

**Abstracts - 35th Annual Meeting of the Brazilian Embryo Technology Society (SBTE)****OPU-IVF and ET**

# Transfer of two in vitro produced F1 Angus x Nelore embryos does not improve pregnancy rates: preliminary data

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## Resumo

The transfer of two embryos to a single recipient has been proposed to increase calving rates in cattle. In dairy cattle, twin pregnancies are associated with higher incidence of pregnancy losses and dystocia, and the use of double embryo transfer (ET) is controversial. However, this strategy remains to be evaluated in crossbred beef cattle, particularly in programs using large-scale in vitro embryo production (IVP) with Y-sorted semen. The aim of this study was to compare the transfer of a single or two F1 Nelore x Angus embryos to Nelore breed recipients. Cumulus-oocyte complexes (COC) recovered from slaughterhouse ovaries and morphologically classified as grade I were used. The COC were IVM and IVF in the same culture conditions (38,5°C, 5,5% CO<sub>2</sub>). Sex-sorted sperm from a single Angus sire with known fertility was used for IVF. The presumptive zygotes were cultured under low oxygen concentration (5,5% CO<sub>2</sub>, 5,5% O<sub>2</sub>, at 38,5° C). Embryos (n=1,025) were classified according to the developmental stage and transferred at days 6, 7 or 8, according to the availability of synchronized recipients. A single (n=667) or two embryos (n=358, 179 ET) were transferred to 846 recipients. In this study only fresh embryos were transferred. The embryos transferred together were loaded in a single straw, and recorded based on embryo classification (i.e., BLBL, BXB, etc.). Pregnancy diagnosis was performed by ultrasonography approximately 38 days after ET. Data were evaluated by the Chi-squared method using the SAS software (SAS Institute). The overall pregnancy rate was 50,8% (430/846), which did not differ between recipients receiving a single or two embryos (50,5% [337/667] vs 52,0% [93/179]; P=0.0633). In both cases, transfer of embryos that reached the expanded blastocyst stage earlier (i.e., BX at day 6 vs BX at day 7 or BXB at day 6 vs BXB at day 7) resulted in higher pregnancy rates (P<0.0001). When data were pooled, the inclusion of a more developed embryo in double transfers (BXBL vs BLBL at day 7; or BEBX vs BXB at day 8) did not improve pregnancy rate (63,9% vs. 50,0%, P=0.3681). In summary, the transfer of two embryos does not improve pregnancy rate, which is mostly dependent on individual embryo developmental potential. The further calving rates will be used to evaluate whether this strategy (double ET) is worthy in beef cattle.

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