036 TAI/FTET/AI

Use of injectable progesterone associated to an intravaginal device (CIDR) for early resynchronization of Nelore cows and heifers submitted to three TAIs in 48 days

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We aimed to evaluate the pregnancy rate (P/AI) of beef cattle submitted to super-early resynchronization protocol using a progesterone (P4) device (CIDR, Zoetis) alone or associated to 100mg injectable P4 (iP4; Afisterone, Ceva). Nelore heifers (n=498) and cows (n=760) were underwent TAI (D0). On D13, animals were divided in two experimental groups: CIDR (insertion of a CIDR), and CIDR+iP4 (CIDR plus im 100mg iP4). On D22, an early pregnancy diagnosis (PD) was performed based on detection of luteolysis by color Doppler ultrasonography (DopplerUS; Z5 Vet, Mindray). When luteolysis was detected, non-pregnant animals (NPA) received im 12.5 mg dinoprost trometamine (Lutalyse; Zoetis), 0.6 mg estradiol cypionate (ECP; Zoetis) and 200 (heifers) or 300 (cows) IU eCG (Novormon, Zoetis). A 2nd TAI was performed on D24 in NPA (214 heifers and 302 cows). On D37, 1st AI pregnant females (absence of luteolysis) went through a PD based on detection of an embryo with heartbeat and those with pregnancy loss were resynchronized by insertion of a CIDR plus 2 mg estradiol benzoate (CIDR+EB). On D37, animals submitted to the 2nd TAI were resynchronized using the reverse experimental group of the 1st resynchronization. Another early PD by DopplerUS was done on D46 and ovulation was induced in NPA as on D22. A 3rd TAI was done on D48 in NPA (172 heifers and 211 cows). On D61 and D85, a PD was done to confirm pregnancies from the 2nd and 3rd TAI, respectively. The P/AI was evaluated by logistic regression using PROC GLIMMIX of SAS, considering the effects of group, sire, body condition score (BCS), farm, category and the possible interactions. The P/AI at the 1st TAI were 57% (284/498) for heifers and 60% (458/760) for cows. The overall P/AI for both categories tended to differ (P=0.08) between animals resynchronized with CIDR (38%, 148/387) and CIDR+iP4 (43%, 178/411). However, an interaction of group by BCS was observed (P=0.04), reflecting a greater (P=0.01) P/AI in the CIDR+iP4 group only when BCS was ≤ 2 (53% [32/60] vs. 28% [13/46]). When evaluated separately for each category, the P/AI in resynchronized heifers did not differ (P>0.1) between the CIDR (38%, 61/160) and CIDR+iP4 (44%, 73/167) groups, but an interaction of group by BCS was again observed (P=0.01). For cows, P/AI did not differ between the CIDR (38%, 87/227) and CIDR+iP4 (43%, 105/244) groups, but an effect of BCS was observed (P=0.04). The P/AI in animals receiving the CIDR+EB were 44% (26/59) and 58.5% (24/41) for heifers and cows, respectively. It was concluded that the supplementary dose of 100mg iP4 improved the P/AI in Nelore cattle submitted the super-early resynchronization protocol only when they have a BCS ≤ 2, regardless of the category (heifer or cow). Acknowledgments: Bela Vista and Longavira Farms, FAPESP (2015/10606-9; 2018/20058-7), Nelore GOU and Zoetis.