

EFFICACY OF AN INTRA VAGINAL CONTROLLED DRUG RELEASE DEVICE FOR RE-SYNCHRONIZATION OF OVULATION AND FIXED TIMED INSEMINATION IN SUCKLED BEEF CATTLE

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An experiment was conducted to study the efficacy of three re-synchronization protocols for re-insemination of beef cows diagnosed open at 25 days post AI. Sucked cross-bred Hereford x Angus beef cows (n=90) with a BCS $\pm$ 2.5 (scale 1-5) were randomly assigned to one of three treatments: 1) Controlled intra vaginal drug release device (Triu-B[®], 1g P₄; Elastécnica, Argentina) insertion and 2mg estradiol benzoate (EB) day (d) -9, Triu-B[®] device removal and 150:g of prostaglandin (PFG, cloprostenol, Preloban[®], Intervet) d-2, 1mg EB d-1, timed AI (TAI) d0 (n=29); 2) Triu-B[®] device insertion and 2mg EB d-9, Triu-B[®] device removal and 150:g of PFG d-2, 1mg EB d-1, TAI d0 (n=29); 3) Triu-B[®] device insertion and 2:g of buserelin (GnRH, Receptal[®], Intervet) d-9, Triu-B[®] device removal and 150:g of PFG d-2, 2:g GnRH and TAI d0 (n=29). The re-synchronization protocol for each treatment was: 1) Triu-B[®] device d 13-20, 1mg EB d13, 1mg EB d21, AI at detected heat d22-24; 2) Triu-B[®] device d 18-25, 1mg EB d18, pregnancy diagnosis by ultrasonography (PDU; PieMedical S100 ultrasound, Maastrich, Holland) d25 and cows open received 150:g of PFG d25, 1mg EB d26, TAI d27; 3) Triu-B[®] device d 18-25, 2:g of GnRH d18, PDU d25 and cows open received 150:g of PFG d25, 2:g GnRH and TAI d27. Pregnancy diagnosis was performed at d25 of gestation and re-confirmed at d50. There were no differences in first IA pregnancy rate (PR) between treatments (TRT1, 55% [16/29]; TRT2, 69% [20/29]; TRT3, 55% [16/29]; P>0.45). The second IA heat detection rate in re-synchronized cows in TRT1 was 85% (11/13) and the conception rate was 73% (8/11). The second IA pregnancy rate was similar in all treatments (TRT1, 62% [8/13]; TRT2, 44% [4/9]; TRT3, 69% [9/13]; P>0.50). Furthermore, there were no differences between treatments in the overall pregnancy rate (TRT1, 83% [24/29]; TRT2, 83% [24/29]; TRT3, 86% [25/29]; P>0.91). In conclusion, the insertion of a controlled intra vaginal drug release device (Triu-B[®], 1g P₄) at day 18 rather than 13 with the injection of either EB or GnRH successfully re-synchronized ovulation and used of fixed time AI after early pregnancy diagnosis with ultrasonography. Furthermore, with these two protocols, 83% of synchronized cows became pregnant in a 27 day period. Supported with grants BID AR/OC 08-09360 and UNLP V11/107 to RLS.

Key words: re-synchronization, timed insemination, beef cattle