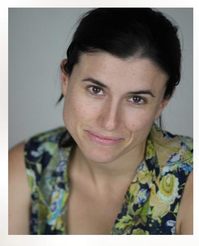
Initial GnRH treatment increased pregnancy per timed-insemination only in acyclic beef heifers subjected to a 5-d Co-synch protocol



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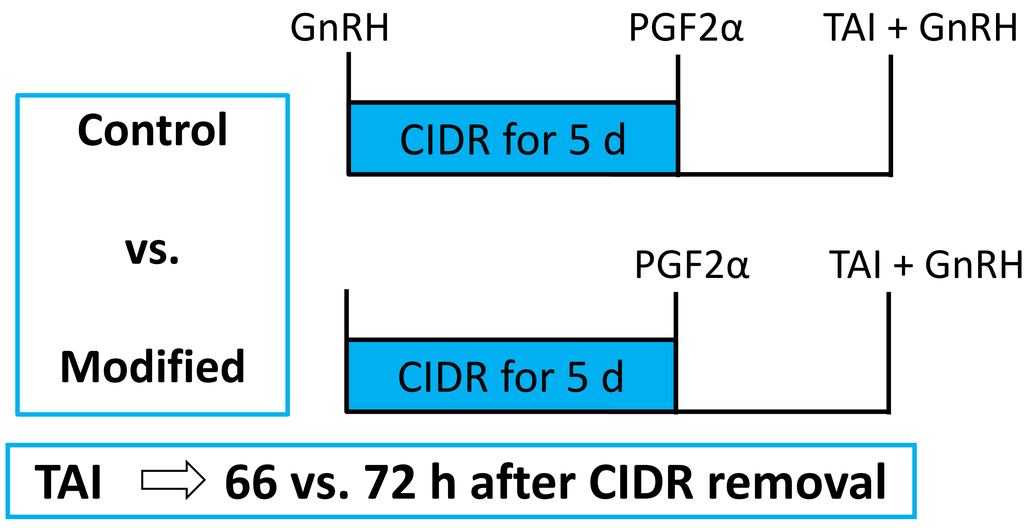
BACKGROUND & OBJECTIVE

- **The inclusion of initial GnRH in a 5-d Co-synch protocol is unnecessary to achieve acceptable pregnancy rates in dairy heifers** (Theriogenology 2011;76:578).

- **We examined the efficacy of a modified (without initial GnRH) 5-d Co-synch protocol for timed-AI (TAI) and the effect of interval from progesterone (P4) device removal to TAI on pregnancy per TAI (P/TAI) in acyclic and cyclic beef heifers.**

MATERIALS & METHODS

- **1062 beef heifers (302 to 515 kg of body weight and 13 to 15 months of age).**
- **Experimental design 2x2.**
- **Two locations, 4 sires and 1 technician.**
- **Ultrasonography to determine cyclicity (at CIDR insertion) and pregnancy status (27 d after TAI).**



TAI ⇨ 66 vs. 72 h after CIDR removal

CIDR= insert containing 1.38 g P4 (CIDR, Zoetis Animal Health)
$PGF_{2\alpha}$ = 500 µg cloprostenol i.m. (Estrumate, Merck Animal Health)
GnRH= 100 µg i.m. (Fertagyl, Merck Animal Health)

- **Data included in the model: synchronization protocol (control vs. modified), presence of corpus luteum at CIDR insertion (cyclic vs. acyclic), time to TAI (66 vs. 72 h), location, sires, and interactions.**

- **Statistical analyses: PROC GLIMMIX in SAS 9.3. Results are presented as Least Squares Means (LSM).**

RESULTS

- **22 heifers lost the CIDR (2%) ⇨ P/TAI of 39%.**
- **P/TAI did not differ (P>0.05) among sires (48, 51, 52 and 53%), locations (57 vs. 53%) or interval to TAI (Table 1).**
- **226 (21%) heifers were acyclic.**
- **P/TAI was affected by the interaction between synchronization protocol and cyclicity (Table 1)**

Table 1. Effect of treatment, timing of TAI and cyclicity on P/TAI.

	Synchronization protocol		Interval to TAI (h)	
	Control (n=537)	Modified (n=525)	66 (n=533)	72 (n=529)
Cyclic	57%	62%	60%	58%
Acyclic	**50%[a]**	**35%[b]**	41%	45%

[a,b]Within a row and category, percentage without a common superscript differed (p<0.01)

SUMMARY

- **Interval to TAI did not affect fertility.**
- **Although administration of initial GnRH increased P/TAI in acyclic heifers, it was unnecessary to achieve acceptable P/TAI in cyclic beef heifers subjected to a 5-d Co-synch protocol.**

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