

Effects of timed artificial insemination following estrus synchronization in postpartum beef cattle.

ABSTRACT

The objectives of this study were to evaluate estrus response and pregnancy rates resulting from timed artificial insemination (AI) following estrus synchronization using CIDR in postpartum beef cattle. A total of 100 cows were randomly divided into three groups. Groups 1, 2 and 3 were artificially inseminated at 48-50 h (n=30), 53-55 h (n=30) and 58-60 h (n=40) after CIDR removal, respectively. Estrus synchronization was carried out using a CIDR containing 1.38 mg progesterone. All cows were given 2 mg estradiol benzoate, intramuscularly on the day of CIDR insertion (D 0). The CIDR was removed after 8 days and 125 µg of prostaglandin F_{2α} (PGF_{2α}) was injected intramuscularly. One day after CIDR removal all cows were given 1 mg of estradiol benzoate intramuscularly (D 9). Cows were observed visually for estrus after removal of CIDR. Between 30 and 32 days after timed AI, pregnancy was determined using transrectal ultrasonography. The first estrus observation which is approximately 32 h after CIDR removal showed no significant difference (P>0.05) among the three groups. The onset response of estrus after 32 h removal of CIDR was less than 10% in all three groups 6.6% (G1), 6.8% (G2) and 7.3% (G3). Furthermore, percentages of estrus response (D 10) following CIDR removal were 76.6%, 75.0% and 77.5%. The difference between on D9 and D10 estrus response were statistically significant (P<0.05). The pregnancy rates were 23.3% (G1), 26.6% (G2) and 37.5% (G3), which were not significant (P>0.05).

Keyword: Cows; Estrus synchronization; CIDR; Timed artificial insemination (TAI); Pregnancy rate.