



A087 FTAI, FTET and AI

## **TAI improves the reproductive efficiency of primiparous nelore cows during the breeding season**

**M.O. Marques<sup>1</sup>, M. Ribeiro Júnior<sup>1</sup>, R.C.P. Silva<sup>1</sup>, M.F. Sá Filho<sup>2</sup>, P.S. Baruselli<sup>2</sup>**

<sup>1</sup>GERAEMBRYO, Cornélio Procópio, PR, Brasil; <sup>2</sup>VRA, FMVZ/USP, São Paulo, SP, Brasil.

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The aim of this study was to compare the reproductive performance of primiparous Nelore cows submitted to different reproductive programs during the 84-d of breeding season (BS). Three programs are used: 1) Natural service (NS)+Suckling Restriction (T1; n=159) - cows were submitted to NS throughout the BS and suckling restriction period between 20 and 50 days of the BS, when the calves were separated and suckling only a once daily; 2) Timed artificial insemination (T2; n=154) - cows were submitted to a TAI at the first day of BS, followed by NS until the end of BS; or 3) T3 (n=160) - cows were submitted to a TAI and after 40 days, non-pregnant cows at first TAI were submitted to a second TAI (resynchronization). Cows of the groups T2 and T3 were synchronized using a TAI protocol 10 days before the onset of BS. Both synchronized and resynchronized received a P4 device (DIB®, MDS Animal Health) plus 2mg of estradiol benzoate (Gonadiol®, MSD Animal Health). Eight days after, the devices were removed and were associated with i.m. injections of 0.3975 mg of sodium cloprostenol (Ciosin®, MSD Animal Health) and 300 IU of equine chorionic gonadotropin (eCG; Novormon®, MSD Animal Health) plus 1 mg of estradiol cypionate (ECP®, Pfizer Animal Health). All synchronized and resynchronized cows received TAI 48 h after P4 device removal, with the same inseminator and semen batch. In T2 and T3, the bulls were introduced 15 days after the last TAI. Pregnancy diagnosis was performed by ultrasound 30 days after the first TAI and every 30 days after NS. Conception rates at 42 (42d) and at 84 (84d; end of NS) days of BS were analyzed by logistic regression using Glimmix of SAS. The conception rate of first TAI was similar ( $P=0.12$ ) between T2 (39.0%, 60/154) and T3 (30.0%, 48/160). The conception rate of resynchronization in T3 group was 33.9% (38/112). Cows that received TAI (T2 and T3) had higher ( $P<0.001$ ) proportion of cows pregnant at 42 days of BS [43.5% (67/154) and 56.8% (86/160)] than cows exposed only to the natural service and suckling restriction [T1; 17.6% (28/159)]. However, the proportion of cows pregnant at the end of BS did not differ ( $P = 0.21$ ) among the treatments [T1 = 47.8% (76/159); T2 = 48.7% (75/154); T3 = 55.0% (88/160)]. The interval in days between the onset of BS and the occurrence of pregnancy was different between groups (T1 =  $47.6\pm 1.7^c$  days; T2 =  $11.9\pm 2.9^a$  days; T3 =  $20.5\pm 2.4^b$  days;  $P < 0.0001$ ), when the T2 group showed the shorter interval. It was concluded that the use of TAI at the beginning of BS increases the proportion of pregnant primiparous cows by artificial insemination and induced cows to become pregnant faster than those subjected only to natural service plus suckling restriction.

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