

THE EFFECT OF ESTRADIOL BENZOATE OR GnRH ON CIDR-B BASED SYNCHRONIZATION PROTOCOLS IN BEEF CATTLE

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An effective ovulation synchronization program will result in acceptable conception rates following fixed-time artificial insemination (FTAI). The objective of this study was to compare the effect of estradiol benzoate (EB) or GnRH on the conception rates achieved by a fixed-time artificial insemination (FTAI) program.

Crossbreed, lactating, beef cows (n=380) and virgin heifers (n=146) were randomly assigned to one of three synchronization programs (Table 1).

Table 1.

Treatments	d 0	d 6	d 7	d 8	d 9
1	CIDR-B ¹ +P4 ² + EB ³	PGF2 α ⁵	CIDR-B out	EB	FTAI
2	CIDR-B+P4+ EB		CIDR-B out + PGF2 α	EB	FTAI
3	CIDR-B+GnRH ⁴		CIDR-B out + PGF2 α		FTAI+GnRH

¹CIDR-B (Vetrepharm Canada Inc, London, ON); ²Progesterone 100 mg; ³Estradiol Benzoate 1mg (Veterinary Pharmacy, Guelph, ON); ⁴GnRH 100 μ g (Cystorelin, Merial Canada Inc.); ⁵PGF₂ α 25 mg (Lutalyse, Pharmacia & Upjohn, Orangeville, ON).

Pregnancy diagnosis was determined by ultrasonography at day 35 after FTAI. Conception rates were analyzed by chi-square test. The respective conception rates are presented in Table 2.

Table 2.

Treatments	Cows	Heifers
1	73% (58/79)	62% (23/37)
2	65% (98/150)	64% (39/61)
3	61% (92/151)	60% (29/48)

No significant differences were found between treatments and parity (p>0.05). The use of EB or GnRH and administration of PGF2 α on d 6 or d 7 in combination with a CIDR-B device resulted in similar conception rates to FTAI. These synchronization programs have reduced the number of times animals need to be handled from five to three.

Keywords: CIDR-B, fixed-time, insemination, ovulation, estradiol, progesterone.