Public Abstract
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Estrous synchronization in cattle is facilitated by progestins, such as melengestrol acetate (MGA) or Controlled Internal Drug Release (CIDR). Long-term MGA treatment, in the absence of a corpus luteum (CL), results in the formation of persistent follicles (PF) that negatively affect pregnancy rates. However, it is unclear if long-term CIDR treatment results in PF formation characterized by increased length of follicular wave, increased dominant follicle diameter (FD), and increased circulating estradiol. The objectives were to determine if a new or used CIDR induced the formation of PF, in the absence of a CL, and to determine if differences exist in serum progesterone and estradiol concentrations of heifers or cows treated with a new or used CIDR. Serum progesterone concentrations for animals in the two CIDR groups were similar ($P > 0.1$) throughout the 14 day trial but lower in Control animals. Lengths of follicular waves were longer ($P < 0.05$) and circulating estradiol was higher ($P < 0.05$) in CIDR-treated groups compared to the Control group. For heifers, FD was greater ($P < 0.05$) in the Used CIDR group compared to Control group; whereas, in cows, FD was similar in the CIDR groups and greater ($P< 0.05$) than the Control group. Serum estradiol concentrations were elevated ($P < 0.05$) on most days in the progestin-treated cows compared to the Control cows. In summary, CIDR treatment (new or used) induced formation of a PF in heifers or cows and there was no difference between the CIDR groups in serum concentrations of progesterone.