Effects of early weaning and progesterone-estradiol treatments on postpartum reproductive efficiency of grazing anestrous beef cows

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Abstract

To study the effects of early weaning (EW) and progesterone-estradiol treatment on the postpartum reproductive efficiency of beef cows, 110 anestrous Aberdeen Angus and Hereford cows with a mean body condition score of 3.5 ± 0.04 (1-8 scale) were used. At 70 d postpartum, cows were randomly assigned to one of four treatment groups: 1) S (n = 28), cows suckled throughout the experiment; S+C (n = 28), cows suckled throughout the experiment and treated with a CIDR-B (1.38 g progesterone; InterAg, New Zealand) for 7 d plus 2 mg of estradiol benzoate (EB, Dispert, Uruguay) at CIDR insertion and 1 mg EB 24 h after CIDR withdrawal (D0); 3) EW (n = 27), cows with calves weaned (D0); 4) EW+C (n = 27), cows with calves weaned and received the same CIDR-EB treatment as group S+C 7 d before weaning. After treatments, cows were mated by natural service for a period of 60 d and weekly serum P4 concentrations were measured. A greater proportion of EW+C cows had serum P4 concentrations ≥1 ng/ml one week after treatments (64, 32, 23 and 0% for EW+C, S+C, EW, and S, respectively; P < 0.05). The interval from treatment to resumption of postpartum estrous cycles was influenced by treatment (12.9 ± 1.8, 18.6 ± 1.9, 31.3 ± 3.6, and 41.5 ± 2.2 d for EW+C, EW, S+C, and S, respectively; P < 0.04). Early weaned cows had greater pregnancy rates compared to suckled cows (88.9, 88.9, 35.7, and 28.6% for EW+C, EW, S+C, and S, respectively; P < 0.05). Early weaning and progesterone-EB treatments were both effective means to induce an earlier onset of estrous cycles and enhance postpartum rebreeding efficiency in anestrous beef cows.

Keywords: postpartum anestrous, CIDR-B, suckling, body condition score.