

Abstracts - 35th Annual Meeting of the Brazilian Embryo Technology Society (SBTE)

FTAI/FTET/AI

Impact of early weaning at 150 days on the reproductive performance of Nelore cows and weaned female calves

Thiago Kan Nishimura¹, Amanda Guimarães da Silva¹, Matheus Sousa de Paula Carlis¹, Gabriela Abitante¹, Arlindo Saran Netto¹, Rodrigo Silva Goulart¹, Miguel Henrique de Almeida Santana¹, Saulo da Luz e Silva¹, Paulo Roberto Leme¹, Guilherme Pugliesi¹

¹ USP - Universidade de São Paulo (Rua Duque de Caxias, 225)

Resumo

We aimed to evaluate the effects of early weaning on the reproductive performance of Nelore weaned calves and cows in the next breeding season (BS). Suckled cows that became pregnant by timed-AI (TAI) in the 2020 BS were submitted in 2021 to an early weaning (EW) at 150 days (27 primiparous [PRIMI] and 74 multiparous [MULTI]) or conventional weaning (CW) at 240 days post-partum (30 PRIMI and 77 MULTI). Body weight and condition score (BCS; 1-9) were determined at five moments: at 2020 BS, at 150 and 240 days post-partum, at pre-partum and at 2021 BS. Female calves weaned at EW (16 from PRIMI and 31 from MULTI) or CW (16 from PRIMI and 31 from MULTI) were evaluated. All calves received creep-feeding from 90 days of age until weaning. At 12 months (mo) of age, females' calves were evaluated for reproductive tract score (RTS) and body weight every 28±4 d. At 13 mo, heifers were allocated in a feedlot pen for 113 d. During the 2021 BS, dams and heifers (during feedlot period) were submitted to a P4/E2-based protocol (D-10) for TAI at Day 0 (D0), and a second TAI was performed at D22 in females detected with luteolysis by Doppler ultrasound. Presence of corpus luteum (CL) on D-10, and estrous expression and dominant follicle (DF) diameter and blood perfusion (BP) on D-2 and D0 were determined. Data were analyzed by ANOVA or logistic regression (SAS). An interaction of parity order and treatment was not observed ($P>0.1$), but the weight (kg) and BCS was greater ($P<0.05$) in MULTI cows at the five moments, and in dams from the EW than in the CW at 240 days post-partum (541 vs. 493; and 5.3 vs. 4.3), pre-partum (551 vs. 506; and 5.2 vs. 4.4) and 2021 BS (475 vs. 450; and 4.5 vs. 3.7). The proportion of cows with CL at D-10 was not affected ($P>0.1$) by weaning but was greater ($P<0.05$) in MULTI than PRIMI cows (40.4% vs. 15.7%). DF diameter and proportion of BP on D0 was greater ($P<0.05$) in cows from EW group than CW group. The pregnancy rate (P/AI) at first TAI was greater ($P<0.05$) in cows from EW group (60% vs. 45%), whereas no difference ($P>0.1$) was observed at second TAI. Cumulative P/AI (two TAIs) were greater ($P<0.05$) in cows from EW group (81% vs. 63%). For calves, the weaning did not affect ($P>0.1$) BCS at TAI, but heifers from EW were lighter ($P<0.05$) than CW at 13 mo (281 ± 3.2 vs. 299 ± 3.1 kg) and 16 mo (354 ± 5.1 vs. 372 ± 4.2 kg) of age (start of TAI protocol). Puberty, endometrium tonus and thickness and RTS at 16 mo did not differ ($P>0.1$) between EW and CW groups. The DF diameter on D-2, and on D0 both DF size and BP were greater ($P<0.05$) for heifers in the CW group than EW group, but P/AI at first and second TAI did not differ ($P>0.1$) between groups. In conclusion, the weaning at 150 days in Nelore cattle is an interesting strategy to recover dam's body condition and to improve its pregnancy success in the next BS, without affecting the reproductive performance of female weaned calves.

Acknowledgments

Biogenesis Bagó and FAPESP (2017/18937-0).