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ESTROUS SYNCHRONIZATION OF DAIRY HEIFERS USING SYNCHRO-MATE-B® OR THE NORGESTOMET IMPLANT WITH A PROSTAGLANDIN

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SUMMARY

Synchro-Mate-B® (a combination of a Norgestomet implant and an injection of Norgestomet and Estradiol Valerate) has been used very successfully to synchronize estrus in dairy heifers. While estrus induction with Synchro-Mate-B® has given good results, first-service conception rates under this program have not been as high as desired. Evidence indicates that by using the Norgestomet implant in combination with a prostaglandin (Alfaprostol), heifers not only have good synchronization of estrus, but also have high first-service conception rates and higher pregnancy rates.

Thirty-four Holstein heifers were examined by rectal palpation and randomly assigned to one of two estrus synchronization treatments within ovarian status. Heifers were inseminated after standing estrus and examined for pregnancy 45 days after the last breeding. Results showed that heifers synchronized with Synchro-Mate-B® had a first-service conception rate of 40% and a pregnancy rate of 35.3% while heifers treated with Synchro-Mate-B® Norgestomet implant and injected with Alfaprostol had a first-service conception rate of 80% and a pregnancy rate of 70.6%.

OBJECTIVE

The objective of this experiment was to determine if the Synchro-Mate-B® Norgestomet implant in combination with a prostaglandin (Alfaprostol) would increase first-service conception rate and pregnancy rate in estrous synchronized dairy heifers.

PROCEDURE

Thirty-four Holstein heifers were examined by rectal palpation and randomly assigned to one of two treatments within ovarian status to compare the efficacy of Synchro-Mate-B® and Synchro-Mate-B® Norgestomet implant in combination with the Alfaprostol for estrus synchronization, first-service conception and pregnancy rates.

All heifers were examined to determine ovarian status and implanted with Synchro-Mate-B® on November 26, 1985. At the same time, 17 head were injected with the Norgestomet-estrogen (Estradiol Valerate), in the standard Synchro-Mate-B® regimen. On December 3, the 17 heifers were injected with 5.0 mg of Alfaprostol and on December 5, implants were removed from all 34 head of heifers. Heifers were observed for estrus and inseminated approximately 12 hours after onset of standing estrus. Heifers were examined by rectal palpation on February 20, 1986 to determine pregnancy.

RESULTS

Data for the heifers are shown in Table 1. Of the 34 heifers, 30 were bred following the estrous synchronization and artificial insemination program resulting in 18 heifers being pregnant. This gave a total first-service conception rate of 60% and a total pregnancy rate of 53%. Treatment differences were evident as heifers synchronized with Synchro-Mate-B® showed a first-service conception rate of 6/15 (40%) and a pregnancy rate of 6/17 (35.3%) while heifers receiving the Synchro-Mate-B® Norgestomet implant and an injection of the prostaglandin, Alfaprostol, had first-service conception rate of 12/15 (80%) and a pregnancy rate of 12/17 (70.6%).

TABLE 1. HEIFERS TREATED BY TWO METHODS FOR ESTROUS SYNCHRONIZATION

HEIFER NUMBER	INITIAL PALPATION RESULT[1]	TREATMENT[2]	DECEMBER BREEDING DATE	TIME	PALPATION RESULT
1	F	A	7	AM	Pregnant
3	NC	A	7	PM	Open
5	CL	SMB	7	PM	Open
7	CL	SMB	7	AM	Open
9	F	A	7	AM	Pregnant
13	F	SMB	8	AM	Open
16	F	SMB	7	AM	Pregnant
26	CL	A	7	AM	Pregnant
27	F	SMB	7	AM	Pregnant
30	CL	A	8	PM	Pregnant
31	CL	A	7	PM	Pregnant
33	CL	SMB	7	PM	Open
34	CL	SMB	7	PM	Pregnant
35	NC	SMB	7	PM	Open
36	F	SMB	8	PM	Open
37	F	SMB	7	AM	Open
38	CL	SMB	8	PM	Open
39	NC	SMB	--	--	Open
41	F	A	8	AM	Open
42	F	A	--	--	Open
43	CL	SMB	7	PM	Pregnant
45	F	A	7	AM	Pregnant
48	F	A	7	PM	Open
50	CL	A	7	AM	Pregnant
194	CL	SMB	7	PM	Pregnant
195	CL	A	7	PM	Pregnant
196	CL	A	7	PM	Open
197	CL	A	7	PM	Pregnant
265	CL	A	7	PM	Pregnant
349	NC	SMB	--	--	Open
352	CL	A	7	PM	Pregnant
353	NC	A	7	PM	Pregnant
354	F	SMB	8	PM	Open
364	CL	SMB	9	PM	Pregnant

[1]F=Follicle, NC=Not Cycling, and CL=Corpus Luteum.

[2]A=Alfaprostol = Norgestomet implant and SMB=Synchro-Mate-B®.

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