Reproductive Management Strategies for Dairy Cows

Detection of estrus followed by timed AI

For herds with efficient and accurate estrus-detection systems

EDAI

Start timed AI **(TAI)** program on cows not inseminated

0   **Days postpartum**   *80

Definitions and comments:
EDAI = Estrous detection followed by AI
*Start and stop dates for EDAI depend on voluntary waiting period **(VWP)** and the reproductive goals of the each herd

Presynchronization methods used before TAI

Used with TAI programs below to increase pregnancy per AI (P/AI). Can be used with or without EDAI
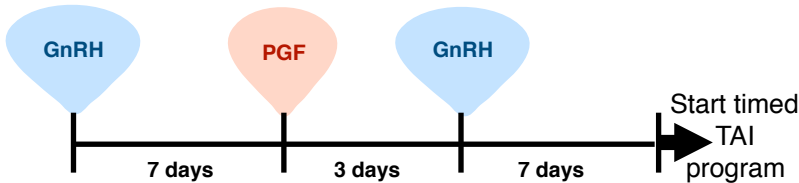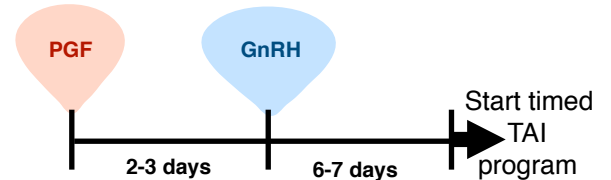
A. "PreSynch" (2xPGF - TAI)

PGF   PGF

*EDAI

Start timed #TAI program

14 days   #10-14 days
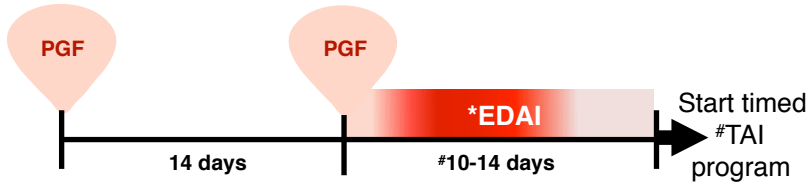
Definitions and comments:
PGF = Prostaglandin $F_{2\alpha}$
GnRH = Gonadotropin-releasing hormone
*Intensity of color in EDAI denotes period (2-7 days) to expect most cows in estrus; #TAI program starting 10-12 days after PGF results in higher fertility

B. "Double OvSynch" (GnRH-PGF-GnRH - TAI)

GnRH   PGF   GnRH

Start timed TAI program

7 days   3 days   7 days

C. "G-6-G" (PGF-GnRH - TAI)

PGF   GnRH

Start timed TAI program
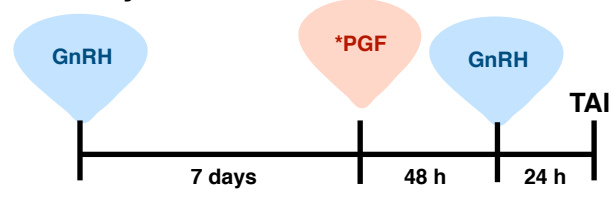
2-3 days   6-7 days

Synchronization methods for TAI

Can be used alone or with presynchronization (see above), and with or without EDAI detection. Presynchronization increases fertility. The use of the CIDR benefits fertility of cows with no CL starting TAI.

A. "OvSynch 56"

GnRH   *PGF   GnRH

TAI

7 days   56 h   16 h

B. "OvSynch 48"

GnRH   *PGF   GnRH

TAI

7 days   48 h   24 h
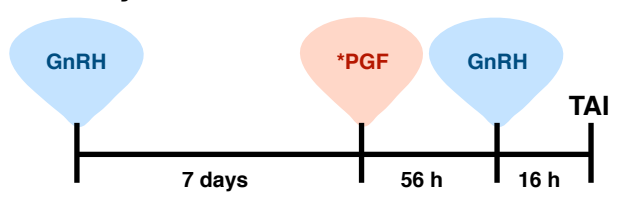
CIDR can be used in any program being inserted at 1st GnRH and removed at PGF

C. "CoSynch 72"

GnRH   *PGF   GnRH

+ TAI

EDAI

7 days   72 h

D. "5-day CoSynch"

GnRH   PGF   PGF   GnRH

+ TAI
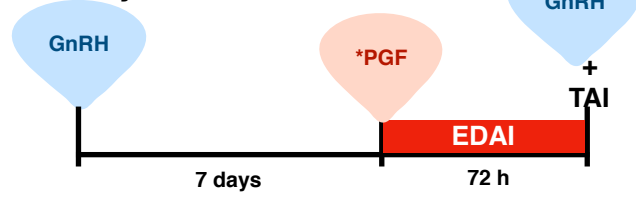
5 days   24 h   48 h
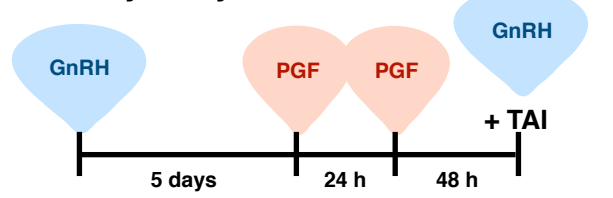
A second PGF 24 h after the first PGF improves luteolysis and fertility

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Presynchronization-Synchronization Calendars

Calendars are examples of presynchronization-synchronization combinations that are used for insemination. Any presynchronization can be used with a synchronization program. Any cow showing estrus after VWP can be inseminated.

A. "PreSynch-OvSynch"

MON	TUE	WED	THU	FRI
		PGF (AM)		
		PGF (AM)		
GnRH (AM)				
PGF (AM)		GnRH (PM)	TAI	

B. "Double-OvSynch"

MON	TUE	WED	THU	FRI
				GnRH (AM)
				PGF (AM)
GnRH (AM)				
GnRH (AM)				
PGF (AM)		GnRH (PM)	TAI	

C. "G-6-G-OvSynch"

MON	TUE	WED	THU	FRI
PGF (AM)		GnRH (AM)		
		GnRH (AM)		
PGF (AM)		GnRH (PM)	TAI	

The reproductive efficiency may differ between the programs listed above. Specific research data should be considered to determine the program that is optimal for use on a particular dairy farm.

Resynchronization programs

Any cow that is diagnosed open at pregnancy diagnosis (PD) can be resynchronized. Methods can be used with or without estrous detection and after the observed estrus (EDAI). Presence or absence of corpus luteum is a criterion to be considered with your veterinarian or reproductive specialist when selecting a program to be used.

*Intensity of color within EDAI indicates intensity of estrus**.** Open cows could be in estrus 18-25 days after AI. **PGF** is given to cows diagnosed open. Pregnant cows are not treated. CIDR can be used in Resynch program as described in page 1

A. Start TAI program <u>after</u> PD

*EDAI

AI — PD

Start TAI program on cows diagnosed open at PD

Example: OvSynch 56 starting <u>after</u> PD

MON	TUE	WED	THU	FRI
PD + GnRH (AM)				
PGF (AM)		GnRH (PM)	TAI	

B. Start TAI program <u>before</u> PD

*EDAI

AI — PD

Start TAI program on cows diagnosed open at PD
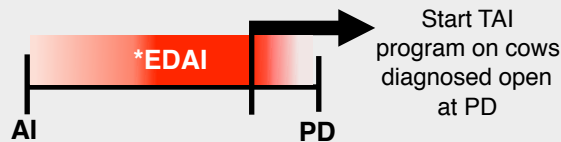
Example: OvSynch 56 starting <u>before</u> PD

MON	TUE	WED	THU	FRI
GnRH (AM)				
PD + PGF (AM)		GnRH (PM)	TAI	

PGF is given to cows diagnosed open. Pregnant cows are not treated.

C. EDAI, PGF at PD followed by EDAI & TAI for cows not re-inseminated

PGF

*,[1]EDAI   *,[2]EDAI

AI — PD — 7-14 days

Start TAI program on cows no re-inseminated
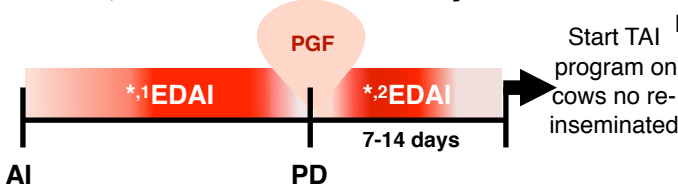
Example: PGF followed EDAI & OvSynch 56

MON	TUE	WED	THU	FRI
PD + PGF (AM)				
GnRH (AM)				
PGF (AM)		GnRH (PM)	TAI	

Intensity of color indicates intensity of estrus**.** [1]Open cows could be in estrus 18-25 days after AI. [2]Cows come in estrus 2-7 days

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Compliance table: The following table shows the percentage of cows receiving all treatments as a function of compliance at an individual treatment. For example, if 95 of 100 cows receive their treatment on any given day the herd has 95% compliance. To achieve the greatest P/AI herds have to strive for 100% compliance.

Compliance	3 treatments program	7 treatments program
100%	100%	100%
95%	86%	70%
90%	73%	48%

Note: This reproductive management sheet was assembled by the Dairy Cattle Reproductive Council (DCRC). Programs are intended to promote sustainable food production through sound dairy practices. The DCRC recommends working with a licensed veterinarian for the proper administration of all treatments.