Animal Reproduction

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

FTAI/FTET/AI

Pre-synchronization before E2-P4 based protocol: fertility of high production Holstein cows previously exposed to long-acting injectable progesterone or intravaginal progesterone device

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Resumo

The hypothesis was that different pre-synchronization programs including exposure to progesterone before the TAI protocol do not differ on fertility outcome. The aim of this study was to evaluate the fertility of high producing dairy cows submitted to two different programs of pre-synch before E2-P4 based protocol. Holstein cows (n=330) with daily production of 39.7±9.6Kg and 47.7±2.1 DIM were enrolled at 1st post-partum AI. D0 was considered the beginning of the TAI protocol. Fourteen days before the beginning of TAI protocol (D-14), the cows were randomly assigned to one of two groups: PreS-14d-P4D (n=166): pre-synch with 2mg of estradiol benzoate (Sincrodiol®) and P4 intravaginal device (Sincrogest®) of third use fourteen days before TAI protocol. On D-7 all devices were withdrawal and 1mg of estradiol cypionate (SincroCP®) and 530µg PGF-2α (Sincrocio®) were administered; PreS-7d-LAP4 (n=164): pre-synch with 300mg of P4i (Sincrogest Injetável®) performed seven days before TAI protocol. On D0, animals received an intravaginal P4 device (1g; Sincrogest®), followed by administration of 2mg of estradiol benzoate (Sincrodiol®) and 10.5µg of buserelin acetate (GnRH; Sincroforte®); on day 7, animals received 530µg PGF-2α (Sincrocio®); on day 8 the P4 device was removed, 1mg of estradiol cypionate (SincroCP®) and 530µg PGF-2α (Sincrocio®) were given. TAI occurred 48h after P4 device withdrawal on D10. Ultrasonography was performed on D40 and D70 for pregnancy diagnosis and pregnancy losses (PL). Statistical analyses were performed using *Glimmix* procedure of SAS (*v*9.4). The overall pregnancy rate was 48,2% (159/330) on D40 and 37,2% (86/231) on D70. Overall PL was 6.67% (13/195). Similar P/AI was observed between groups on D40 [PreS-14d-P4D=45.8% (76/166); PreS-7d-LAP4=50.6% (83/164); P=0.41] and on D70 [PreS-14d-P4D=33.0% (37/112); PreS-7d-LAP4=41.2% (49/119); P=0.30]. Furthermore, similar PL were observed between D40 and D70 [PreS-14d-P4D=7.29% (7/96); PreS-7d-LAP4=6.06% (6/99); P=0.77]. In conclusion, both pre-synch programs were similar regarding reproductive efficiency, supporting the use of the pre-synch with 300mg of long-acting injectable in dairy farms as an alternative to pre-synchronization, simplifying the farm's management and the reproductive schedule. Further studies need to be carried out using a larger number of cows to confirm the lack of difference is accurate and repeatable.

Acknowledgment

Ourofino Animal Health.