

EFFICACY OF TWO RE-SYNCHRONIZATION PROTOCOLS FOR REPEATED FIXED TIMED EMBRYO TRANSFER IN SUCKLED BEEF CATTLE

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An experiment was conducted to study the efficacy of two synchronization and re-synchronization protocols for fixed time embryo transfer (FTET) after beef cows were diagnosed open at 25 days post ET. Sucked cross-bred Hereford x Angus beef cows (n=56) with a BCS $\geq$ 2.5 (scale 1-5) were randomly assigned to one of two treatments (TRT): 1) Controlled intra-vaginal drug release device (Cidr-B[®], 1.9 g P₄, InterAg, New Zeland) insertion and 2mg estradiol benzoate (EB) day (d) -10, Cidr-B[®] device removal and 150:g of prostaglandin (PFG, cloprostenol; Preloban[®], Intervet) d-2, 1mg EB d-1, FTET d7 (n=27); 2) Norgestomet implant (NI; Crestar[®], Intervet) insertion and 2mg EB d-9, NI removal and 400IU PMSG (Foligon[®], Intervet) d-2, FTET d7 (n=29). The re-synchronization protocol for each treatment was: 1) Cidr-B[®] device d 13-21, 1mg EB d13, 1mg EB d21, PDU d25 (PieMedical S100 ultrasound, Maastrich, Holland), FTET d31; 2) 8:g of GnRH d18, PDU d25 and cows open received 150:g of PFG d25, 8:g GnRH and FTET d35. Pregnancy diagnosis was performed at d25 of gestation and re-confirmed at d50. Before transferring the embryos, both ovaries of all treated cows were scanned to determine the presence or absence of a CL and to measure the echo texture and size of the CL structures. Only cows with a CL $\geq$ 10 mm in diameter were transferred frozen/thawed embryos of excellent or good quality (Grade 1). Based upon the CL structures found with the ultrasound examination, an equal percent of cows were transferred during the first round of synchronization (TRT1, 74% [20/27]; TRT2 69% [20/29]; p>0.67). The conception rate to the first round of FTET was similar for both groups (TRT1, 45% [9/20]; TRT2 45% [9/20]; p>0.99). Conversely, based upon the CL structures found with the ultrasound examination, a higher percent of cows were transferred during the second round of synchronization in TRT1 compared to TRT2 (TRT1, 92% [11/12]; TRT2 46% [5/11]; p<0.02). The conception rate to the second round of FTET was similar for both groups (TRT1, 20% [2/10]; TRT2 40% [2/5]; p>0.40). Only one cow had an embryonic death (1.7%; pregnant at d25 and open at d50). The overall conception rate to both rounds of FTET was numerically higher but statistically equal in TRT2 compared to TRT1 (TRT2, 79% [11/18]; TRT1 56% [10/18]; p>0.16). The pregnancy rate for the first round of FTET was similar for both groups (cows pregnant/cows synchronized; TRT1, 33% [9/27]; TRT2 31% [9/29]; p>0.85). Furthermore, the overall pregnancy rate to both rounds of FTET was also similar for both groups (TRT1, 37% [10/27]; TRT2 38% [11/29]; p>0.94). Supported with grants BID AR/OC 08-09360 and UNLP V11/107 to RLS. All transferred embryos were provided by Burry y Nigro Transferencia de Embriones.

Key words: re-synchronization, timed embryo transfer, beef cattle