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TREATMENT WITH ALFAPROSTOL OR UTERINE PALPATION
SHORTENS THE POSTPARTUM INTERVAL IN BRANGUS COWS

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SUMMARY

Treatment of cows between 17 and 49 days after calving with 5 mg Alfaprostol (prostaglandin analog) and uterine palpation was effective in shortening the postpartum interval in lactating Brangus cows. Alfaprostol was effective in shortening the postpartum interval regardless of uterine involution whereas uterine palpation was more effective in cows which had not reached complete uterine involution. Both treatments effectively increased the proportions of cows returning to estrus by 80 days after calving. This indicated that greater numbers of treated cows would have a chance to calve again within 365 days of the last calving.

OBJECTIVE

The objective of this research was to determine the effects of Alfaprostol and uterine palpation during the postpartum period upon reproductive efficiency of postpartum anestrus Brangus cows.

PROCEDURE

A total of 369 mature, lactating Brangus cows between 17 and 49 days after calving were used in this experiment. Treatments were: 1) intramuscular injection of 5 mg Alfaprostol and uterine palpation; (2) uterine palpation only; or 3) no treatment, control (Table 1). Only cows which were not having estrous cycles before treatment were included in the data analysis. Twice daily estrus detection began at treatment and continued for 80 days.

TABLE 1. EXPERIMENTAL DESIGN

<u>Treatment</u>	<u>Number of cows</u>
5 mg Alfaprostol + uterine palpation	82
Uterine palpation only	52
Control	46

RESULTS

Postpartum interval, from calving to first estrus, was longer ($p < .05$) in control cows than in cows treated with Alfaprostol plus uterine palpation or with uterine palpation only (Table 2). Cows with completed uterine involution at treatment did not respond to uterine palpation but did have shortened postpartum intervals if they received 5 mg Alfaprostol (Table 3).

Cumulative frequency of cows in estrus by 80 days postpartum was greater ($p < .05$) in cows treated with Alfaprostol and uterine palpation or uterine palpation than in control cows (Table 4). All treatments increased the cumulative frequency of return to estrus regardless of uterine involution (Table 5). Proportions of cows with complete uterine involution are shown in Table 6.

Alfaprostol plus uterine palpation decreased postpartum interval regardless of uterine involution. Uterine palpation had a greater effect in cows which had not reached complete uterine involution. Both treatments were effective in increasing the proportions of cows returning to estrus by 80 days after calving and therefore the proportions of cows which would have a chance to become pregnant in time to calve again within 365 days.

TABLE 2. EFFECTS OF ALFAPROSTOL AND UTERINE PALPATION ON POSTPARTUM INTERVAL

Treatment	n	Postpartum Interval (Days; $\bar{x} \pm SE$)
Alfaprostol + uterine palpation	82	47.0 \pm 1.6 ^a
Uterine palpation	52	52.1 \pm 2.3 ^a
Control	46	63.6 \pm 2.1 ^b

^{a,b} Means with different superscripts differ $p < .05$.

TABLE 3. EFFECTS OF ALFAPROSTOL AND UTERINE PALPATION ON POSTPARTUM INTERVAL IN COWS WITH COMPLETE UTERINE INVOLUTION COMPARED TO COWS WITH INCOMPLETE UTERINE INVOLUTION

Treatment	Uterine Involution	n	Postpartum Interval (Days; $\bar{x} \pm SE$)
Alfaprostol + uterine palpation	Complete	58	51.4 \pm 2.4 ^a
Alfaprostol + uterine palpation	Incomplete	24	43.7 \pm 2.1 ^a
Uterine palpation	Complete	19	53.2 \pm 3.7 ^{ab}
Uterine palpation	Incomplete	33	50.4 \pm 3.1 ^a
Control	-----	46	63.6 \pm 2.1 ^b

a,^b Means with different superscripts differ p<.05.

TABLE 4. EFFECTS OF ALFAPROSTOL AND UTERINE PALPATION ON CUMULATIVE FREQUENCY OF RETURN TO ESTRUS

Treatment	n	Cumulative frequency (%)
Alfaprostol + uterine palpation	82	98.8 ^a
Uterine palpation	52	96.1 ^a
Control	46	82.6 ^b

TABLE 5. EFFECTS OF ALFAPROSTOL AND UTERINE PALPATION ON CUMULATIVE FREQUENCY OF RETURN TO ESTRUS IN COWS WITH COMPLETE UTERINE INVOLUTION COMPARED TO COWS WITH INCOMPLETE UTERINE INVOLUTION

<u>Treatment</u>	<u>Uterine Involution</u>	<u>n</u>	<u>Cumulative Frequency (%)</u>
Alfaprostol + uterine palpation	Complete	58	98.3 ^a
Alfaprostol + uterine palpation	Incomplete	24	100.0 ^a
Uterine palpation	Complete	19	94.7 ^a
Uterine palpation	Incomplete	33	97.0 ^a
Control	-----	46	82.6 ^b

a,^b Means with different superscripts differ Chi Square $p < .05$.

TABLE 6. PROPORTIONS OF COWS WITH COMPLETE UTERINE INVOLUTION

<u>Days After Calving</u>	<u>Percent Involuted</u>
21	4.4
28	12.1
35	27.8
42	41.0
49	61.4

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