

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

## USE OF EXOGENIC PROGESTERONE IN EMBRYO PRODUCTION *IN VIVO*

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In vivo production of embryos or transfer of bovine embryos (ET) is a biotechnology used worldwide to multiply the number of offspring obtained from donors with high genetic potential. Follicular development and ovulation can be pharmacologically manipulated for the purpose of enhancing bovine overstimulation and ET programs. Forty heifers, 20 Gir and 20 Girolando (3/8), aged 28 to 42 months, were synchronized (Day 0) with intravaginal devices containing 1g of progesterone (P4) (removed in D9) and application of 2mg of estradiol benzoate (EB) intramuscular (IM). In D5 was applied 500mg d-cloprostenol (IM), in D10 administered 12.5 mg of luteinizing hormone (LH) to level the follicular waves. They were randomly assigned to four treatment groups (T1 / T2, without T3 / T4 with P4 during ovarian overstimulation). Heifer superstimulation was initiated at D12 with two daily applications of follicle stimulating hormone (FSH) (total dose of 133 mg) for four days. Only T3 and T4 received a new intravaginal device on D12 and prostaglandin (PGF2 $\alpha$ ) on D15. All heifers received 25mg of LH (D16), and the embryos were collected by the non-surgical method and evaluated 6.5 days after the first fixed-time artificial insemination (FTAI) (D23). The number of follicles on the FTAI day differed ( $P < 0.05$ ) between T3 and T4 (17.4 x 15.5,  $P < 0.05$ ), as well as the number of CL (13.5 x 11.8,  $P < 0.05$ ), recovery rate (76.0 x 67.0,  $P < 0.05$ ), structures collected (9.7 x 8.3,  $P < 0.05$ ), embryo quality Grade 1 (3.6 x 0.8,  $P < 0.05$ ), Grade 2 (3.3 x 2.4,  $P < 0.05$ ), Grade 3 (1.9 x 1.0,  $P < 0.05$ ), transferable structures (6.8 x 3.6,  $P < 0.05$ ) and freezable structures (4.7 x 1.1,  $P < 0.05$ ). For T1 and T2 there were differences ( $P < 0.05$ ) between number of CL (12.2 x 10.6), ovulation rate (71.8 x 62.8), recovery rate (78.7 x 65.8), structures collected (9.2 x 7.0), quality of embryos Grade 1 (1.5 x 0.4), Grade 2 (2.7 x 0.7), transferable structures (5.1 x 1.1) freezable embryos (1.9 x 0.8), not fertilized structures (2.8 x 3.5) and degenerated embryos (0.8 x 1.5). Concluding that the heifers Gir overestimated with P4 presented higher number of embryos recovered, embryos of better quality, transferable and freezing.

**Keywords:** bovine, follicular growth, ovarian response, embryo quality

Promoção e Realização:



Apoio Institucional:



Organização:

