

EFFECT OF PROGESTERONE SUPPLEMENTATION ON PREGNANCY RATE AND RESYNCHRONIZATION OF NELORE BREED RECIPIENTS: PRELIMINARY DATA

EFEITO DA SUPLEMENTAÇÃO DE PROGESTERONA NA TAXA DE PREENHEZ E RESSINCRONIZAÇÃO DE RECEPTORAS DA RAÇA NELORE: DADOS PRELIMINARES

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Animal reproduction uses biotechniques to promote sustainable farming. One of these techniques, called in vitro production (IVP) is known to increase herd productivity by allowing production of more animals in smaller areas. Despite many efforts to improve pregnancy rates, birth efficiency of IVP embryos is usually 10% less compared to other techniques, due two main issues: quality of embryos and efficiency of the synchronization protocols of the recipients. In light of this problem, studies of hormonal protocols that aim to increase circulating levels of progesterone (P4) in embryo recipients can lead to both a reduction in embryo losses and faster preparation of non-pregnant recipients for new transfers. This can be achieved due to the inhibitory action of progesterone in luteinizing hormone (LH) peaks and negative feedback in the hypothalamic pituitary gonadal axis. The objective of this study was to evaluate a hormonal protocol with reusable P4 implants in IVP embryo recipient cows regarding gestation rate and resynchronization rate of non-pregnant recipients. A first experiment was carried out in a farm situated in northwestern Paraná from May to August 2017. Fifteen Wagyu breeders and 70 Nellore breeders were used and recipients were divided into two treatments of 35 animals each. In the control group (GC1), 2.0 mg of IM plus an intravaginal device (CIDR®; Zoetis, São Paulo, SP) were applied on first use (D0) and then on the seventh day PGF2a (Lutalyse®; Zoetis, São Paulo, SP) was applied. The implant removal occurred nine days after insertion along with 0.5 mL of ECP (ECP®; Zoetis, São Paulo, SP) and 1.5 mL of ECG (Novormon®, Zoetis, São Paulo, SP). The treated animals (GT1) received the same protocol, but on transfer of the embryo they received a CIDR implant in the 2nd or 3rd use as well, which was withdrawn on D31. The transfer of the embryo into the recipient cow occurred in D19 in both groups. On the 23rd day after embryo transfer, gestation diagnoses were performed. Experiment 2 occurred on the same farm along with another transfer of an IVP embryo in non-pregnant recipients with corpus luteum from experiment 1, resulting in two groups: GC2 (from GC1) and GT2 (from GT1). Diagnosis of gestation was performed using GC2 and GT2 on the 23rd after embryo transfer. In experiment 1, the gestation rate was 44% (15/34) in GC1 and 25% (9/36) in GT1. Of the 46 non-pregnant animals from experiment 1, 24 presented negative diagnoses and the presence of luteal bodies, so they received a new embryo (starting the second experiment). Experiment 2 showed positive gestation diagnosis of 18% (2/11) for GC2 and 45% (6/13) for GT2. Preliminary results from experiment 1 suggest that P4 implantation in PIV embryo recipients does not influence the pregnancy rate. However, the results of experiment 2 suggest that the P4 implant is efficient for resynchronization of recipients, increasing the pregnancy rates of the negative cows in the first examination.

Keywords: embryos, reusable implants, sustainable farming.

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