# Southern Dairy Hub Transition, Pre-Mate, & Mating



Presented by

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# Veterinary Centre by the Big Blue Cross

### **Our Clinics**

### Waitaki, South Canterbury and **Otago Districts** East & Central

**Oamaru** • Waimate Palmerston • Ranfurly Kurow • Omarama • Glenavy

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# **Key Opportunities with Collars**

- 1. Getting the most out of collars – what's required??
  - a) Transition
  - **b)** Pre-Mate Heats
  - c) Mating (and Mating Reviews)

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# What does a collar do?



### Health

### Acti 110-90 70 50 30 10 -10 -30 -50 -70 -90 --110 00:00-02:00 00:00-02:00 18/03/2021 25/03/2021



### Rumination

Daily Eating	Daily Rumination	
8.0	443.0	
3.0	461.0	
8.0	458.0	
5.0	453.0	
5.0	507.0	
51.0	492.0	
53.0	443.0	
		ARI CENTRE
g Blue C		

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# Why are farmers getting collars?

The November blues
Staffing
Offsite oversight and risk management
Silver Bullet
Keep up with the Jones's
Heat and Health
Farm Management



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# What makes a successful collar user?

SUCCESS

Farm owner + Farm Team engaged

Buy-in and Trust of the Data

Willing to put time into data management

Willingness to change farm managment

LESS SUCCESSFUL No Whole Team Buy-in

Poor records (garbage in garbage out)

Belief that "they are the top 10% farmer"

Expectation of a "Silver Bullet"

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# Making the Budget Work



# **Transition Rumination**

### oup by that column

Daily Eating	Daily Rumination
158.0	443.0
173.0	461.0
158.0	458.0
165.0	453.0
155.0	507.0
151.0	492.0
153.0	443.0



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### Daily Rumination Average by DIM (cf average 30-40 day farm rumination rate)



### Rumination Quartile vs Pregnancy Rate (August Only) ORANGE FARM



# **Transition Monitoring**



# **Why Transition Matters**

(And Can you Monitor it??)

# Key Influence on:

- BCS Loss Post Calving
- Endometritis Rates
- Oocyte quality (and first service conception rate)
- Cycling Rates
- Mastitis / Lameness
- Metabolic
- Peak Production



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# **SDH vs Other Farms**

### How are they tracking?

### Pericalving Milestones

### How did your cows transition?

Rumination activity gives an indication of how well the cows transitioned into lactation and Collar Health Events give an indication of underlying nutritional issues or peri-calving disease (eg metritis, metabolics & severe mastitis).



**Rumination Activity** 

Collar Health Events % of Group Affected



Lactation Lactation

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# **SDH vs Other Farms**

### How are they tracking?

**Rumination Activity** 

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**Collar Health Events** % of Group Affected



1st Lactation Lactation

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# 2023/2024

# Fodderbeet

### Pericalving Milestones

### How did your cows transition?

Rumination activity gives an indication of how well the cows transitioned into lactation and Collar Health Events give an indication of underlying nutritional issues or peri-calving disease (eg metritis, metabolics & severe mastitis).

**Rumination Activity** Mins/Day for Each Period

**Fodderbeet vs Baleage Wintering** 



**Collar Health Events** % of Group Affected



### Pericalving Milestones

### How did your cows transition?

Rumination activity gives an indication of how well the cows transitioned into lactation and Collar Health Events give an indication of underlying nutritional issues or peri-calving disease (eg metritis, metabolics & severe mastitis).

### **Rumination Activity** Mins/Day for Each Period



### **Collar Health Events**



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### Baleage

### % of Group Affected



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### **Springers + The 90% Feeding Rule**



### **Springer Energy Budgets**

	ME	Wastage	kg of Feed	Multiplier	ME	
Grass	12	10%	3	10.8	32.4	SPRINGERS
Silage	11	25%	4	8.25	33	
Grain	13	11%		11.57		
РКЕ	11	20%		8.8		
Baleage	10	20%		8		
Straw	6	40%	3	3.6	10.8	-
Нау	10	20%		8		% Maintenance
Average ME of Diet (maintenance		TOTAL DM (kg) Offered	10.0	TOTAL ME	76	65%
lemand increases with lower ME feeds)	10.2	TOTAL DM (kg) Eaten	7.5			-
				r		
iveweight (kg)	500	Maintenance (MJME)	117	90% Target	105	



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# **Transition Monitoring**

		0 Hours		Transition Rumi	ination Report		31/0//2	2021 2:37:34	-		
							J	Ω			
Days in Lactation											
Cow Num	oer Grou	p Lactation Number	Daily Rumination	Rumination Peak	3 Day Total Rumination	Activity Peak	Distress event (DIM)	System Health Events in	Health Index		
Days in Lactation	n: 1									<u> </u>	
	14		226.08		-286.31						
Days in Lactation	12 12		213.33	1	-284.00						
Days in Lactation			215.55		-204.00					-	
	7		186.29		-193.57						
Days in Lactation	n: 4										
	8		239.88		-94.43						
Days in Lactation	n: 5 6		221.67		-125.33						
Days in Lactation	-		221.07		-125.55						
	5		284.60		-33.00						
Days in Lactation	n: 7										CEN
	2		305.00		-21.00						
Days in Lactation			322.00		00.75						
Dave in Lactation	8		339.88		-82.75						
	116		267.34		-131.04					5	
9										Edit Filter	
							\$5 ?	+			<b>CEN</b>

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# **5 Key Factors**

### 1) Day 0 is Critical!

2) Avoid grazing below 1800

3) Allocate Enough Feed

4) Offer multiple feeding opportunities



## 5) Limeflour!!!!



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issue)

Cycled: NIC Cows not mated

but with at least one heat over

mating period (eg draft error

or elected not to mate)

chose not to mate)

Returned & Not Mated: Cows NIC with at least one mating and a subsequent

unmated heat event <30 days before the end of mating (eg follicular heat and

Cycled & Mated: Cows NIC with an unsuccesful mating <30 days (+/- previous</li>

heats) before the end of mating (eg normal return cows not conceived)

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# **Pre-Mate Heats**





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# Cows Cycling 7 Days BEFORE the PSM

### 2022/2023

### Premate Milestones

# How did your cows cycle premate?

The proportion of cows cycling at Day -7 from PSM is influenced by transition success and early season nutrition. Later calving cows are less likely to cycle by the PSM

### **Cows Cycling by Day -7 from PSM**

The following graphs highlight to what extent age and laterr calvers influenced cycling. Early calving young cows should cycle well by the PSM and issues in this group can highlight a more generalised nutritional or transition problem.





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# Why are pre-mate heats important??

70% 58% 54% 60% 50% 50% 50% 40% 40% 30% 20% 10% 0% Zero Three One Two Four + Total Pre-Mate Heats Per Cow AR CENTR

Number of Pre-Mate Heats vs First Service Conception Rates

CR to First Service Percentage of Herd

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## **Pre-Mate Heat Benchmarking Reports**





# **Benchmark Groups**

### **Pre-Mate Heat Analysis**

### Southern Dairy Hub (Week -4 to PSM)

PSM = 30-10-2023 Includes Heats To: 01-10-2023 Benchmark of Pre-Mate Cycling



### Which cows are cycling? Drivers and potential solutions





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# **Benchmark Groups**

CENTRA

### **Pre-Mate Heat Analysis** Southern Dairy Hub (Week -3 to PSM) PSM = 30-10-2023 Includes Heats To: 08-10-2023

### Benchmark of Pre-Mate Cycling Which cows are cycling? Drivers and potential solutions



# CENTRA BUILT **Veterinary Centre** by the Big Blue Cross

## **Creating the Narrative**

Cows on a rising plane of nutrition heading into mating have improved pre-mate cycling rates AND increased first round conception rates

### How can you increase cycling rates now?

INCREASE ENERGY INPUTS DECREASE ENERGY OUTPUTS

MAXIMISE HEALTH

- Priority Mob Feeding
  Consider additional supplements
   Target high quality pasture / lower entry covers
- Split Heifer Mob

- Reduced walking for noncycler mob
- OAD Mob
- Late Calvers OAD until cycled/mated

- Metricheck (if not already done)
- Minerals (pre-mate bloods

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- +/- multimin)
- Eprinex / Cydectin Drench
- Monitor Mastitis and
- Lameness levels

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# **Monitoring Feeding (the major rule-out)**

Is your herd on a rising plane of nutrition? Cows on a rising plane of nutrition heading into mating have improved pre-mate cycling rates AND increased first round conception rates



**Monitoring Energy Balance** 

Milk Protein %

Your herd's



- Target the "Nike Tick" protein curve
- Ideally rising from late Sept / CENTRE
  early Oct
- Drops or extended low protein % may indicate an issue

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### Non-Cycler Projections Southern Dairy Hub (7 Days Before PSM) PSM = 30-10-2023 Includes Heats To: 15-10-2023

# Estimating Non-Cycler Numbers

### How quickly are cows cycling?



Not Cycled Cycled

ITRE

ERIN

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Week -2

# Estimating Non-Cycler Numbers

### How many non-cyclers do we expect 7 days BEFORE the PSM?

Expected numbers of noncyclers



Eligible for Non-Cycler Tx Week -1 Later Calvers

If eligible non-cyclers are treated, what impact does this have on pregnancy rates?

> Non-Cycler Intervention (HERD) @ PSM -7 Days



 Cumulative Pregnancies HERD assuming 144 CIDR's used 7 Days Pre-Mate

Cumulative Pregnancies HERD Assuming NO Intervention Used

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# Gains expected from early treatment of non-cyclers (144 early calvers):

### Estimated impact on early DIM = +993days

Estimated impact on HERD 3WICR +5%

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# Mating





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# Performance

### Key Outcomes Mating Period

### Were there problem periods during mating?

Getting cows pregnant consistently across the whole mating period is key for a desirable future calving pattern, low Not-In-Calf rates and lifetime efficiency. It also provides scope for herd improvements.

### In-Calf Rate

Percentage of non-pregnant animals conceiving in each 3 week mating round. This can highlight changes in nutrition over mating.



### 9 Week Not-In-Calf Rate

Percentage of animals Not-in-Calf by week 9 (therefore late calvers or MT). Indicates potential cow wastage.



Duration of AB period:

72 days

### 1 Overall herd reproductive performance



# Performance



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# Performance





Empty Cows - Heats & Submissions in last 24 Days of Mating



### NEVER MATED

75 Day NICR underlying factors

5 groups are exclusive

These

mutual

and their sum uals "Total NICR"

equals

- Not Cycled: Cows NIC and
- never cycled (eg major NCC issue)
- Cycled: NIC Cows not mated but with at least one heat over mating period (eg draft error or elected not to mate)

### MATED

- Phantom: Cows NIC after insemin with no subsequent return heat.
- Returned & Not Mated: Cows NIC unmated heat event <30 days before chose not to mate)
- Cycled & Mated: Cows NIC with a heats) before the end of mating (e

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### Non-Return Rate

Percentage of cows that were last bred 24 or more days ago and have not returned to heat.



LOW CONCEPTION RATE 0%-49%

SWEET SPOT 50%-65%

PHANTOM RISK 65%-100%





Rumination / Eating / Milk Protein / Production / Milk Urea

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5.75

5.50

5.25

(%) (%) ui

e 4.75

4.50

4.25

4.00

3.75

Jun

# LUDF Benchmarking Project



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# LUDF Milk Protein







# Weekly Conception Rates



# NEFA Levels (Fat mobilisation)

	LUDF	Liam			
	NEFA Levels	NEFA Levels			
10 <sup>th</sup> Aug	.7	.4			
29 <sup>th</sup> Sept	.3	.3			
27 <sup>th</sup> October	2	.3			
10 <sup>th</sup> November	.4	.2			
24 <sup>th</sup> November	.1	.2			
8 <sup>th</sup> Dec	.1	.2			
22 <sup>nd</sup> Dec	.2	.2			



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# Grass Testing – the NDF story.....



# Lactational Energy Calculator

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		Producing Cow	reak		Date	8/10/	/2021			
	ME	Wastage	kg of Feed	Multiplier	Protein %	Protein (kg)	ME	C	FNTD	
Grass	12.5	10%	18	11.25	25%	4.05	202.5	20	ENTRE	
Silage	11	25%		8.25	8%			P.L		
Grain	13	5%	2	12.35	11%	0.21	24.7	<u>S</u>		
РКЕ	11	5%		10.45	14%			ARY C		
Baleage	10	20%		8	17%					
Molasses	12	5%		11.4	4%			5		
Straw	6	40%		3.6	3%					
oy Bean Meal	12.5	5%		11.875	38%			Feed Offered vs Demand (%)	Expected Weight Change	
verage ME of t (maintenance		TOTAL DM (kg) Offered	20.0		Totals	23.5%	227	<b>91%</b>	-0.64 Kg/Day	
a milk demand ncreases with wer ME feeds)	12.6	TOTAL DM (kg) Eaten	18.1			Protein %	Total ME	-23.35 MJME	-0.56 BCS	
					Maintenance (MJME)	57	.95	NEGATIVE ENERGY BALANCE	Expected BCS Change over 30 days	- CNT
iveweight (kg)	525	Walk (km) Flat	1.50		Milk (MJME)	18	9.6			CENI
lilk kgMS/Cow	2.40	Walk (km) Rolling			Walking	:	3		Se la construction de la constru	
Ver 3		Walk (km) Hilly/Steep			Total Demand (MJME)	2	51		-0.56 BCS Expected BCS Change over 30 days	
		Veteri								

# Will you be a successful collar user?

SUCCESS

Farm owner + Farm Team engaged

Buy-in and Trust of the Data

Willing to put time into data management

Willingness to change farm systems

LESS SUCCESSFUL No Whole Team Buy-in

Poor records (garbage in garbage out)

Belief that "they are the top 10% farmer"

Expectation of a "Silver Bullet"

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# Making the Budget Work



# **Questions?**



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