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Pre-synchronization with injectable P4 for GnRH/P4-based TAI protocol in *Bos indicus* beef cows

Mariana Moreira dos Anjos ¹, Matheus Cruz Silva ¹, Higor Souza de Camargo ¹, João Paulo Mendes Lollato ²,
Thales Ricardo Rigo Barreiros ³, Fábio Morotti ¹

¹UEL - Universidade Estadual de Londrina (Londrina, PR, Brazil), ²Biogénesis Bagó - Biogénesis Bagó (Curitiba, PR, Brazil), ³UENP - Universidade Estadual do Norte do Paraná (Bandeirantes, PR, Brazil.)

Resumo

This study evaluated the effect of pre-synchronization with injectable P4 on the ovarian follicular dynamics of cows treated with a GnRH/P4-based TAI protocol. Nelore females (n=50), multiparous, between 5 and 8 years of age, with 30 to 60 days postpartum were used in this study. Ten days before (D-10) starting the TAI protocol antral follicle count (AFC; follicles ≥ 3 mm), ovarian condition (diameter of the largest follicle and CL presence), and body condition score (BCS: 1-5) were evaluated by a single technician to establish two groups: Control (n=23) and Pre-sync (n=27; injectable P4). On the same day, the Pre-sync group received i.m. 150mg injectable P4 (Sincrogest® Injetável, Ourofino, Cravinhos, Brazil). On D0, the ovarian evaluation was repeated, and the TAI protocol was started with the insertion of a P4 intravaginal device (0.5g, Cronipres®, Biogénesis Bagó, Curitiba, Brazil) and administration of 10.5µg buserelin acetate/GnRH (Gonaxal®, Biogénesis Bagó) in all animals. On D7, the P4 device was removed and 300IU eCG (Ecegon®, Biogénesis Bagó), 150µg D-cloprostenol (Croniben®, Biogénesis Bagó) and 1mg estradiol cypionate (Croni-Cip®, Biogénesis Bagó) were i.m. applied. On the same day, the CL presence was evaluated, the largest follicle was measured, and the tail was painted to evaluate the estrus expression. On D9, the measurement of the largest follicle was repeated, and TAI was performed in all cows using semen from a single bull. Those animals with no estrus or low expression received 10.5µg GnRH. Numerical variables did not present normal distribution, then the data were analyzed by the Mann-Whitney test. Binary data were analyzed by Fisher's exact test (5%). The Control and Pre-sync groups did not differ regarding the BCS at the beginning of pre-synchronization (D-10; 2.4 ± 0.1 and 2.5 ± 0.1 ; $P=0.59$) or of the TAI protocol (D0; 2.5 ± 0.1 and 2.6 ± 0.1 ; $P=0.43$), respectively. The AFC was similar between Control (40.5 ± 5.7 follicles) and the Pre-sync group (49.7 ± 6.1 follicles; $P=0.16$). The diameter of the largest follicle (mm) was also similar between the Control and Pre-sync groups on D-10 (9.2 ± 0.7 and 10.1 ± 0.6 ; $P=0.33$), on D0 (9.9 ± 0.6 and 10.7 ± 0.6 ; $P=0.33$), on D7 (11.0 ± 0.8 and 10.1 ± 0.8 ; $P=0.21$) and D9 (11.3 ± 0.7 and 12.0 ± 0.7 ; $P=0.20$), respectively. The Control and Pre-sync groups were also similar regarding the CL presence on D7 of the protocol [56.5% (13/23) and 77.8% (21/27); $P=0.11$], the estrus expression rate [91.3% (21/23) and 96.3% (26/27); $P=0.44$] and conception rate [39.1% (9/23) and 44.4% (12/27); $P=0.45$], respectively. Ovarian follicular dynamics of cows treated with injectable P4 10 days before the start of the TAI protocol did not differ from the control group.