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Evaluation of treatment response to benzoate or 17 β -estradiol (associated with P4) at the beginning of TAI protocol

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The objective of this study was to evaluate the pregnancy rate of cows that received 17 β -estradiol associated with progesterone (P4) as treatment at beginning of the ovulation synchronization protocol to TAI. On a random day of estrous cycle (D0), primiparous (n=400) of Nelore breed (*Bos indicus*) with 43 \pm 7.1 days postpartum, body condition score (BCS) and an average weight of 2.9 \pm 0.4 (1-5) and 414 \pm 40 Kg, respectively, were randomly distributed in two different treatments: Group 17 β +P4 (5.5mg 17 β -estradiol associated with 50mg of P4; n=204) and Group BE (2 mg BE; n=196) im. The cows received an intravaginal device with 0.96g of P4 (Progestar®, Boehringer Ingelheim, Campinas, Brazil) and were evaluated by transrectal ultrasonography to measure dominant follicle (DF) diameter and record the presence of CL for randomization of groups. On Day 8.5 (D8.5) the device was removed and cows received 1mg estradiol benzoate (Estrovulinn®, Boehringer Ingelheim, Campinas, Brazil), 0.530mg sodium cloprostenol (Cioprostinn®, Boehringer Ingelheim, Campinas, Brazil) and 300IU of eCG (Folligon®, MSD Animal Health, São Paulo, Brazil) im. Also, tail chalk was applied on the sacrococcygeal region for estrus detection. On day 10 (D10), 48h after device removal, cows were checked for occurrence of estrus and measurement of DF, and subsequently, artificially inseminated. The pregnancy diagnosis was realized 31 days after TAI. Statistical analyzes were performed using GLIMMIX procedure of SAS®. There was no difference (P=0.32) in pregnancy rate according to experimental groups (17 β +P4= 54.41% [111/204] vs. BE= 57.65% [113/196]). No interaction was observed between pregnancy*estrous (P=0.95) and pregnancy*BCS (P=0.16). However, there was a tendency for interactions pregnant*diameterDF (DF<11mm: 17 β +P4= 29.41% [10/34] vs. BE= 46.88% [15/32]; P>0.05 and DF \geq 11mm: 17 β +P4= 70.45% [31/44] vs. BE= 57.14% [28/49]; P=0.058) and pregnancy*weight (<400 Kg: 17 β +P4= 57.14% [40/70] vs. BE= 46.15% [30/65]; P=0.07 and \geq 400 Kg: 17 β +P4= 52.5% [63/120] vs. BE= 63.2% [74/117]; P>0.05). It was concluded that animals with higher DF (\geq 11 mm) and lower weight (<400 Kg) showed a tendency towards higher pregnancy rate when treated with 17 β -estradiol associated with P4 at the beginning of TAI protocol. Acknowledgments: Boehringer Ingelheim Animal Health.