Animal Reproduction

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INJECTABLE PROGESTERONE (75mg) IS NOT AN ALTERNATIVE TO INTRAVAGINAL PROGESTERONE DEVICES IN Bos indicus COWS SUBMITTED TO THE OVULATION SYNCHRONIZATION PROTOCOL

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Resumo

The objective was to evaluate injectable progesterone (P4i) as an alternative exogenous source of P4 in ovulation synchronization protocols. In experiment 1, Nelore cows (n=55) were randomly assigned to five experimental groups to receive different doses of P4i [(P4i60mg, P4i105mg, P4i150mg, P4i195mg and P4i240mg groups; (Sincrogest Injetável®, Ourofino, Brazil)]. Daily blood samples [Day 0 (D0) to D12] were collected to assess the plasma concentration of progesterone (RIA). In experiment 2, Nelore cows (n=48) were divided into three experimental groups to receive an intravaginal device of P4 [(Control group; Sincrogest®, Ourofino, Brazil)] or two different doses of P4i [105 mg of P4i (P4i105 group) 150 mg of P4i (P4i150 group)]. In experiment 3, Nelore cows (n=26) were assigned to two experimental groups to receive an intravaginal device of P4 (Control group) or 75 mg of P4i (P4i75 group) on D0. In experiment 4, Nelore cows (n=28) were divided into two experimental groups to receive received an intravaginal device of P4 (Control group) or 60mg of P4i (P4i60 group). In experiments 2, 3 and 4, concurret with the treatments cows received 2mg of EB (Sincrodiol®, Ourofino, Brazil) on D0. Eight days later (D8), cows received 1mg of EC (SincroCP®, Ourofino, Brazil), 300IU of eCG (SincroeCG®, Ourofino, Brazil), 500µg of Cloprostenol (Sincrocio®, Ourofino, Brazil) and P4 intravaginal devices were removed from cows in the Control group. In addition, ultrasound examinations were performed every 24 hours for 96 hours or until ovulation. In experiment 5, Nelore cows (n=132) were submitted to the TAI protocol using P4i (P4i75 group) or intravaginal device of P4 (Control group) and administration of 2mg of EB on D0. On D8, the intravaginal device was removed from the cows in the Control group and 1mg of EC, 500µg of Cloprostenol and 300IU of eCG were administered to all cows. After treatments, all cows were submitted to artificial insemination 48 hours after administration of the ovulation inducer. Pregnancy diagnosis and cyclicity rate were evaluated 30 days after TAI (D40). Statistical analysis was performed by SAS. In the P4i release curve, it was observed that the peak occurred one day after the treatments (D1) for the different doses of P4i administered and, from D3 onwards, all groups remained with concentrations below 1ng/mL until the end of the study (D12). Regarding ovarian follicular dynamics, the dose of 75mg showed an ovulation rate at the end of the ovulation synchronization protocol similar to the control group (P=0.24), a result not observed in studies with other doses of P4i (ovulation rate lower). However, the pregnancy rate (experiment 5) was higher in cows, wich received the intravaginal P4 device (P=0.0001). It can be concluded that the use of different doses of long-acting P4i at the beginning of the TAI protocol is not an alternative to replace the intravaginal device of P4 in ovulation synchronization protocols in Bos indicus cows.