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Abstract

Twenty-six Polled Hereford and Simmental-cross heifers that had not cycled by the beginning of the breeding season were given an ear implant and injected with an estrogen-progestogen compound. The implant was removed after 9 days and all heifers were in estrus 1 to 5 days later. Six heifers conceived the first insemination, 11 the second, and 24 during the 65-day breeding season.

Keywords

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Inducing Puberty in Beef Heifers with Hormones

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Summary

Twenty-six Polled Hereford and Simmental-cross heifers that had not cycled by the beginning of the breeding season were given an ear implant and injected with an estrogen--progestogen compound. The implant was removed after 9 days and all heifers were in estrus 1 to 5 days later. Six heifers conceived the first insemination, 11 the second, and 24 during the 65-day breeding season.

Introduction

Some methods of synchronizing cattle have the ability to induce estrus in noncycling animals as well as to group estrus periods among cattle. Some heifers appear to be large and old enough to cycle but do not cycle by the beginning of the breeding season. We attempted to initiate cycling in such a group at a desired time with Syncromate (G. D. Searle Co.), an experimental estrus synchronization compound.

Experimental Procedure

Twenty-six yearling heifers that had not cycled were given a 6 mg ear implant of Syncromate, and one intramuscular injection of 3 mg SC21009 and 6 mg estradiol valerate. The implants were removed 9 days later. Heifers ranged from 374 to 460 days old (avg. 417) and weighed 510 to 957 lbs. (avg. 660). Ovaries were palpated six days before and at treatment to insure that they had not ovulated. Heifers were checked for estrus continuously from 6:00 a.m. to 10:00 p.m. and were artificially inseminated 18 to 26 hours after being observed in standing estrus. Each heifer showing estrus was bred artificially for at least two services then put with a bull. Conception was determined by rectal palpation.

Results and Discussion

The treatment was extremely effective; 25 of the 26 heifers were in estrus 24 to 72 hours after implant removal (table 1.1). Nine had repeated estrous periods after their first insemination, generally in estrus one day, out the next, then back in estrus again the next day. Estrous periods were repeated 1 to 4 times in the nine heifers. Some of them were

inseminated only at the first estrus, some at each estrus, but none conceived until completing one normal cycle. The treatment was effective in inducing puberty; however, conception was low at first service (23.1%). Conception for the 65-day breeding season was as good as expected for cycling heifers (92.3%).

This treatment shows promise of being an effective way of initiating cycling in heifers as well as synchronizing estrus at the beginning of the breeding season. Additional work is needed to determine how young or how small heifers can be and still have puberty induced and to determine if breed and condition are important factors.

Table 1.1 Occurrence of estrus after hormone treatment in non-cycling heifers.

	AM	PM	AM	PM	AM	PM	AM	AM	TOTAL
Day[a]	1	1	2	2	3	3	4	5	
No. in estrus	11(3)[b]	10(1)	2	0	2(1)	0	0	1(1)	26(6)
Conceived 2nd service[c]	2	7	1	0	1	0	0	0	11
Conceived after 2nd service	5	1	1	0	0	0	0	0	7

[a]AM day 0 was time implant was removed

[b]No. heifers conceiving on first service in ( ).

[c]No. of heifers showing estrus at this time after treatment and that conceived on second cycle.