
FOLLICULAR DEVELOPMENT OF BEEF HEIFERS EXPOSED TO BULLS DURING AN ESTRUS SYNCHRONIZATION PROTOCOL THAT INCLUDED A 14-D CIDR, PGF2 ALPHA AND TIMED ARTIFICIAL INSEMINATION (AI) AND GNRH (POSTER)

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The objective was to evaluate the effect of presence of a bull on ovarian follicular development and its relationship to fertility in beef heifers using an estrus synchronization protocol that included a progesterone (P4)-containing, controlled internal drug release devices (CIDR) for 14 days, PGF 2alpha (PG, and, timed AI (TAI) and GnRH. Heifers were then assigned randomly to be exposed to bulls (BE; $n = 41$) or not exposed to bulls (NE; $n = 38$). Heifers were exposed to bulls on the day of CIDR insertion (d -32) and remained with bulls until day 3 (d 0 = day of PG injection). The heifer bull ratio was 20 to 1. CIDRs were removed 14 days (d -18) after insertion. On day 0 each heifer was injected with PG and bulls removed from BE heifers. Ovaries of each heifer were imaged ultrasonically. Heifers were observed for estrus during the next 60 h, 2x daily. Diameters of the DF at the time of CIDR removal and PG injection (d 0) did not differ between BE and NE heifers and averaged 10.3 ± 0.3 mm (mean \pm SE) and 10.9 ± 0.3 mm, respectively. There was no difference in number of antral follicles between BE- and NE-treated heifers (1.7 ± 0.1 and 1.5 ± 0.1 , respectively). Diameter of DF did not affect the proportion of heifers that showed estrus or time to estrus of heifers in either treatment. Diameter of DF increased ($P < 0.05$) linearly as body condition score (BSC) increased. Presence of mature bulls during an estrus synchronization protocol that included a CIDR for 14 days does not appear to influence ovarian follicular dynamics or the expression of estrus after PG in beef heifers. This may not be the mechanism whereby the presence of bulls increases fertility in the bovine. However, the relationship between DF diameter and BCS supports the concept that "more fit" females ovulate larger follicles which in turn improve fertility.