



A152 Folliculogenesis, Oogenesis and Superovulation

Efficiency of *in vivo* embryo production using sorted semen in cattle

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According to IETS statistics (Viana et al., 2017), in Brazil since 2004, *in vitro* embryo production (IVP) is superior to *in vivo* production, formerly called embryo transfer. Even with great evolution, IVP still cannot reach a large number of properties that could be used for genetic multiplication by embryos due to scale and logistics. Mainly some dairy herds do not use IVP for this reason, nor do they use *in vivo* production for the poor results observed with sexed sorted semen. However, in recent years the superovulation protocols were improved, and the sorted semen quality improved significantly. The objective of this study was to determine the technical and economic efficiency of *in vivo* bovine embryo production using sorted sexed semen. Twenty nulliparous donors, aged between 16 and 22 months, girolando breed were used. It was superovulated with 180 mg of Folltropin™ (Vetoquinol) in a decreasing dose protocol. The superovulation protocol was as: D0 - progesterone implant; D1 - 2 mg of estradiol benzoate IM, D5 to D8 - applications of Folltropin every 12 hours. In D7, in the afternoon was applied 0.5mg of Clorprostenol and in D8 the implant was removed in the morning. From D9 the estrus was observed. At the beginning of estrus, 0.05mg of Gonadorelin IM was applied. Two inseminations at 18 and 30 hours after application of the GnRH analogue were made using Holstein sorted semen. Flushings were made seven days after the 1st insemination. The ovaries were evaluated by ultrasonography (Mindray - M5™) in D9 for follicle mensuration and on the day of flushing for measurement of corpora lutea (CL). The costs involved in the process were accounted. An average of 8.1 ± 6.8 total structures were collected, with 5.7 ± 3.9 viable embryos, 1.3 ± 1.1 degenerated and 1.1 ± 0.9 non-fertilized structures. The total cost per donor was R\$ 758.50, considering hormones (R\$ 207.60), medium (R\$ 27.50), disposable materials (R\$ 67.20), two doses of sexed semen (R\$ 176.20) and fees (R\$ 280.00). With total cost of R\$ 758.50 and production of 6.7 viable embryos/flushing, there is an average cost of of R\$ 133.00/viable embryo with sorted semen. Due to the results of the production of embryos obtained it can be affirmed that the genetic multiplication of the herds using *in vivo* embryos produced with sorted semen is technically feasible. In addition, the final cost of each embryo is also competitive when compared to the IVP costs currently practiced in the market. It is concluded that the *in vivo* embryos production with sexed semen is feasible, technically and economically. Supported by: Vetoquinol, Biotran, CNPq e Fapemig.