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AI and IATF

Efficiency of super-early resynchronization protocol without eCG or PGF use in Nellore (*Bos indicus*) cows

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Two experiments were carried out to evaluate the need of eCG and PGF use on D22 of super-early resynchronization protocol in Nellore cows, which in turn would make resynchronization protocol more profitable. In experiment 1, fourteen days after 1st TAI (D14), 1065 suckled Nellore cows (BCS= 2.75±0.4) received P4 device (P4D) (Fertilcare, MSD, Brazil). After 8 days the P4D was removed (D22), and cows were submitted to a pregnancy diagnosis (PD) by luteal vascularization using Color Doppler ultrasonography. Non-pregnant cows (low or absent luteal vascularization; n=546) were treated with 0,530 mg of sodium cloprostenol (Ciosin®, MSD, Brazil), 1mg of estradiol cypionate (EC; Fertilcare Ovulação®, MSD, Brazil) and then were allocated in a 2x2 factorial design to either receive or not 300UI of eCG (Folligon®, MSD, Brazil) according to DF diameter (smaller or larger than 10.7mm). For estrus detection, cows were painted with chalk on their tailheads. TAI was performed 48h after P4D removal, concomitant with estrus evaluation. PD was performed 30days after TAI. In experiment 2, the use or not of PGF in non-pregnant cows that received a super-early resynchronization protocol treatment on P/AI was evaluated. Fourteen days after 1st TAI (D14), 325 Nellore heifers (Age: 24.5±0.1 months; BCS: 3.5±0.1), received a P4D (Fertilcare®, MSD, Brazil) and 1mg of EB (Fertilcare Sincronização®, MSD, Brazil). By P4D removal (D22), PD was performed by Color Doppler ultrasonography. Heifers diagnosed as non-pregnant (N:216) received 200 IU of eCG (Folligon®, MSD, Brazil), 0,5 mg of EC (Fertilcare Ovulação®, MSD, Brazil), and heifers were randomized to receive or not 0,530mg of PGF (Ciosin®, MSD, Brazil). Estrus detection evaluation and PD were done as previously described. Statistical analyses were performed by PROC GLIMMIX of SAS. In experiment 1, the estrus expression rate was similar between eCG treatment (P=0.45). However, cows with larger DF diameter had more estrus expression than smaller DF [DF≥10.7= 81.2% (310/382) vs. DF<10.7= 65.1% (95/146)]. The P/IA was similar for cows with DF larger than 10.7mm, but increased when eCG was given to cows with DF smaller than 10.7mm [eCG_FD≥10.7= 50.7% (99/195)^A; No_eCG_FD≥10.7= 47.8% (90/188)^A; eCG_FD<11= 39.7% (27/68)^{AB}; No_eCG_FD<11= 22.9% (17/74)^B; P=0.05]. In experiment 2, there were no difference for estrus expression rate [PGF=83.8% (83/99) vs. No_PGF= 90.2% (92/102); P=0.40] and for P/IA (PGF=44.5% (45/101) vs No_PGF=45.1% (46/102); P=0.93). It can be concluded that cows with large DF express more estrus than cows with small DF. Regardless eCG treatment, the P/IA is similar for cows with larger DF. However, the P/IA increased when eCG was given to cows with small DF. Thus, it is not necessary to apply eCG in Nellore cows with DF larger than 10.7mm. In addition, there is no difference for estrus expression rate and P/IA in heifers treated with or without PGF. Thus, it is not necessary to apply PGF in Nellore heifers.