Use of Dinoprost Tromethamine (PGF2α) at two different times in lactating Nellore cows synchronized with a CIDR-based protocol with FTAI.

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Introduction

- Since this discovery, PGF has been intensively used in reproductive management strategies for synchronization of estrus. Recent findings suggest that treatment with PGF at the outset of a synchronization program may increase the proportion of cows, both cyclic and anestrus, that become pregnant following synchronization of estrus.

Objective

- The aim of this study was to determine the effect of a split-dose of prostaglandin (Lutalyse®) on reproductive performance of lactating Nellore cows (n=191) synchronized using 7d CIDR+EB program.

Material and Methods

- Cows (50 ± 4 days postpartum) were blocked to treatments based on body condition score (2.53 ± 0.32, scale of 1 to 5), in a completely randomized design arrangement.
- The treatments were (figure 1):
  - **1xPGF-5d** (e.g. 7d CIDR treatment and one injection of 25 mg PGF on 5th day);
  - **2xPGF-7d** (e.g. 7d CIDR treatment and two injections of 12.5 mg PGF at time of CIDR insertion and withdrawal).

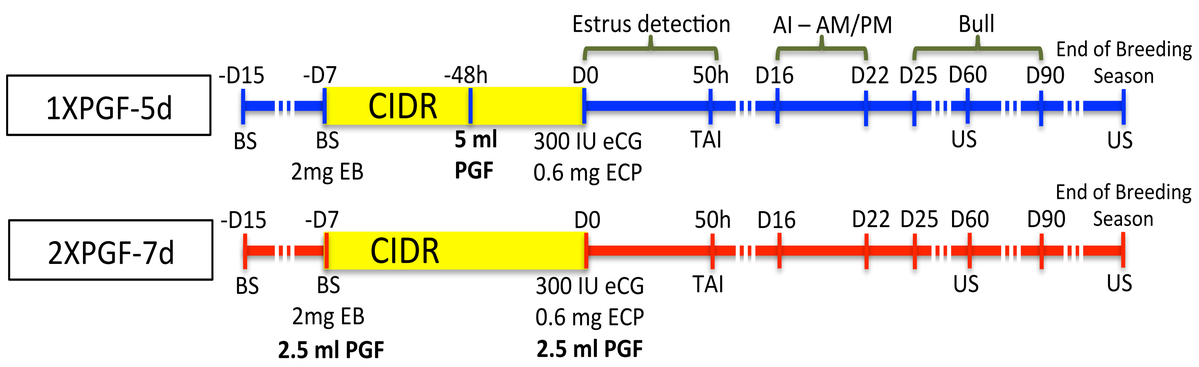

Figure 1. Experimental Protocols

- Blood samples for progesterone analysis were collected 10d before and at CIDR insertion to classify cows as cyclic.
- At CIDR insertion, all cows received 2 mg of EB and cows from 2X-PGF-7d received their first PGF injection.
- At CIDR removal, all cows received 300 IU of eCG (Novormon®) and their appropriate PGF treatments.
- Estrus was detected for 60h and TAI was performed 50h after CIDR removal.
- Beginning 16d after CIDR withdrawal, estrus detection was performed for 6d and cows were AI according to the AM/PM protocol.
- Pregnancy diagnosis was performed by US 60d after the first AI and at the end of the breeding season.
- At the beginning of the protocol, 86% (164/191) of the cows were in anestrous.

Results

- Estrus was detected in 54.5% (104/191) of cows (figure 2), and onset and distribution of estrus (figure 3; mean 36.4±8.7 h after CIDR® removal) did not differ between treatments. .

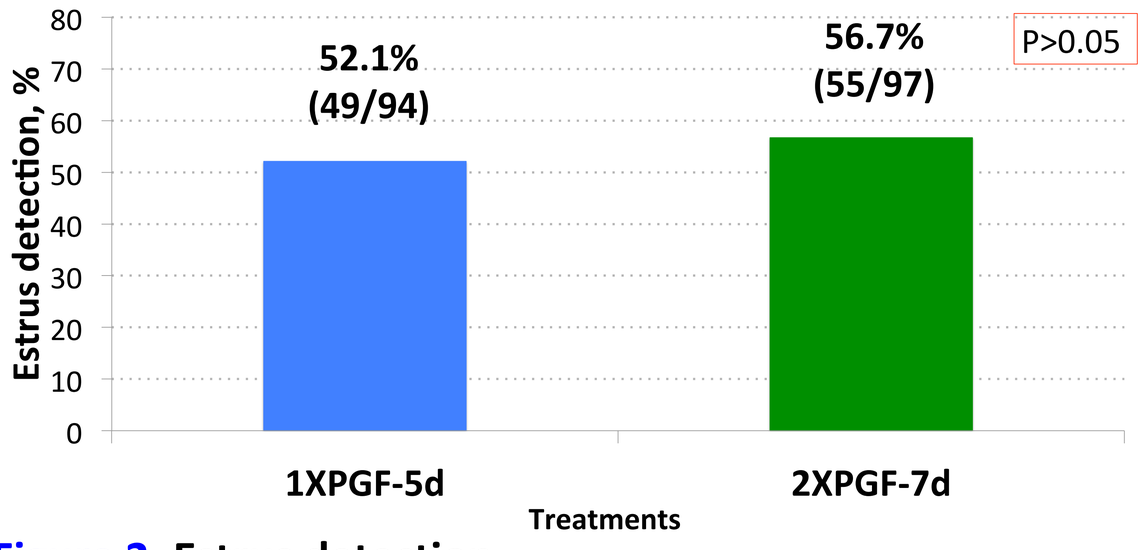

Figure 2. Estrus detection

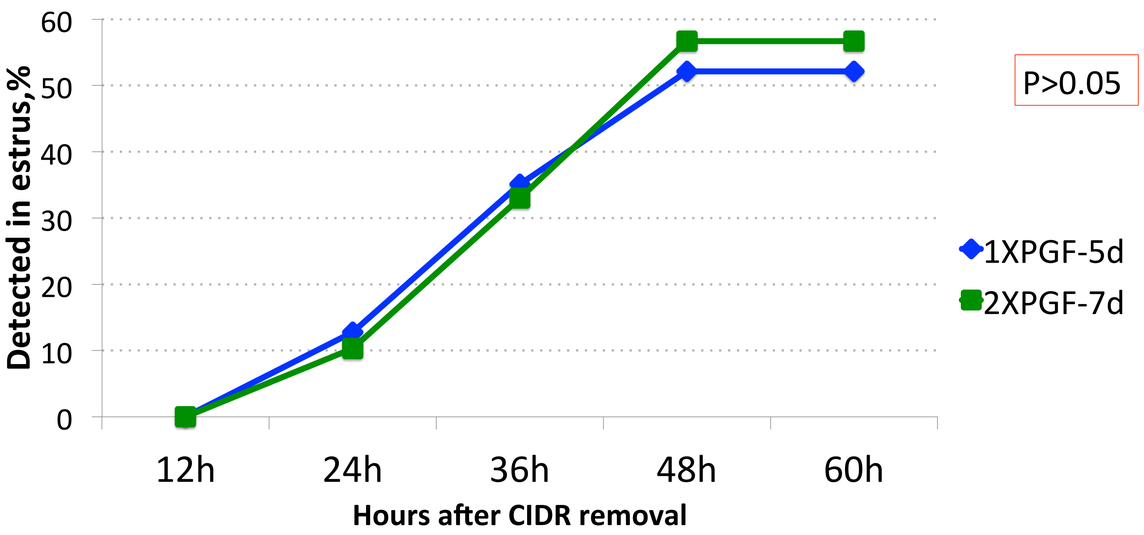

Figure 3. Cumulative estrus

- Timed AI pregnancy rates were not different (P>0.05) (table 1).

Table 1. TAI and Overall pregnancy rate.

	Treatments	
	1XPGF-5d	2XPGF-7d
TAI pregnancy rate[1], %	59.5	59.7
Overall pregnancy rate[2], %	82.9	86.6

[1] Pregnancy rate in the TAI; [2] Pregnancy at end of breeding season;

- Final pregnancy rates did not differ at the end of the breeding season.

Conclusion

- the use of 12.5 mg of PGF at the initiation of the synchronization program neither improved estrus response nor timed AI pregnancy rates and resulted in similar pregnancy rates at the end of the breeding season.

Acknowledments

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