Animal Reproduction

AI and IATF

Administration of GnRH at AI increases pregnancy rate of suckled Nelore cows that received iP4 prior to ovulation synchronization and without estrus demonstration

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The aim of this study was to evaluate the effect of using GnRH at AI on pregnancy per AI of Nelore (*bos indicus*) cows that did not show estrus during TAI protocol. A total of 794 suckled Nelore cows, at 30-60 days postpartum (DPP) with average BCS 2.50±0.02 (1-5 point scale) from Couto Magalhaes farm (MT state, Brazil) were used. All the cows received 150mg of P4i (Sincrogest Injetável®, Ouro Fino, Brazil) 10 days before TAI protocol (D-10). On D0, cows received 2mg of estradiol benzoate (Sincrodiol®, Ouro Fino, Brazil) and a progesterone intravaginal device (Sincrogest®, Ouro Fino, Brazil). On D8, the progesterone device was removed and cows received 500µg of Cloprostenol (Sincrocio®, Ouro Fino, Brazil), 300IU of eCG (SincroeCG®, Ouro Fino, Brazil) and 1mg of estradiol cypionate (Sincrocp®, Ouro Fino, Brazil). Also, on D8 cows were painted with chalk on their tailheads, and removal of chalk on D10 was used as an indication of estrus. TAI was performed 48h after device removal, concomitant with estrus determination. At that time, cows that did not show (n=434) estrus were homogenously allocated to receive or not buserelin acetate (GnRH): Control [No treatment, n=214] and GnRH [Treatment with 10µg GnRH (Sincroforte®, Ourofino, Brazil), n=220]. Semen of bulls and inseminator were equally distributed between groups. Pregnancy diagnosis was performed by US 30 days after TAI. Statistical analysis was performed by GLIMMIX procedure of SAS®. Cows showing estrus had greater BCS than those without estrus demonstration (2.63±0.02 vs 2.26±0.02; P<0.001). The pregnancy rate was higher for GnRH group [Control: 52.8% (113/214) vs. GnRH: 60.9% (134/220); P=0.05]. In conclusion, the administration of GnRH at AI increases pregnancy rate of suckled Nelore cows that did not showed estrus during TAI and received an iP4 treatment 10 days prior to the beginning of the protocol. Thus, it can be used as a tool to optimize TAI outcomes.