

2023 Repro READY

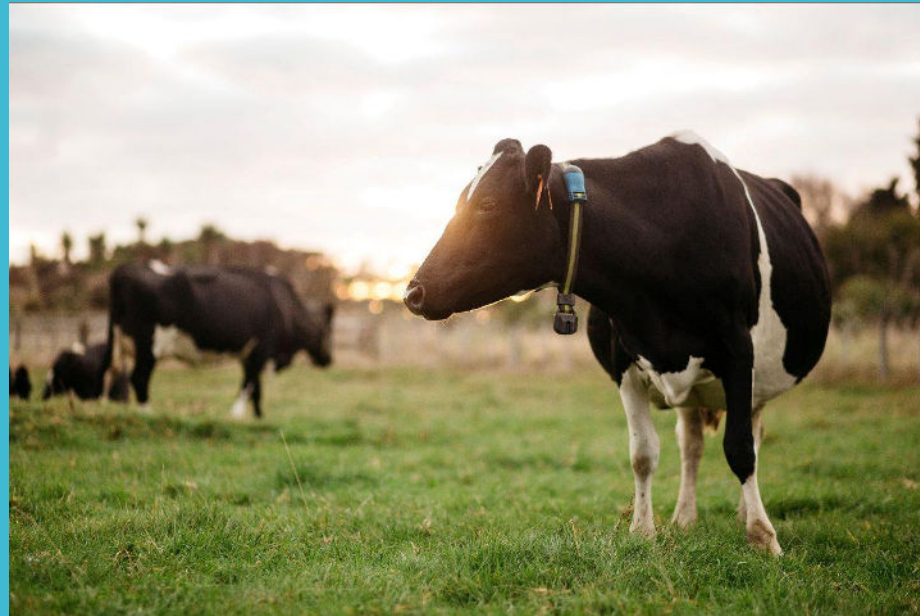
14th September 23



Topics:

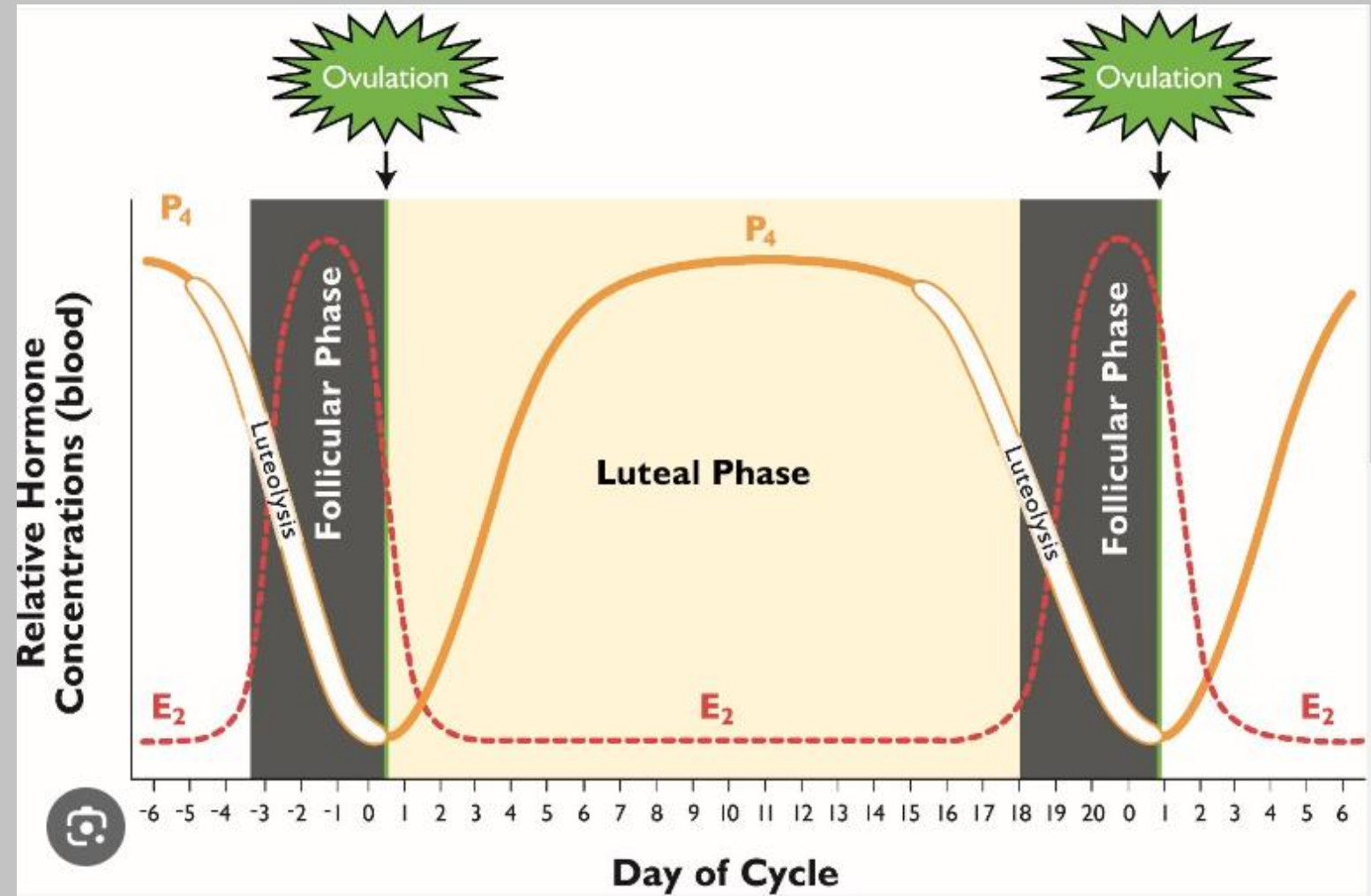
- Technology – how to maximise their value during mating - Anita
- How to best use BCS data to maximise results – Anna
- Repro management in a bad pay out year – Nathan

Electronic monitoring and Mating

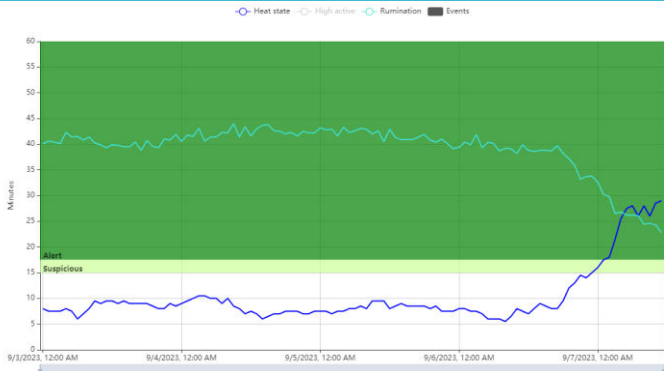
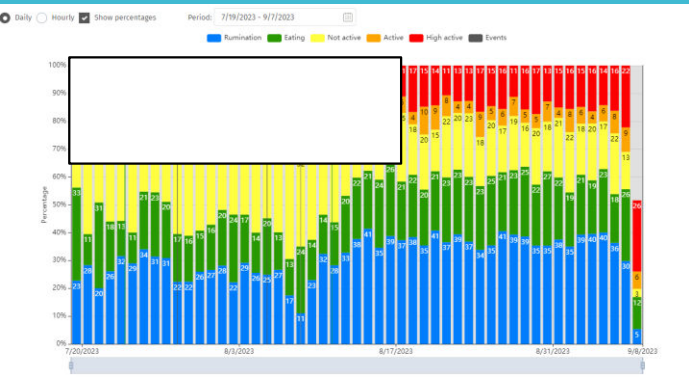


14th September 23

Reproductive cycle of the cow



CowManager



Halter

10:53 4G

Timeline

8 Heat alerts

Recently cycled 340 (18% of cows)

Timeline

Last updated · a day ago

On heat **8** + Confirm mating

Later in heat - Good chance

636 933 2296

Early in heat - Good chance

1557 1889 2404 2649 2735

Mon, 11 Sep

On heat · 28 cows

241 444 606 973 1063

MM 2296

Actions Health **Reproduction**

12 Sep 2023 Heat · Halter detection Edit

Calving

Status Calved Date calved 23 Jul, 2023

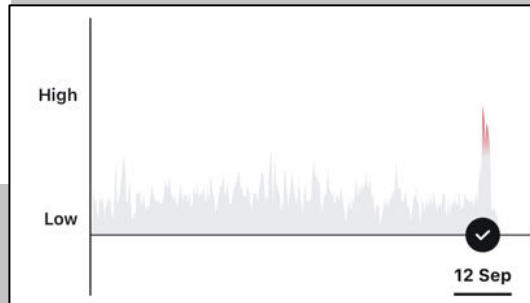
Mating

Last mated - Heats since calving 2

Calving to 1st heat 50 days Matings this season 0

Optimal AI window 5 AM yesterday - 5 PM yesterday

Conception Now: Good chance



Optimal AI window 5 AM yesterday - 5 PM yesterday

Conception Now: Good chance

12 Sep 12 PM Today 12 PM 14 Sep 12 PM

Allflex

Cows Ready For AI ID Only

28

12 Milkers

3 Lactation Number 43 DIM 0 Breeding Number 17 Breeding Window 92 Heat Index

22 Milkers

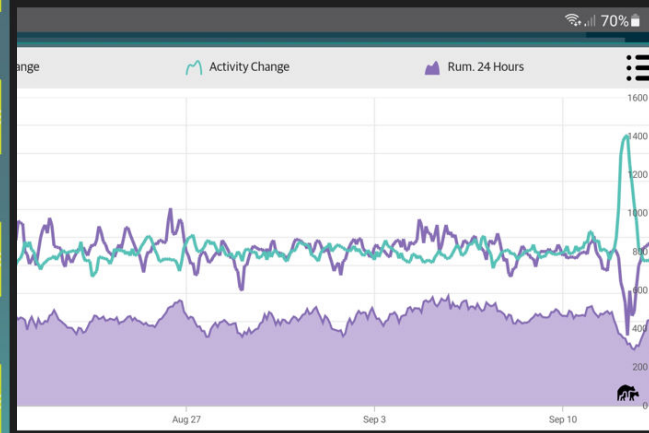
1 Lactation Number 42 DIM 0 Breeding Number -3 Breeding Window 88 Heat Index

90 Milkers

1 Lactation Number 37 DIM 0 Breeding Number 15 Breeding Window 92 Heat Index

97 Milkers

5 Lactation Number 40 DIM 0 Breeding Number 3 Breeding Window 92 Heat Index



Cows Ready for AI ID Only

Group	Cow Number	Lactation Number	Lactation Stage	Days in Lactation	Weeks Pregnant	24 Hour Lact. Min.	Number of Breakfast	Days from Last Calf	Cows from Last...	Breeding Window	Breeding Window 1	Rumination Peak	Heat Index
Group: Spring Calf	5 2649	4	Open	250		3	81	-2	28	19	44	100	
6 2725	3	Open	176		3	80	-4.2	29	29	28	100		
7 2946	3	Open	129		3	80	0	51	17	52	100		
8 3323	5	Ready	272		2	86	86	86	23	29	80		
Group: Bull Breed Spring	9 2436	6	Open and	115		1	81	43	26	28	48	100	
10 3737	3	Open and	379		3	80	84	84	6	18	76		
11 3834	3	Open	124		2	81	60	60	11	37	88		
12 4877	5	Ready	110		0	81	81	81	4	13	76		
Group: December	13 1804	7	Ready	98		0	80	80	18	23	96		
14 1925	7	Ready	32		0	81	81	81	28	29	92		
15 2128	6	Ready	38		0	80	80	80	15	13	80		
16 2300	6	Ready	44		0	80	80	80	23	23	83	92	
17 2656	5	Ready	59		0	80	80	80	10	10	48		
18 2773	5	Ready	37		0	80	80	80	18	18	88		
19 3811	5	Ready	42		0	80	80	80	25	25	43	52	



Pregnancy loss

H

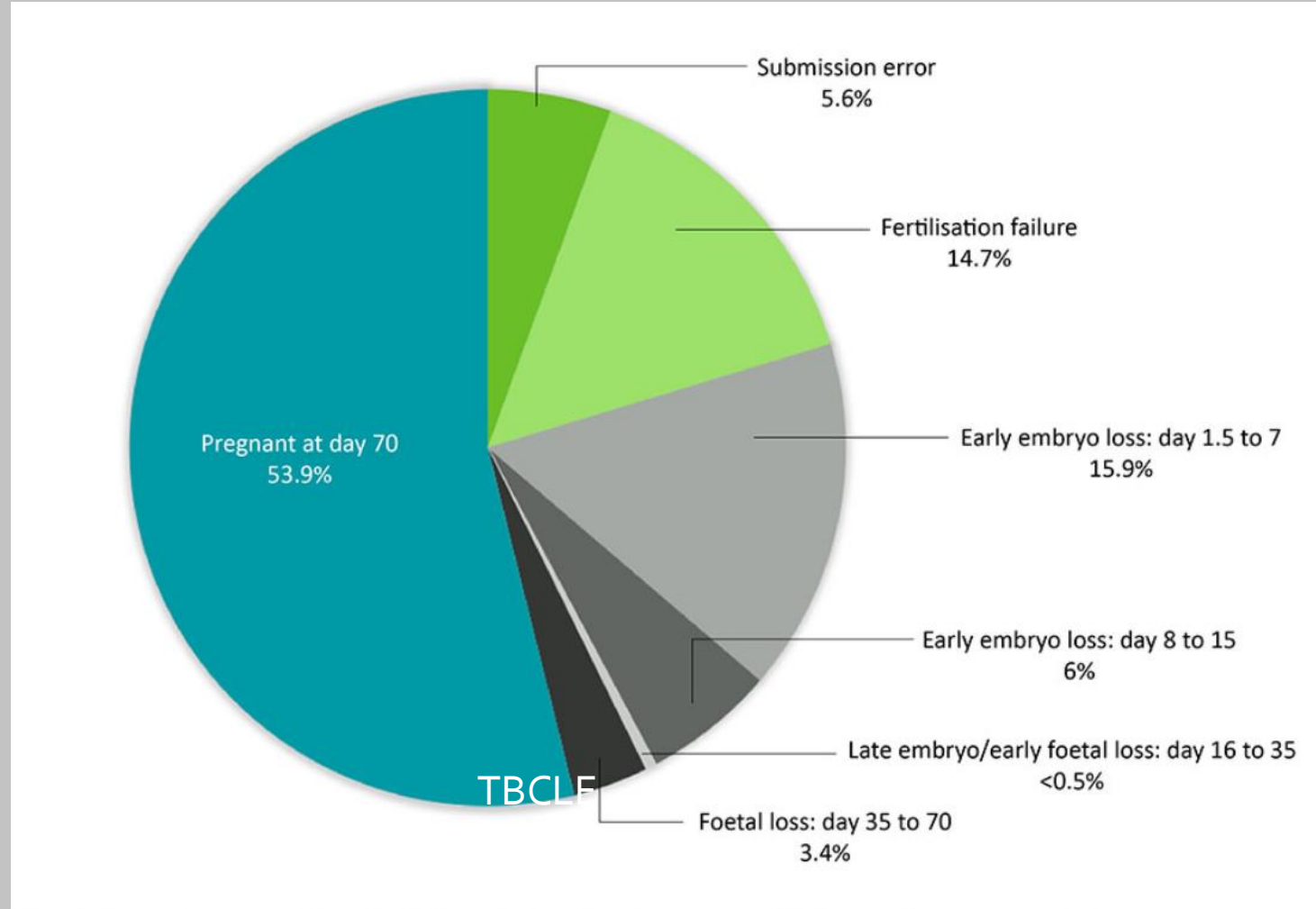
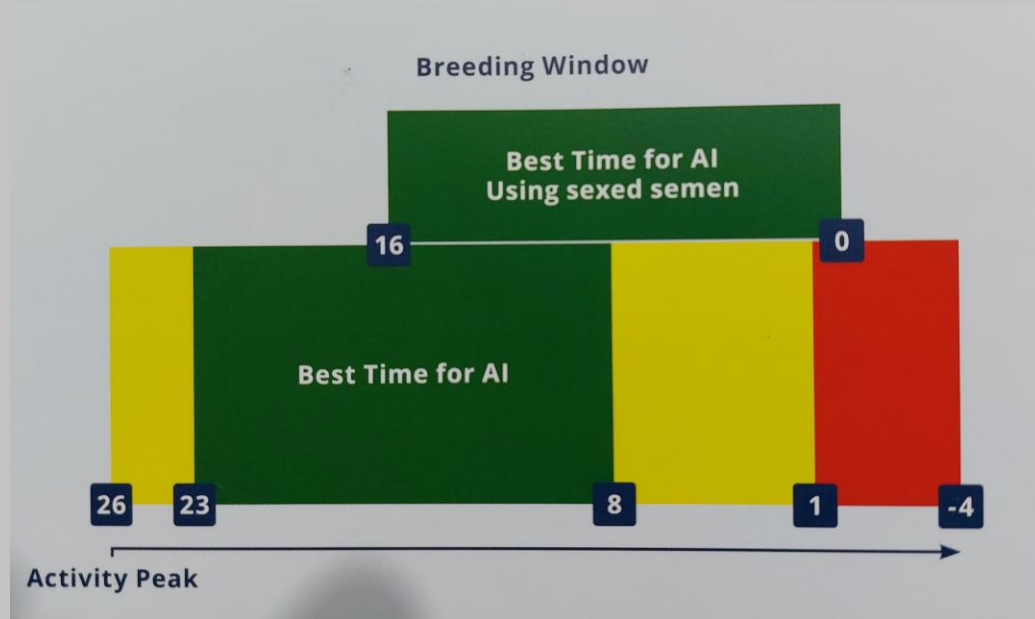


Figure 1. Causes of pregnancy failure after first insemination at key stages: green = failed to conceive; grey = conceived but lost pregnancy; blue = remaining pregnant at 70 days after insemination.



Breeding window

Timing of Insemination



Group	Cow Number	Lactation Number	Lactation Status	Days in Lactation	Weeks Average	24 Hour Lact Milk	Number of Breeds	Days from Last Lact	Days from Last Lact	Breeding Window	Breeding Window 1	Fertilisation Peak	Heat Index
Group: Spring COW	6, 2649	4	Open	252			3	11	12	16	16	44	100
6, 2725	3	Open	176			3	11	12	25	25	26	100	
7, 2946	3	Open	129			3	11	11	17	17	52	100	
6, 3323	3	Bred	272			2	85	86	11	23	-29	80	
Group: Bull Breed Spring	6, 2636	6	Open and	115		1	11	12	16	16	40	100	
11, 2197	3	Open	379			3	11	14	11	11	-10	76	
11, 3834	3	Open	124			3	11	10	11	11	-27	88	
13, 4877	1	Ready	100			0	11	11	4	4	13	70	
Group: December	13, 1804	7	Ready	98		0	11	11	11	11	-23	96	
14, 2125	7	Ready	32			0	11	11	11	11	20	99	
15, 2126	6	Ready	38			0	11	11	11	11	11	80	
16, 2090	6	Ready	44			0	11	11	11	11	43	92	
17, 2698	3	Ready	59			0	11	11	11	11	26	49	
18, 2773	3	Ready	27			0	11	11	11	11	15	80	
19, 2811	3	Ready	42			0	11	11	11	11	43	53	
20													

Veterinary Centre by the Big Blue Cross



Preparation and Daily routine

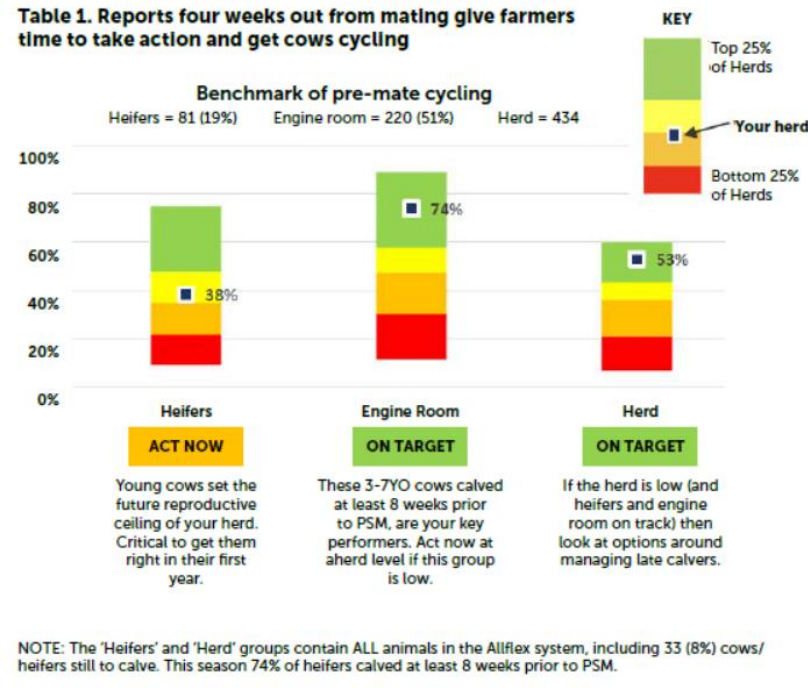
- Drafting gate working
- Collars and EIDs all assigned
- All cows have a calving entered
- Mating plan, report settings, AI tech, trainer
- Ticking off draft report – are all the cows drafted/no extras?
- Check low heat index cows



Pre-mating cycling rates

Submission rates

Conception rates

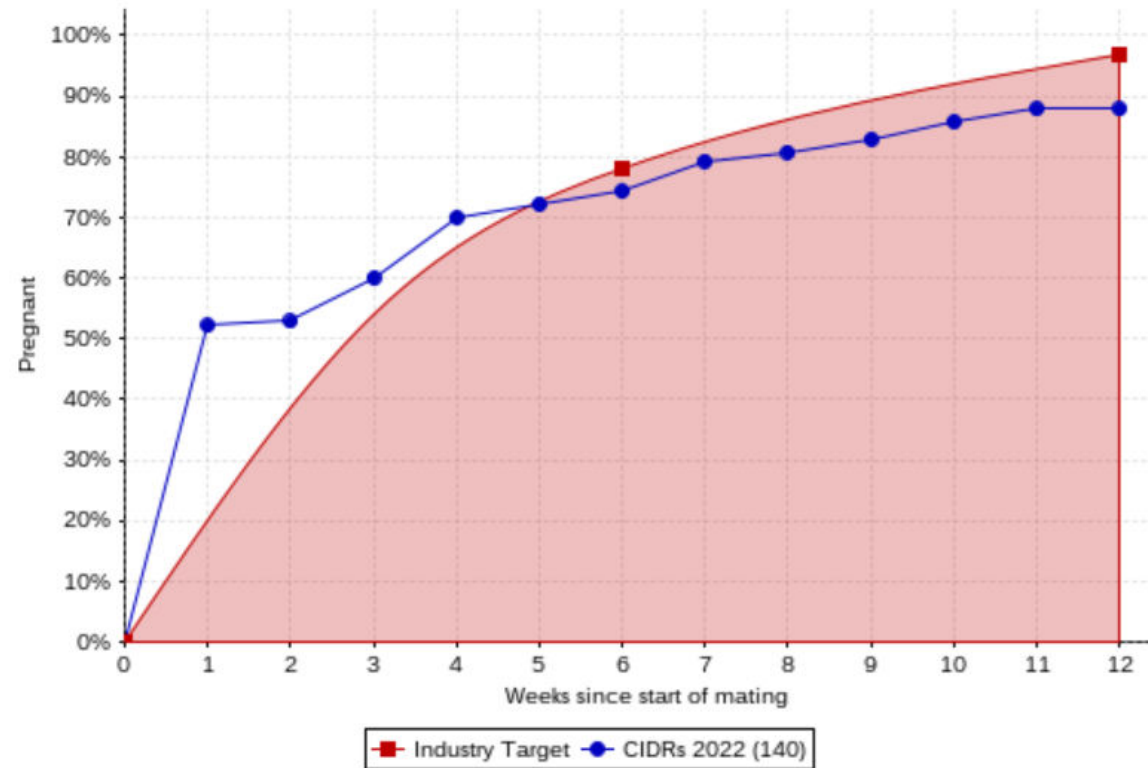


- Pre-mating cycling rates: top farms
 - 75% of all cows at least 1 pre-mating heat 10 days before PSM
 - 85% of all cows at PSM
 - If <65%: pre-mating heat detection not accurate or too many non-cyclers
- Does electronic monitoring improve submission rates?
- Conception rates?

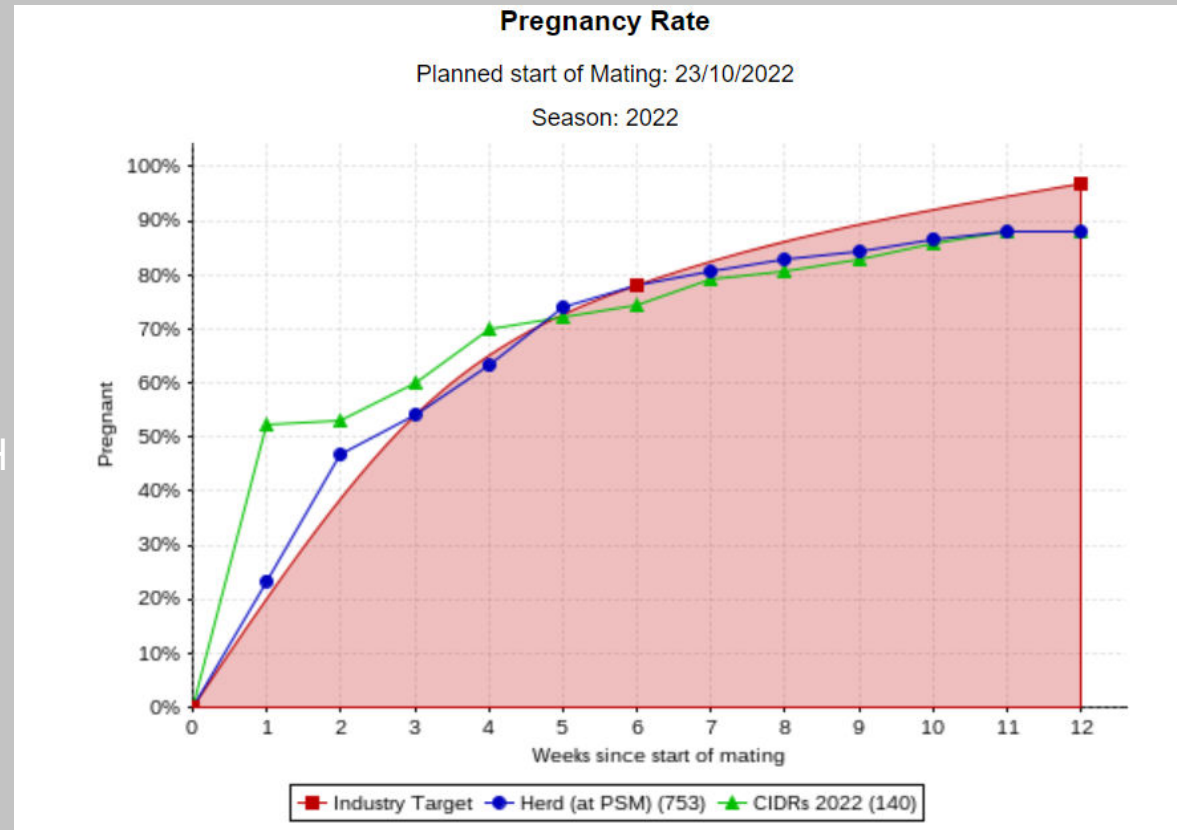
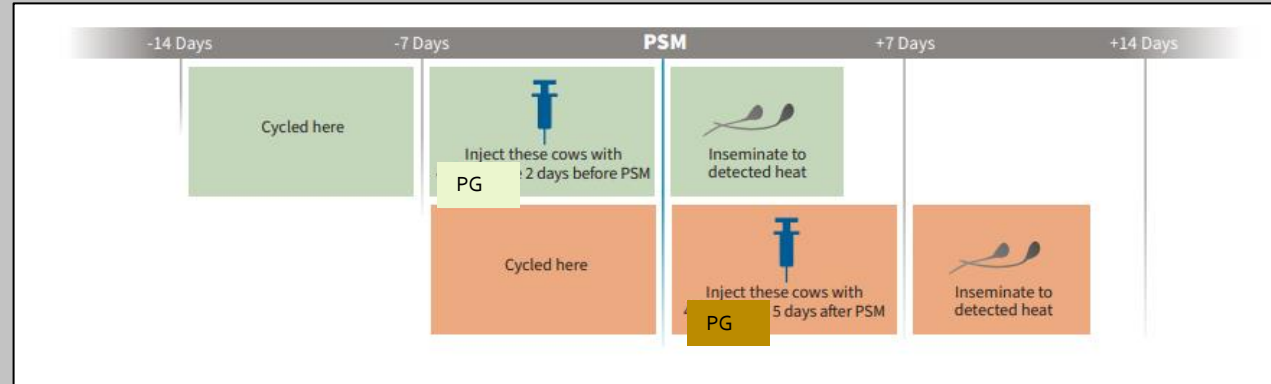


Non-cycling COWS

- Anestrus Cows report
- Standard Allflex settings: 50 days in milk and no heat detected – changed to 35 days
- Potentially less cows treated but lower conception rate?
- Prepare early: mating plan, AI tech, trainer

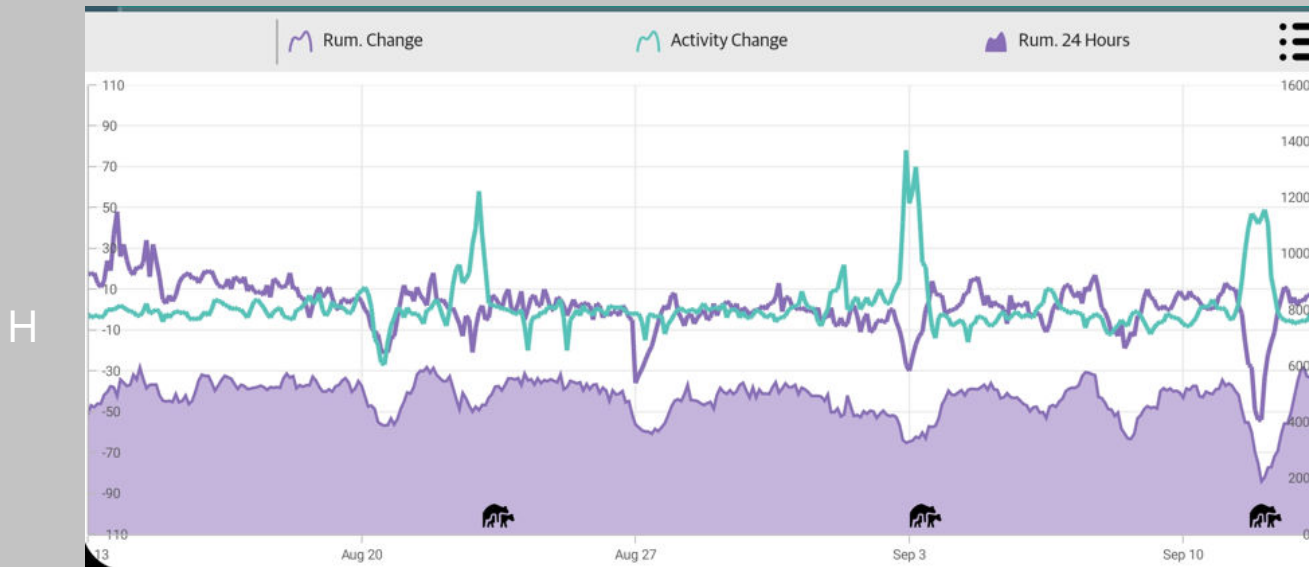


Why Wait



Cows with irregular heats

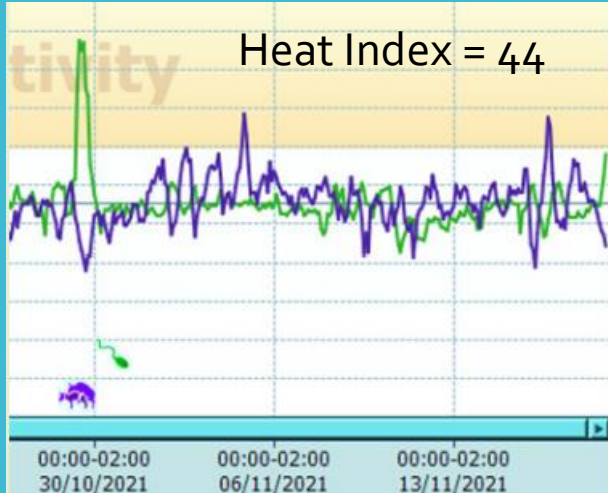
- 3 or more heat events within 30 days
- This can be caused by:
 - Cows returning to cycling after calving
 - False heat events
 - Follicular cysts



False heats

- Too many cows on the 'Cows Ready for AI' report
- Management changes
- Check individual graphs for low heat index cows (<60 – 65)

Follicular heats



- 2-10% of cows will display oestrus behaviour during pregnancy
- Usually 'silent' heats with a low heat index score
- Fluctuating oestrodial levels
- Up to 17% increase in embryonic mortality if a pregnant cow is inseminated
- What do you do?
 - Don't mate?
 - Phantom scanning early and often
 - Cow-side pregnancy test or milk progesterone test
 - Bull mating
- What if you don't have electronic monitoring?

Pregnancy testing

- Phantom scanning: the system cannot differentiate between a phantom cow and a pregnant cow
- Pregnancy Probability report
- Suspected Abortion report

Elite portals

	Unmated cows, no heat in 30 days	Unmated cows, heat in the last 30 days	Mated once	Mated 2 or more times
Early Calvers	No Heat (Early Calvers) 1 Cows	Pre-Mate Heat (Early Calvers) 3 Cows	Submitted (Early Calvers) 368 Cows	Returned (Early Calvers) 300 Cows
Mid Calvers	No Heat (Mid Calvers) 5 Cows	Pre-Mate Heat (Mid Calvers) 1 Cows	Submitted (Mid Calvers) 111 Cows	Returned (Mid Calvers) 109 Cows
Late Calvers	No Heat (Late Calvers) 1 Cows	Pre-Mate Heat (Late Calvers) 0 Cows	Submitted (Late Calvers) 34 Cows	Returned (Late Calvers) 49 Cows
Misc. Reports	Heat Event Not Mated 14 Cows	Cows With Irregular Heat 2 Cows	Cows Mated TODAY 0 Cows	Suspect Follicular Heats Previously mated cows with low index heats today

CIDR and Why Wait reports

Utilising BCS data

14th September 23



How does BCS affect repro?

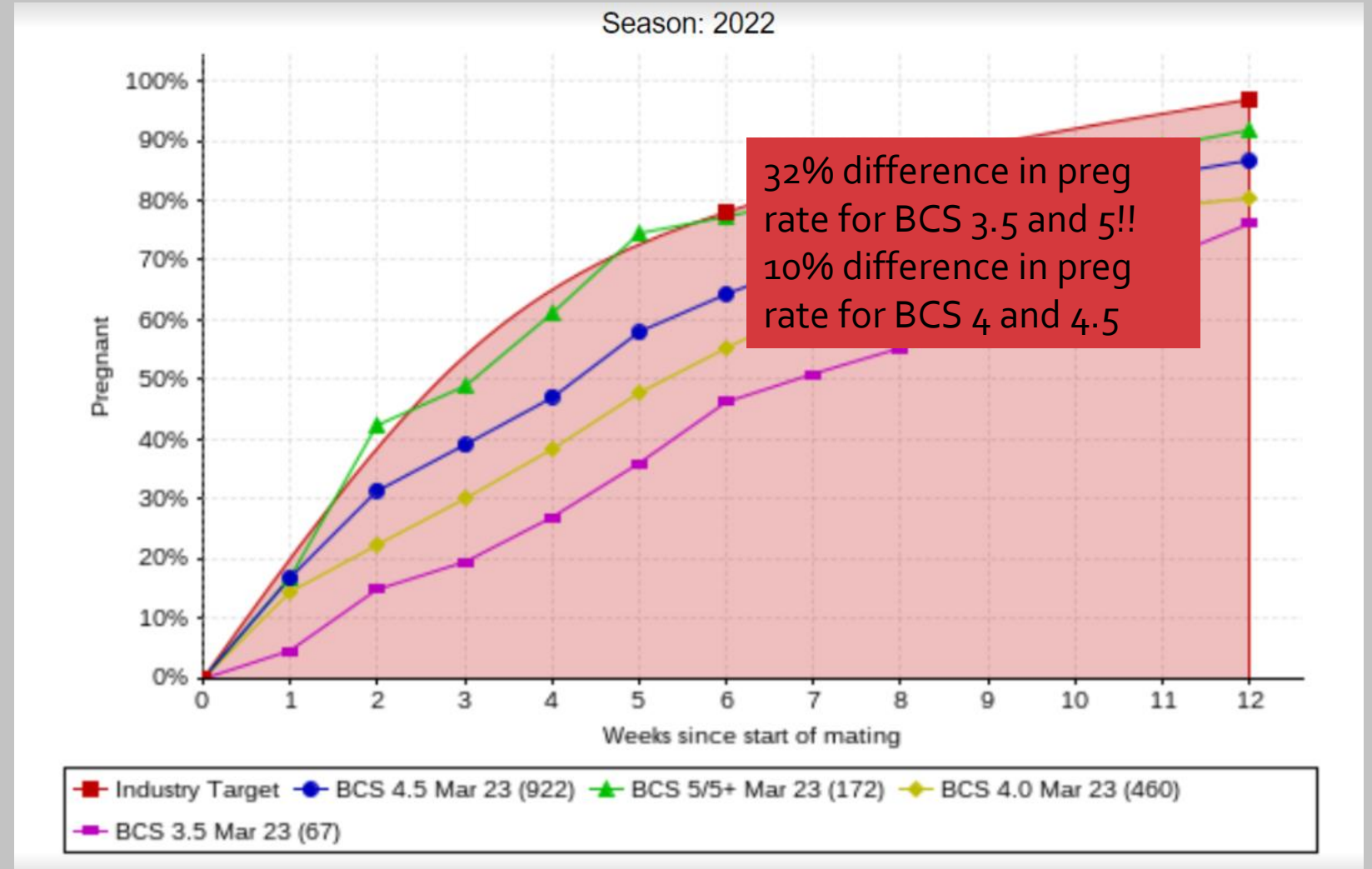
A large drop in BCS in early lactation increases the time before the cows starts cycling again and reduces the conception rate.

Body condition score prior to mating and 6-week in-calf and not-in-calf rates, by age group.

Age Group	3.5	4.0	4.5	5.0	5.5	6.0
2 year old						
6-week in-calf rate	58.0	68.9	74.3	76.4	74.3	73.2
Not-in-calf rate	20.4	13.3	10.3	9.5	11.9	12.2
3 year old						
6-week in-calf rate	64.4	69.7	72.6	74.2	72.3	65.8
Not-in-calf rate	14.7	11.9	10.6	10.1	12.4	15.1
4-8 year old						
6-week in-calf rate	61.2	66.1	67.6	67.2	62.8	60.9
Not-in-calf rate	19.4	16.1	15.0	15.5	17.7	21.6
Number of cows	10,823	64,914	81,284	35,116	6,025	1,552

LIC data

BCS Effect on Reproduction



Summary: BCS

- USE the data to make management decisions to help the cows!
- There are many management options available:
 - Separate and milk OAD
 - Separate and preferential feed
 - Mark and milk OAD
- No 'best way' – the main q is are they gaining BCS
- Better value to BCS now and in 6 weeks time vs mid summer?

Summary: BCS

- Its not just the 3.5 cows to think about!
 - 527 cows in previous example were less than 4.5.
 - 8% difference in empty rate BCS 4.5 and BCS < 4.5 →
 - 8% of 527 = 42 cows... at \$1000 difference.....\$42,000 in empty cows cost alone
 - 10% difference between 4 and 4.5 at 3 week in calf rate.....
 - 11 DIM @ 1.7kg MS/cow @ \$6.00 = \$107/cow
 - Minus cost to feed milker vs dry cow:
 - 5kg x 40c x 11 days average = \$22 per cow
 - Net benefit: \$85/cow
 - (on a 1000 cow herd = \$8500)
 - Assume 10% production loss when on OAD:
 - 42 days @ 0.17kg @ \$6.00 = \$43/cow

Summary: BCS production effect


Next season benefit
of BCS gain: \$85
milk + extra milk at
end of lactation +
reduced empty cow
cost + effects of
better preg rate

Production loss in
short term of OAD:

\$43/cow

Animal Health + Repro in a poor payout year

What do we do?

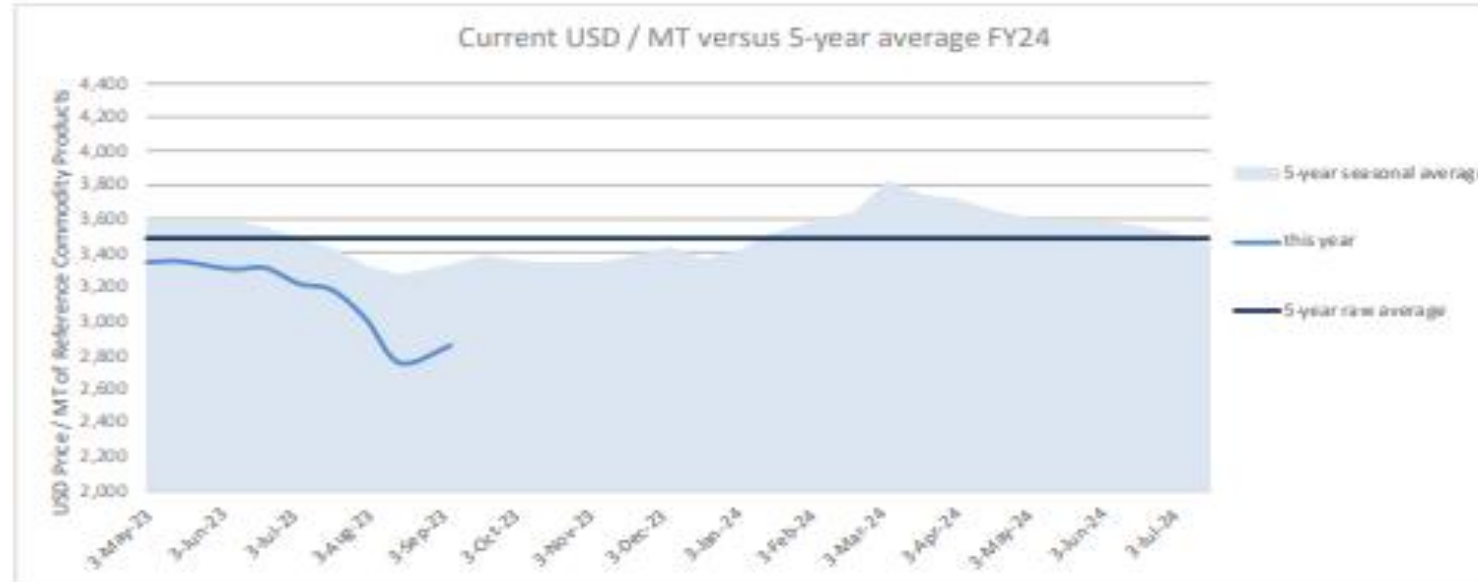
- AH spend per kg MS overall – what do we do  focus on what affects the following
 - - Milk
 - - BCS
 - - Improving and generating pregnant cows = DIM
- In the last 13 years costs per cow at DVS don't change much Why?
- What should we measure?
- Core AH costs = 17/18c kg MS to 21 /22 c per kg MS
- The weather dictates what this is more than payout

Use Information 

89% of all statistics are made up on the spot ... Dr Pete Alexander

The pictures...

Figure 1: USD / MT versus 5-year averages



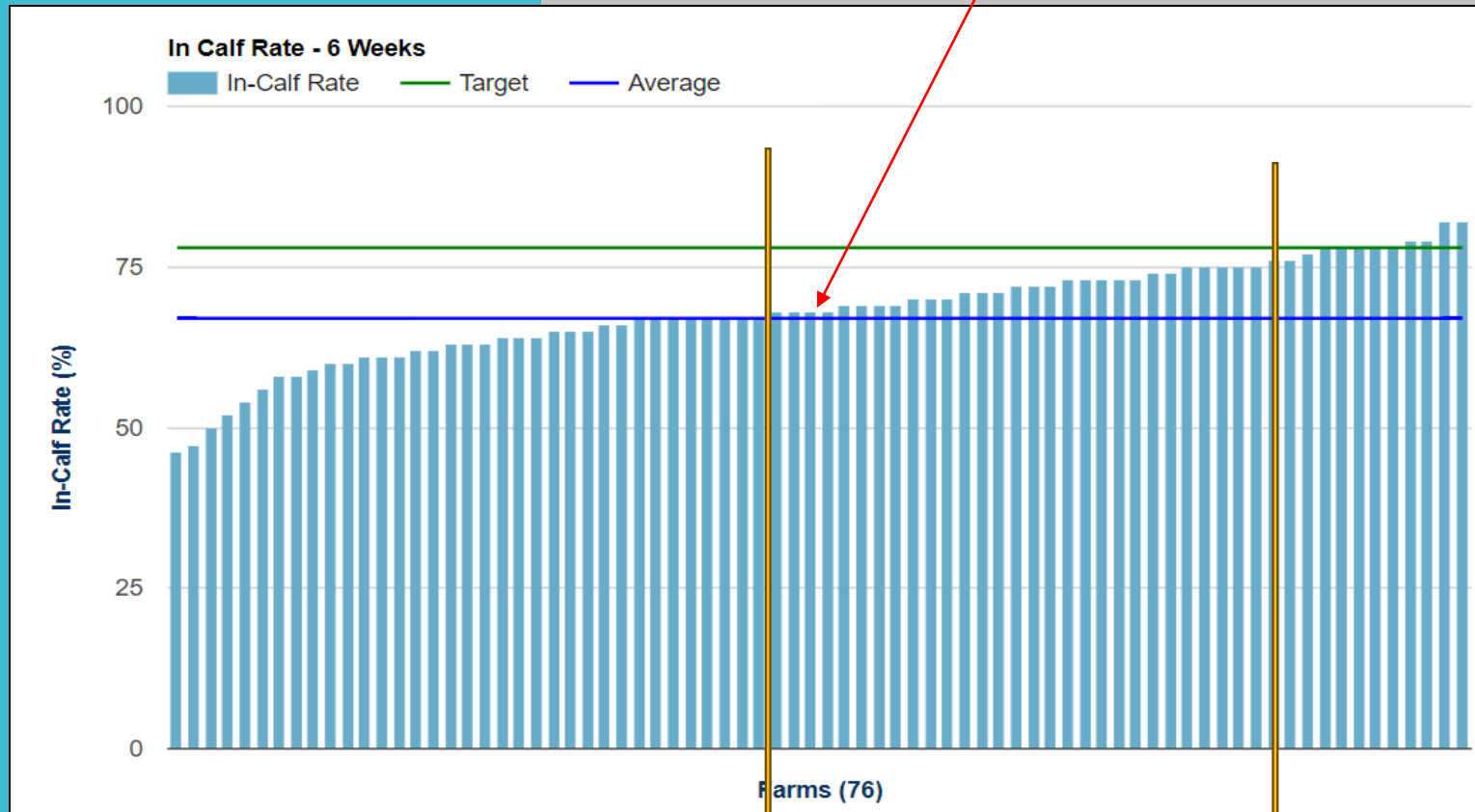
The blue line tracks this season's USD reference commodity products' weighted price. The blue shaded area is the 5-year seasonal average USD price. The black line is the 5-year raw average USD price.

The current USD price of the reference commodity products is 18% less than the 5-year raw average and 14% less than the 5-year seasonal average.

In the last five years USD prices have been higher than the current price 91% of the time.

- What does this mean?
- Are we at the bottom?
- Thoughts

Clinic average = 67% pregnant at 6 weeks



- What are the results for the top 10% and average

Repro 2.2c/13 c kg MS

19% CIDR @
PSM

Repro 3.3c/13.25 c kg MS

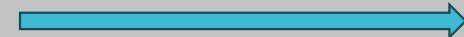
17.5 % CIDR @ PSM

- AH spend per kg MS overall – what do we do focus on what affects the following

- - Milk
- - BCS
- - Improving and generating pregnant cows = DIM

**Early Calvers**

78 – 83% 6 weeks
8-12% MT

**Mid Calvers**

64 – 71% 6 weeks
17 – 23% MT

Higher BCS = earlier calving cows

Submission Rate influences Pregnancy Rate



Early DIM 2024/25 and more milk

Don't

- Reduce intervention early – be selective on cows
- Use bulls only – it only works if all other factors on farm are perfect. No one is perfect