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Prostaglandin F2a administration at the beginning of FTAI protocol in primiparous beef cows: preliminary results

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Resumo

The aim of the study was to evaluate the dominant follicle size and rates of estrus expression and pregnancy in primiparous beef cows submitted to 7 days or 8 days FTAI protocol. Primiparous [*Bos taurus* (Aberdeen Angus) and *Bos taurus* x *Bos indicus* (Braford and Brangus)] suckling with a mean body condition score (BCS) of 2.82 ± 0.15 (1= thin and 5=obese) and 7,7% of cyclicity (CL on D0) were distributed in experiment used a 2 x 2 factorial arrangement of four treatments. The two factors were: 1) time of exposure to progesterone (P4) (7 and 8 days); 2) prostaglandin treatment: one PGF (PGF at removal P4) and two PGF (PGF at D0 and moment of P4 removal). Thus, the treatments were PGFd0d7 (n=70), PGFd7 (n=70), PGFd0d8 (n=72) and PGFd8 (n=72). The hormones used were all from the same company (Zoetis) - estradiol benzoate (2mg) i.m. (Gonadiol®), P4 intravaginal device (DIB® 0.5mg), estradiol cypionate (0.6mg) i.m. (ECP®), equine chorionic gonadotropin (300 IU) i.m. (Novormon®) and PGF (25 mg Dinoprost Tromethamine) i.m. (Lutalyse®). The basis of the tail was painted at P4 device removal for observation of estrus at the FTAI. The follicular diameter was measured at P4 device removal and FTAI. FTAI was performed 48h after P4 device removal using semen from a single sire. The pregnancy diagnosis was performed 30 d after AI using a transrectal B-mode ultrasound. Analyses of binomial outcome variables (expression of estrus and P/AI) and continuous outcomes (follicle diameter on P4 device removal and FTAI) were performed using the Fit Mixed Effects Model procedure. Values are presented as percentage (%; binomial variables). The results of continuous outcome variables are expressed as means \pm standard error of the mean. The follicular diameter (mean \pm SE mm) at the time of device removal was: PGFd0d7 (11.4 ± 0.25 mm) and PGFd7 (9.5 ± 0.21 mm); PGFd0d8 (11.8 ± 0.21 mm) and PGFd8 (11.6 ± 0.2 mm) (Protocol length: $P < 0.0001$; PGF $P = 0.0001$). The follicular diameter (mean \pm SE mm), at AI was: PGFd0d7 (13.5 ± 0.26 mm) and PGFd7 (12.1 ± 0.19 mm); PGFd0d8 (14.8 ± 0.27 mm) and PGFd8 (14.85 ± 0.19 mm) (Protocol length: $P < 0.0001$; PGF $P = 0.001$). No difference was observed in estrus rate: PGFd0d7 (69.3%), PGFd7 (60.0%), PGFd0d8 (72.8%) and PGFd8 (65.72%) (Protocol length $P = 0.15$; PGF $P = 0.12$). The pregnancy rate was similar between treatments PGFd0d7 (41.4%), PGFd7 (28.8%), PGFd0d8 (45.8%) and PGFd8 (37.3%) (Protocol length $P = 0.19$; PGF $P = 0.08$). The preliminary results indicate that prostaglandin analogue administration at the beginning of the 7d-protocol is associated with an increased dominant follicle size in *Bos taurus* primiparous cows. There was no difference in estrus and conception rate between the protocol of seven and eight days of exposure to P4 device (0.5g), but further studies with a large number of animals are indicated.