A040 FTAI, FTET and AI

Embryos produced *in vitro* with sexed semen - technique application for superior beef calves production

A.O. Bezerra[1], W.B. Rodrigues[2], J.C. Borges[3], L.O.F. Oliveira[3], U.P.G. Abreu[3], N.A. Anache[1], K.C. Silva[1], A.C. Nicacio[4], E. Nogueira[3]

[1]Universidade Federal de Mato Grosso do Sul, Campo Grande; [2]Bolsista DCR FUNDECT, Campo Grande; [3]EMBRAPA CPAP, Corumbá; [4]EMBRAPA CNPGC, Campo Grande.

Keywords: embryo sexed, vitrification, FTET.

Due the relevance of the Zebu and the increasing use of production in vitro (PIV) of embryo in Brazil, we evaluated the pregnancy rates of Nelore recipients inovulated with fresh or vitrified IVP embryos obtained from Nelore donor oocytes from slaughterhouse (SLAUGHTER, n = 66 embryos) or OPU in vivo (VIVO, n = 299 embryos). For IVF was used sperm-sex sorted Y-of two Angus bulls (B. taurus). After 7 days of in vitro culture, only the embryos in morulae or blastocyst stage considered grade 1 were either transferred fresh (FRESH, n = 286) or after vitrification / devitrification (VITRIFIED, n = 79). Each recipient were synchronized in random day of the estrous cycle (D0) with the placement of intravaginal progesterone device (Cronipress® Mono Dose M-24, Biogenesis Bagó, Curitiba, Paraná, Brazil) and administration of 2 mg of estradiol benzoate (EB) (Estrogin, Biofarm, São Paulo, Brazil). On day 8 (D8) was removed concomitant P4 device with application of 1.125 µg of d-cloprostenol (Prolise, Tecnopec, São Paulo, Brazil), 1 mg of estradiol benzoate (Estrogin, Biofarm, Jaboticabal, São Paulo, Brazil) and 300 IU eCG (Folligon® 5000 IU, Intervet, Sao Paulo, Brazil). The D10 was considered the day of estrus and D17 in the recipient that had corpus luteum greater than 20 mm in diameter were inovulated. Pregnancy status was performed 60 days after embryo transfer and the data were analyzed by PROC GLIMMIX of SAS ($P < 0.05$). Cleavage rates were 63.96% ± 35.52 and 39.18 ± 17.12% for VIVO and SLAUGHTER groups respectively and were different ($P = 0.0209$), and blastocyst rates were 30.49% ± 32.34 and 14.73% ± 9.11 for VIVO and SLAUGHTER groups respectively and were no different, with only a trend ($P = 0.0892$). The less cleavage and blastocyst rate of slaughterhouse ovarian oocytes may have resulted from the range of about 6 hours from collection ovarian, transportation, and aspiration in laboratory, reducing the quality of the oocyte (Satrapa et al., 2011). There was no difference in pregnancy rate ($P = 0.72$) for FRESH (34.27% ± 47.5) or VITRIFIED (30.38 ± 46.2%) embryos, as well as the source of oocytes (VIVO = 35.12% ± 47.8; SLAUGHTER = 25.76 ± 44.0%; $P = 0.17$). It is concluded that the sexed semen associated with vitrification is viable to reduce costs and optimize the PIV technology, improving their large-scale application, regardless of the origin of ovócits.