

Reproductive Management in Dairy Cows

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Overview

1. Importance of Transition Cow Management
2. Voluntary Waiting Period (VWP)
3. Problems with Heat Detection Breeding
4. Synchronization of Ovulation (Ovsynch)
5. 1st Service Timed AI Programs
6. Repeat Breeders
7. Take Home Messages and Recommendations

Importance of Transition Cow Management

- Goal is to maintain Body Condition Score(BCS) from dry period up until calving.
- Standard BCS of 3.5 VS. new data of 3.0-2.75
- Transition Period= 3 weeks pre calving to 3 weeks post calving
 - Immunosuppression
 - Drop in DMI of 30-40%
 - Negative energy balance
 - Susceptible to metabolic diseases such as milk fever, ketosis and fatty liver syndrome which will delay ovarian cyclicity

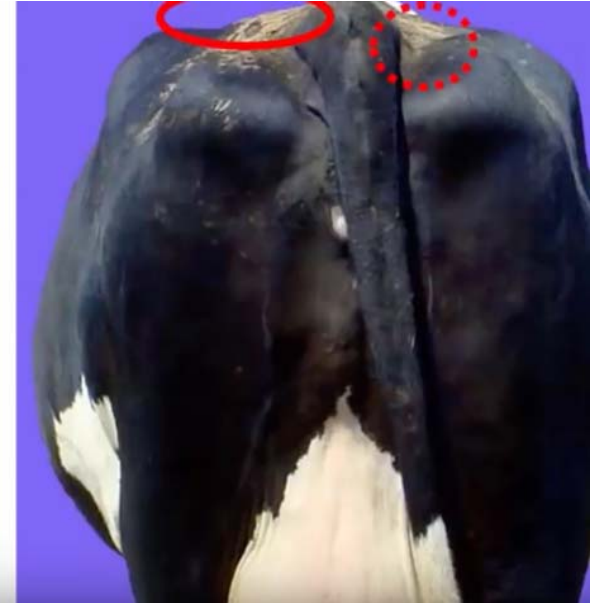


**Sacral Barely
Visible
Tailhead Not
Visible**

Neither ligament easily seen
BCS = 3.75

**Sacral Visible
Tailhead Barely
Visible**

Tailhead ligament
partly covered in fat
BCS = 3.50



Standard Dry Cow BCS

New data recommends not to exceed a BSC > 3.0

- Higher DMI= Lower negative energy balance
- Less mobilization of body reserves
- Less BCS loss early lactation
- Less metabolic diseases
- Improved uterine involution, higher levels of circulating hormones therefore better reproductive function



Rounded Hooks

Hooks round
BCS = 3.0



Padded Pins

Pins visibly padded
BCS = 2.75



Voluntary Waiting Period

When to set your voluntary waiting period?

- Pure management decision
- Differs from farm to farm
- Factors to consider are:
 1. Conception Rate
 2. Milk production

VWP of 60 vs. 80 days

VWP=60 days

- Conception Rate: 30-40%
- Milk production may be higher at drying off
- More chances of rebreeding

VWP=80 days

- Conception Rate=50-55%
- Milk production may be lower at drying off
- Longer time for uterine involution and resumption of cyclicity



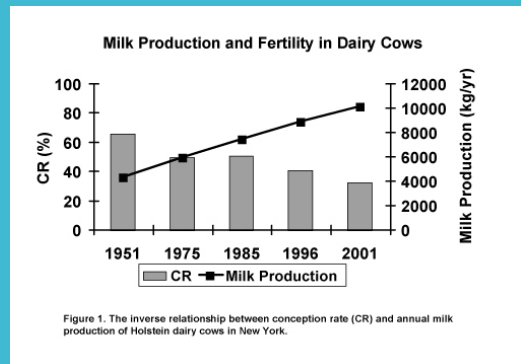
Problems with Heat Detection Breeding

High producing cows have higher feed intake therefore higher blood flow through the liver

Increased metabolism of hormones in the liver

Less circulating hormones means less intense standing heat, shorter heats and impaired embryo quality

Today's High Producing Dairy Cows





**Shorter and less intense
heats**



Silent heats

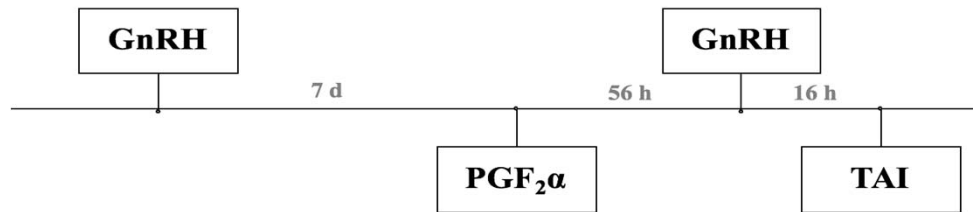


**20 – 30% of cows are not
cycling by 50-75 DIM.**

50% of heats go undetected

Synchronization of Ovulation (Ovsynch)

Ovsynch-56



PGF=Lutalyse, Estrumate, ProstaMate and estroPLAN

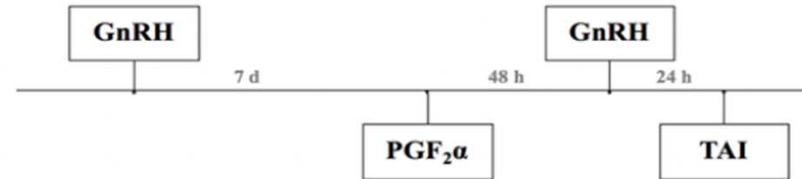
GnRH= GONAbreed, Factrel Injection, Fertagyl, Fertiline and Cystorlein

Service	Treatment Group			
	Ovsynch		Standing Heat Breeding	
	DIM	PR	DIM	PR
1st	54*	37%	83	39%
2nd	96*	42%	128	45%
*means treatments differ (P<0.01)				

Ovsynch-56



Ovsynch-48



5-Day CoSynch



CoSynch-72



CIDR (intravaginal progesterone secreting device) can be inserted at first GnRH of any Ovsynch version

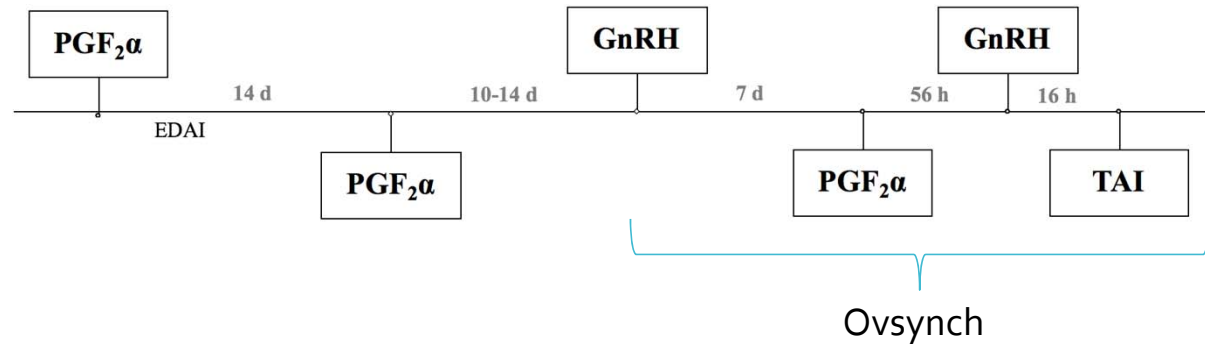
Ovsynch Variations

First Service Timed AI Programs

1. Presynch
Ovsynch
2. Double
Ovsynch

Presynch Ovsynch

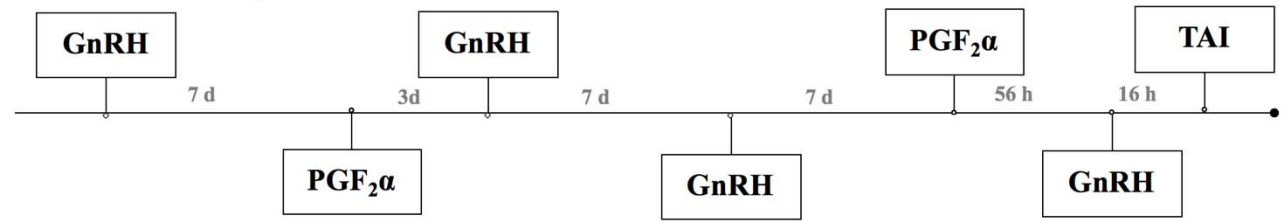
PreSynch Ovsynch



- ~35-38 day program
- Want cows at the ideal stage of their cycle (day 5 to 12) before initiation of Ovsynch
- Interval from PGF to first GnRH varies
 - Presynch-10 or 11= 41% CR
 - Presynch 14= 34% CR
- Increases chance of pregnancy by 42% compared to Ovsynch
- BUT.. does not help cows that are inactive because they do not have a functional CL
- Variability from the time between PGF and estrus

Double Ovsynch

Double Ovsynch



- ~27 day protocol
- **Up to 50% first service conception rates**
- Induces cyclicity in inactive cows
- More precise synchronization of the cycle (day 7 or 8) at Ovsynch
- Higher progesterone concentrations
- Improved embryo quality

Repeat Breeders

1. Heat detection
2. Pregnancy diagnosis
3. Resynchronization programs

Resynchronization Programs

- Ovsynch
- Presynch Ovsynch
- CIDR Ovsynch
- Resynch- 25

Criteria at Non- Pregnancy Diagnosis (30- 33 days Post AI)

Ovsynch

1. Follicle ≥ 10 mm
2. Quickest way to get re bred(10 days)

CIDR Ovsynch

1. Follicle < 10 mm or no activity
2. Increase progesterone levels
3. Best chance for low cycling cows

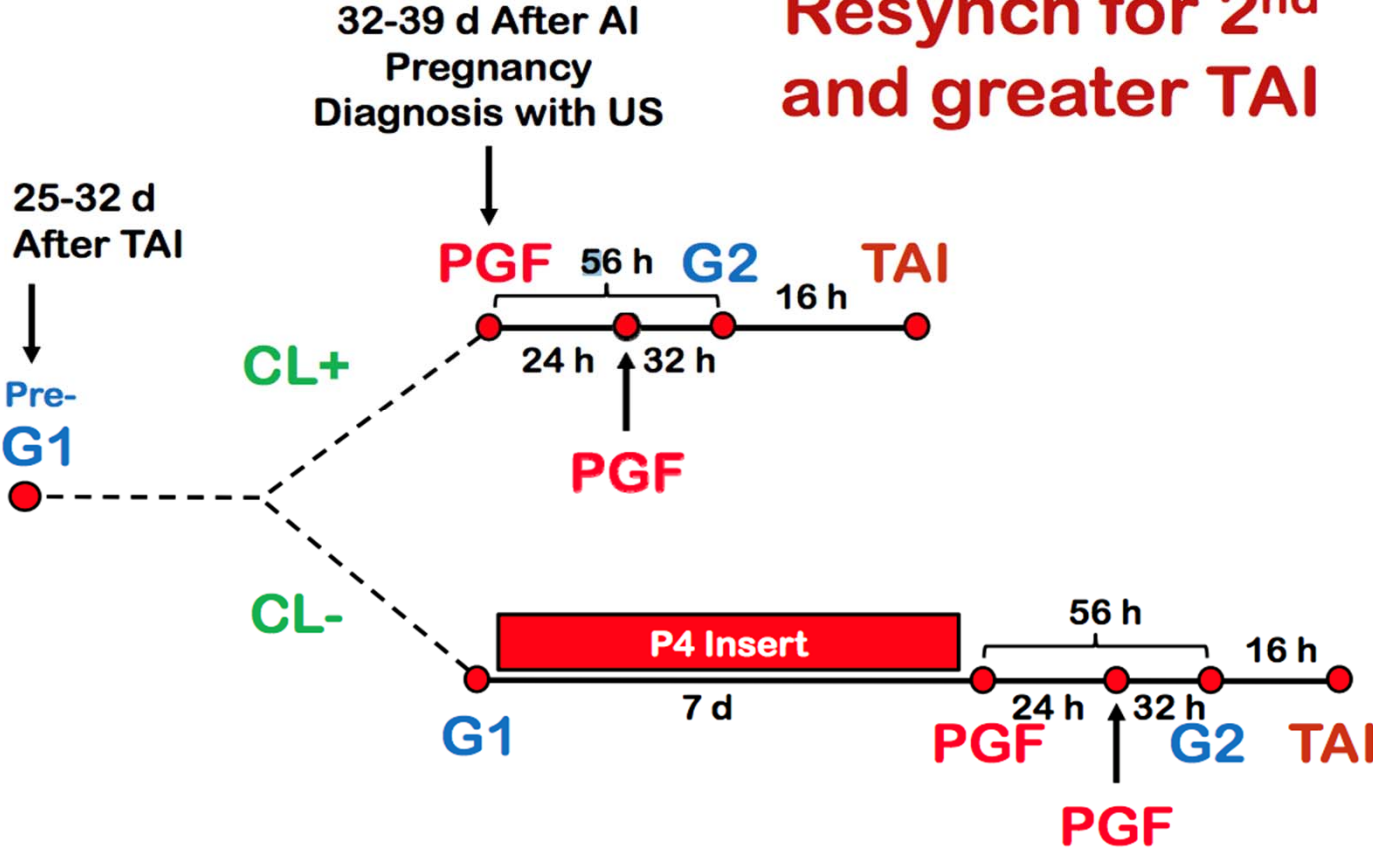
Presynch Ovsynch

1. CL ≥ 10 mm

Resynch-25

1. 1st GnRH given 7 days before pregnancy diagnosis

Resynch for 2nd and greater TAI



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Date	Br Elig	Bred	Pct	Pg Elig	Preg	Pct	Aborts
11/10/18	116	74	64	116	34	29	4
1/11/18	117	66	56	117	26	22	3
22/11/18	102	47	46	102	20	20	0
13/12/18	100	63	63	100	29	29	1
3/01/19	104	61	59	103	29	28	2
24/01/19	95	50	53	95	17	18	2
14/02/19	110	68	62	109	28	26	0
7/03/19	110	64	58	110	24	22	3
28/03/19	102	54	53	102	23	23	0
18/04/19	94	48	51	94	25	27	0
9/05/19	76	48	63	76	20	26	0
30/05/19	83	45	54	83	26	31	1
20/06/19	86	49	57	86	32	37	1
11/07/19	61	31	51	61	16	26	0
1/08/19	68	38	56	67	20	30	0
22/08/19	73	42	58	73	20	27	0
12/09/19	95	65	68	93	42	45	0
Total	1592	913	57	1587	431	27	17

Synchronization programs conception rate

Breeding Code	95% CI	%Conc	#Preg	#Open	Other	Abort	Total	%Tot	SPC
Undef Code 1	-	0	0	1	0	0	1	0	
CIDR/OVS	-	47	9	10	0	0	19	2	2.1
DOUBLE OVS	49-57	53	298	267	4	14	569	54	1.9
ESTRUMATE HEAT	-	0	0	1	0	0	1	0	
OFFSYNC	32-59	45	22	27	0	1	49	5	2.2
PRE/OVS	38-54	46	67	79	0	0	146	14	2.2
STANDING HEAT	40-52	46	123	145	7	3	275	26	2.2
OTHERS	-	0	0	1	0	0	1	0	
TOTALS	46-52	49	519	531	11	18	1061	100	2.0

Pregnancy Rate= 27%

Take Home Messages and Recommendations

- **Achieving target reproductive performance involves much more than just breeding**
- **Every farm is unique**
- **Establishing a good relationship with nutritionists, veterinarians and herd managers is important**
- **Compliance of protocols is key in achieving expected conception rates**
- **Accurate record taking and keeping**
- **Incorporating some degree of Timed AI can help producers reach their production goals**

