

ABSTRACT 146

EFFECT OF DIFFERENT ENERGY LEVELS DIET ON OOCYTE QUANTITY AND QUALITY OF NON LACTATING COWS (*Bos indicus* AND *Bos taurus*) SUBMITTED TO OVUM PICK-UP

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It was evaluated the effect of different energy levels on oocyte quantity and quality of non lactating *Bos indicus* and *Bos Taurus* cows. At this study, 28 dry cows (14 *Bos indicus* - Gir and 14 *Bos taurus* - Holstein) were allocated according the breed in two different diets, maintenance (M) and high energy (1,7M). The donors were maintained in *Tie stall* system and the food were given two times/day (8:00h a.m. and p.m.). The animals were submitted to a 21 days adaptation period, when they received the M diet. After this period, the experimental groups were submitted to eight (8) 14 days apart ovum pick-up (OPU) sessions. To OPU sessions, on D0, the donors were synchronized with 2mg of estradiol benzoate (Gonadiol®, Intervet-Schering-Plough, Brazil) and a Norgestomet ear implant (Crestar®, Intervet, Boxmeer, Holand). On D5, the OPU were performed. After the OPU, the collected materials were taken to lab to evaluate the quality and quantity. The dependents variables of the normal distribution were analyzed for repeated measures used the PROC MIXED and binomial variables for PROC GLIMMIX of the SAS. There was no interaction between *Bos indicus* and *Bos taurus* cows or diet level (M e 1,7M). It was not observed difference on oocyte quality and quantity according to diets. However, it was observed difference on this variable according to studied species. *Bos indicus* cows showed more quantity of recovery structures by OPU and better oocyty quality than *Bos taurus* donors [recovery Oocytes - Gir 23.4 ± 1.6 and Holstein 14.9 ± 0.9 (P=0.003), recovery rate - Gir 91.2% (2604/2856) and Holstein 61.1% (1633/2673; P=0.001), grade A oocyte - Gir 5.33±0.48 and Holstein 1.6±0.18 (P=0.001), grade B oocyte - Gir 9.83±0.67 and Holstein 5.16±0.39 (P=0.001) and apoptosis rate (TUNEL) - Gir 16.6 % (21/117) and Holstein 40.6% (34/82; P= 0.004)]. We can conclude that the increase in dietary energy do not promote reduction on oocyte quality and quantity obtained by OPU. However, *Bos indicus* cows showed bigger quality and quantity of oocytes than *Bos taurus*.

ABSTRACT 147

SEXED *IN VITRO* EMBRYOS USED ON COMMERCIAL HERDS IN THE BREEDING SEASON

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The *in vitro* production of embryos (IVP) has been restricted only to elite animals. Our objective is to demonstrate the IVP as a viable possibility for multiplication of commercial herds during the breeding season, with the advantage of using sexed semen. At the city Curionópolis - Para, on a farm with breeding season already established, Gir (n = 492) and Tabapuã donors (n = 121) were submitted to OPU (2 to 4 times / donor), and 13 635 oocytes were obtained from Gir (average = 27.7) and 4698 from Tabapuã (average = 38.8). All oocytes were designated to *in vitro* fertilization with sexed semen for female (Holstein bull for Gir oocytes) or male (Tabapuã bull for oocytes of the same breed). Tabapuã recipients (n = 3636) received all fresh embryos after a timed embryo transfer protocol, consisting of intravaginal progesterone device at day zero (D0) plus 2 mg estradiol benzoate IM. On the eighth day (D8) the implant of progesterone was removed and animals were injected with 0.15 mg D-cloprostenol (PGF) IM, 300 IU of eCG IM and 1 mg of ECP (estradiol cypionate). On day 17 (D17) all recipients presenting a CL received one embryo non-surgically. From Gir oocytes with Holstein semen 2205 embryos were transferred, resulting in 876 (39.7%) pregnancies. For Tabapuã, 813 embryos were transferred, with 353 (43.4%) pregnancies. In a period of only 60 days at the beginning of the breeding season, we transferred a total of 3018 embryos, which resulted in 1229 pregnancies (40.7%). Although the pregnancy rate of 40% is slightly below of the 50% expected after an artificial insemination, we emphasize some important aspects for using *in vitro* sexed embryos compared to AI in the breeding season. First, the great advantage of determining the sex of products, with males to meat (Tabapuã) or females for milk (Girolanda). Also, it is possible to choose the best cows as oocyte donors. We expect a consistent genetic improvement in a short period of time. With the possibility of embryo transfer at the beginning of the breeding season, we can consider this strategy of using *in vitro* embryos *in vitro* as an alternative, or a complement to the TAI.