ABSTRACT BOOK

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TOPIC Control of estrous cycle

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7 & 7 SYNCH AND 7-DAY PROGESTERONE-BASED PROTOCOLS FOR ESTRUS SYNCHRONIZATION PRIOR FIXED-TIME ARTIFICIAL INSEMINATION IN MULTIPAROUS BEEF SUCKED COWS

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BACKGROUND-AIM
Estrogen-based protocols combined with a progestin-releasing intravaginal device (P4RID) and prostaglandin (PG) synchronize follicle wave emergence prior to artificial insemination (AI) in Bos taurus, with pregnancies per AI (P/AI) ranging from 40 to 60%. Gonadotropin-releasing hormone (GnRH) based protocols + P4RID + PG rely on the presence of a physiologically mature dominant follicle at initial GnRH. Failure to induce ovulation represents a major obstacle to improve P/AI. Pre-synchronization by PG + P4RID 7 days in advance of GnRH increase likelihood of ovulation following GnRH. The aim of this trial was to evaluate fertility in suckled beef cows using GnRH or estrogen treatments with or without pre-synchronization.
METHODS
Cyclicity status was determined in multiparous Red Angus suckled cows by ultrasound (US). Animals were randomly assigned based on cyclicity status, body condition, days of postpartum and weight. All reagents were supplied by Biogégesis-Bagó (Buenos Aires, Argentina). Group 7-Day Estradiol (n = 59): 2 mg estradiol benzoate-EB on Day -9 + 1 mg estradiol cypionate-EC on Day -2. Group 7-Day GnRH (n = 59): 10.5 µg GnRH on Day -10 and at the time of FTAI. Group 7 & 7 Estradiol (n = 60): 150 µg PG on Day -16 + 2 mg EB on Day -9 + 1 mg EC on Day -2. Group 7 & 7 GnRH (n = 57): 150 µg PG on Day -17 + 10.5 µg GnRH on Day -10 and at the time of FTAI. All animals received 1.0 g P4 P4RID and 150 µg PG + 300 IU eCG at the time of P4RID withdrawal. A single technician performed AI at 52±2 h post device removal for estradiol and 66±2 h for GnRH groups using semen from a proven sire. Pregnancy diagnoses were performed 35 days after FTAI by US. Data were analyzed as a 2×2 factorial using the MIXED or GLIMMIX procedures of SAS for continuous or binomial data, respectively.
RESULTS
CL presence at P4RID withdrawal was greater in GnRH-based protocols compared to estradiol groups ($P < 0.01$). Presynchronized cows showed greater CL presence and number of CL (single or double) at the time of P4RID withdrawal in comparison to non-presynchronized groups ($P < 0.01$). 7 & 7 GnRH showed greater P/AI (72%, $P < 0.01$) in comparison to 7-Day GnRH (61%), 7-Day Estradiol (49%) and 7 & 7 Estradiol (33%).
CONCLUSIONS
7 & 7 Synch (GnRH-based) treatment involving PG administration and P4RID treatment seven days prior to GnRH resulted in enhanced P/AI.