

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

FERTILITY AND COST EVALUATION OF GIR COWS *IN VITRO* EMBRYOS PRODUCTION USING RECIPIENT CROSS-BREED DAIRY COWS OF DIFFERENT GENETIC GROUPS

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Despite of reproductive efficiency increase through the use of *in vitro* embryo production (IVEP), the literature is scarce, regarding its economic viability the selection of recipients, in relation to the best genotypes, since these animals are responsible for pregnancy and calf development. The objective of this work was to analyze IVEP reproductive performance and cost-benefit of Gir embryos production, using crossbred dairy recipients from different genetic groups. The experiment was carried out at the Los Manantiales farm, in the state of Merida, Venezuela. IVEP data were collected from 2016, between February and November. A total of 120 recipients were evaluated. All embryos were obtained from dairy Gir donors, using bulls of the same breed. Treatment 1 (T1) consisted of the use of 51 Girolando recipients and the treatment 2 (T2) it was used 69 commercial dairy cows named Carora (without breed definition). All recipients were submitted to an identical estrus synchronization protocol and ovulation induction. It was stated D0 as the first day of protocol. The embryos were implanted at D17. After 30 days of embryos implantation, it was made the pregnancy diagnosis by ultrasonography. To evaluate the pregnancy among recipients, a variance analysis was performed and the averages were obtained through the Tukey test at 5% significance, using the software SISVAR 5.6. To verify the IVEP cost-benefit, it was determined the total cost (TC) of pregnancy using the sum of direct material cost (DMC), direct labor cost (DLC) and production indirect costs (PIC). The DMC was obtained through the sum of maintenance costs (pasture, mineral salt, vaccines and vermifuge). DLC was calculated by veterinary costs, including labor, hormones, materials needed for the synchronization of the recipients and pregnancy diagnosis. PIC involved the combined costs of *ovum* pick up (OPU), *in vitro* fertilization and embryos transfer. According to the results, there was no statistical difference ($p > 0.05$) between the breeds on the pregnancy rate (36% for T1 and 37% for T2). It was verified that the lowest cost observed was for T2 (US\$ 526.00) in comparison with T1 (US\$ 636.50). The variation between the two groups was the DMC (US\$ 240.00 for T1 and US\$ 130.00 for T2). It was possible to conclude that using Carora cows, was more economically viable under the conditions of this experiment because of its lower cost, despite the same pregnancy rate as Girolando cows.

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