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Synchronizing Estrus in Beef Heifers with Prostaglandin and Syncromate B

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Summary

Forty-five of 50 heifers were in estrus 1 to 5 days after 7-day synchronization implants were removed. Prostaglandin was injected one day before implants were removed. Thirty-one of the 45 (68.9%) heifers conceived to first artificial insemination service.

Introduction

We have previously reported that an ear implant (Syncromate B, G. D. Searle Co.) for 7 days followed by intramuscular injection of prostaglandin F_{2α} (PGF, The UpJohn Co.) synchronized estrus with no effect on conception rates in beef heifers. Heifers with a corpus luteum on the ovary when the PGF was injected showed estrus 12-24 hrs. later than those with no corpus luteum. The injected PGF is to regress the corpus luteum to allow estrus; we thought injecting the PGF one day before removing the implant would more closely synchronize estrus than previously reported.

Experimental Procedure

Fifty cycling heifers were implanted in the ear with Syncromate B, a synthetic progestogen that prevents estrus. Six days later each heifer was injected with 33.3 mg. of prostaglandin THAM salt. One day later we removed the implant. Heifers were checked frequently during the day for estrus and were artificially inseminated 12 to 24 hours after estrus was first detected. Conception rate was determined by rectal palpation.

Results and Discussion

Forty-one of the 50 heifers were in estrus in a three-day period and 45 of 50, in a five-day period; 31 of the 45 (68.9%) conceived the first insemination; 41 of the 45 (91.1%) conceived in two inseminations.

Five heifers not synchronized exhibited estrus within the next five days. Four of the 5 conceived with first service. Conception rate for the 50 heifers for the entire 65-day breeding season was 94%.

These results do not differ from those previously reported when prostaglandin was given when the implant was removed.

This procedure resulted in approximately 90% of cycling heifers showing estrus in a five-day period, and conception rates were the same as for nonsynchronized heifers.

Table 2.1 Occurrence of estrus and conception rates in heifers treated with Syncro-mate B and prostaglandin

	Days post treatment ^a										Total
	AM 1	PM 1	AM 2	PM 2	AM 3	PM 3	AM 4	PM 4	AM 5	PM 5	
No. in estrus	6	19	3	10	0	3	0	3	1	0	45 ^b
No. conceived 1st service	5	12	3	6	0	3	0	1	1	0	31

^a Implant removed AM day 0.

^b Five of 50 heifers showed no signs of estrus during the 5 days, four of the 5 later conceived with first service.