im, Arsa, Argentina) and 1mg EB (RIC-BE®) on D8. On D10, 44 h after implant withdrawal, the cows were randomly inseminated using cooled semen with or without glycerol in extender. The statistical analysis was accomplished by the SAS program (SAS/STAT® 9.2, SAS Institute Inc., USA), using the variance analysis by Tukey and Chi-square test (P < 0.05). There was no difference in pregnancy per AI (P/AI) using cooled semen with vs. without glycerol in the extender (50.0 ± 4.7 vs. 53.0 ± 5.0%; P > 0.05). There was no difference in P/AI among bulls (P = 0.44) and between treatments (with or without glycerol) in cooled semen when evaluated by sperm motility (81.7 vs. 79.0%), slow thermoresistance test (68.1 vs. 66.7%) and hypoosmotic swelling test (55.3 vs. 53.7%), respectively (P > 0.05). In conclusion, fertility rates were equal when samples were cooled with or without glycerol in extender. Therefore it is possible to use commercial extender with 6% glycerol when performing a FTAI program with cooled semen.