



A198E OPU-IVP and ET

Estradiol route and non-surgical embryo recovery in synchronized Santa Inês ewes

**J.F. Fonseca^{1,*}, F.N. Zambrini², J.F. Prates³, T.L.T. Martins³, A.C.R. Castro¹, L.V. Esteves⁴,
J.M.G. Souza-Fabjan⁴, F.Z. Brandão⁴, J.D. Guimarães²**

¹Embrapa Goats and Sheep, Sobral, Ceará, Brazil; ²Viçosa Federal University, Viçosa, MG, Brazil; ³Embrapa Dairy Cattle, Juiz de Fora, MG, Brazil; ⁴Fluminense Federal University, Niterói, RJ, Brazil. E-mail: *jeferson.fonseca@embrapa.br.

Keywords: embryo recovery, estradiol benzoate, Santa Inês ewes.

Animal surgery procedures are being progressively restricted worldwide in the context of embryo transfer. In small ruminants, the needs for development of alternative and efficient non-surgical techniques for embryo transfer have been emphasized. Non-surgical embryo recovery is well consolidated in Brazil in cattle and goats, while in sheep it remains a challenge. The aim of this study was to check the efficiency of different ways of estradiol benzoate administration on cervix dilation and embryo recovery in synchronized Santa Inês ewes. A total of 23 pluriparous ewes were subjected to two doses of 37.5 µg d-cloprostenol by intravulvo-submucosal way seven days apart. After the second cloprostenol administration, ewes were checked for estrus at 12 h interval and mated with fertile rams during estrus. After mating, ewes were allocated according to estrous response into two treatment groups for embryo recovery seven days after estrous onset. In T1 (n=11), ewes received 37.5 µg d-cloprostenol and 1 mg estradiol benzoate 16 h before embryo recovery, plus 50 IU oxytocin i.v. 20 min before embryo recovery. In T2 (n=10), ewes received the same protocol as T1, but the way of estradiol administration was intravaginal. All ewes received 2 ml of lidocaine 2% without vasoconstrictor for epidural and 2 ml of lidocaine for contact cervical anesthesia plus acepromazine 1% (1 ml/kg live weight) before cervical passage as previously described in goats (Fonseca et al.; Small Rumin. Res., 111:96-99, 2013). Qualitative and quantitative data were analyzed by chi-square test and ANOVA respectively with 5% significance. Estrous response after the second cloprostenol administration was 91.3% (21/23). There were no differences (P>0.05) in any parameter evaluated for T1 and T2: successful uterine flushing (90.9% and 80.0%), duration time of embryo recovery (20.3 ± 8.0 and 26.2 ± 5.3min), flushing recovery rate (PBS injected/PBS recovered; 90.1 and 90.5%), average structures recovered (1.0 ± 0.4, 20% viable and 1.4 ± 0.6, 33% viable). Considering that Santa Inês sheep have up to 1.3 lambs we can conclude that it is possible to perform efficient non-surgical embryo recovery in non-superovulated synchronized Santa Inês ewes, regardless the way of estradiol administration.

Financial support: Embrapa (Project 03.12.01.031.00) and Fapemig (CVZ-PPM 00042-14).