

# ABSTRACTS: 34TH ANNUAL MEETING OF THE BRAZILIAN EMBRYO TECHNOLOGY SOCIETY (SBTE)

AI and IATF

## Effect of time of permanence (7 vs. 8 days) of intravaginal progesterone devices on follicular dynamics and pregnancy rate of Nelore (*Bos indicus*) heifers

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The present study evaluated the permanence of the intravaginal progesterone device (7 or 8 days) on follicular dynamic and pregnancy rate of Nelore heifers submitted to TAI. The experiment was carried out at Nelore Paranã Farm (Iaciaria, GO, Brazil). A total of 780 Nelore heifers [26.8±0.3 months of age, 360.6±1.8 kg and 3.3±0.01 (1-5 scale) of BCS] were distributed into two experimental groups: 8DayP4 (8 days of device permanence; n= 404) and group 7DayP4 (7 days of device permanence; n= 376). Heifers from group 8DayP4 received intravaginal device with 0.6g P4 (P4D; Ferticare 600®, MSD, Brazil) associated with 2mg estradiol benzoate (EB; Ferticare Sincronização®, MSD, Brazil) and 0.25mg Sodic Cloprostenol (PGF; Ciosin®, MSD, Brazil) on D0. After 8 days (D8), P4D was removed and heifers received 0.25mg PGF (Ciosin®, MSD, Brazil), 0.5mg of estradiol cypioante (EC; Ferticare Ovulação®, MSD, São Paulo) and 200IU of eCG (Folligon®, MSD, Brazil). At the same time, heifers were painted with chalk on their tailheads, and removal of chalk on D10 was used as an indication of estrus. Heifers from group 7DayP4 received the same P4D, BE and PGF doses, but on D1. After 7 days (D8), P4D was removed and followed by the same treatment as group 8DayP4. All heifers were inseminated on the same day (D10) and received 0.1mg Gonadorelin (Fertagyl®, MSD, Brazil). Pregnancy diagnosis was done by US 30 days after TAI. Moreover, a subgroup of heifers (8DayP4=78 and 7DayP4=85) were evaluated by US (Mindray® DP-2200Vet) in order to measure the diameter of the dominant follicle (DF) on D8 and D10. Data were analyzed by the GLIMMIX procedure of SAS®. The diameter of DF at P4D removal was larger in 8DayP4 heifers (8DayP4= 8.3±0.2mm vs. 7DayP4= 7.3±0.3mm; P=0.003). However, the DF at TAI was similar between the groups (P=0.20). In addition, early ovulation rate (between P4D and TAI) was higher in 8DayP4 than 7DayP4 group [16.7% (13/78) vs. 4.7% (4/85); P=0.02] and heifers that ovulated earlier had a tendency (P=0.07) for lower pregnancy rate [29.4% (5/17) vs. 45.8% (66/144)]. There was a tendency to increase estrus expression in 8DaysP4 group [8DayP4= 54.5% (220/404) vs. 7DayP4= 48.4% (182/376); P=0.07]. The pregnancy rate did not differ among groups [8DayP4= 44.3% (179/404) vs. 7DayP4= 47.3% (179/376); P=0.20]. Additionally, heifers were classified according to age [Old heifers=35.5±0.2 months (n=390) vs. Young heifers=19.1±0.2 months (n=390)] and it was found a tendency for the interaction age\*group [8DayP4\*Old heifers= 40.2%<sup>b</sup> (82/204); 8DayP4\*Young heifers= 48.5%<sup>a</sup> (97/200); 7DayP4\*Old heifers= 48.4%<sup>a</sup> (90/186) and 7DayP4\*Young heifers= 46.8%<sup>a</sup> (89/190); P=0.07]. In summary, the protocol with P4D for 8 days showed a larger DF on D8 and a higher early ovulation rate. Heifers with early ovulation decreased P/AI. Despite no difference in pregnancy rate between the groups, older heifers with 8 days of device permanence may have lower pregnancy rate when compared to younger heifers