SIDDC
South Island Dairying Demonstration Centre

FOCUS DAY

Driving Efficiency & Profit

Wed 8 October 2025
10.00am to 1.00pm

LUDF

LUDF's Focus on Efficiency
with Assoc. Prof. Racheal Bryant, Lincoln University

LUDF Update
with Antoinette Archer, SIDDC

THE BALANCING ACT OF PROFITABILITY AND EMISSIONS
Speaker: Louise Cook, Fonterra

The link between profit and emissions – Fonterra & DairyNZ Emissions & Profitability Project

FARMER PANEL
Insights, Experiences, and Opportunities

THE ENGINE AT WORK: Optimising Cow Performance,
Speaker: Alice Buchanan, LIC

Focussing on improving cow quality and efficiency, to have a more productive cow and herd

FUELLING GROWTH: Optimising Pasture & Feed
Speaker: Jane Kay, DairyNZ

The golden rules of feed management on farm, managing a surplus, optimising supplement use, and making money from milk

Presented in conjunction with our partners:

Fonterra Dairy for life

DairyNZ

Register on the day from 10.00am
Lincoln University Dairy Farm, Lincoln
Parking: Entrance off Ellesmere Junction Road
Refreshments & Light Lunch provided
E. office@siddc.org.nz
T. 03 423-0022 or
M. 0272 724 069

www.siddc.org.nz

Welcome to Lincoln University Dairy Farm (LUDF).

The farm is a fully operational, commercial dairy farm with a number of potential hazards for both visitors and staff. Many of the potential hazards cannot be eliminated while also providing access to visitors, therefore, all staff and visitors MUST watch for potential hazards and act with caution.

Hazard Summary: Look, think, act.

The following chart provides a reminder of the types of hazards at LUDF. Watch for these and any other hazards that may be on the farm today.

People: • Uninformed/ill-prepared visitors may be the greatest risk	**Animals:** • **You are in their space**	**Milking shed:** • Moving rotary platform • Confined animals • Chemicals
Eyes / Ears: • Water / oil / milk / chemical splashes • Welding flashes • Loud machinery		**Touch:** • Hot/cold surfaces, hot water, chemical burns • Electric fences – treat them as high voltage power sources
On-farm machinery and tools • Chainsaws, hand tools etc. generate noise, fragments	**Potential slips/trips:** • Uneven surfaces occur across the farm • Fences • Drains • Underpass • Effluent pond	**Vehicles:** • Contractors and farm equipment – **act as though they can't see you** – keep out of their way • Centre Pivot takes precedence over your plan

ARE YOU TRAINED FOR WHAT YOU ARE ABOUT TO DO? If not, STOP.

If you are uncertain how you should act or proceed, stop and contact the farm manager, other farm staff or your host.

By entering this farm, you are acknowledging your receipt of this hazard summary and your agreement to take personal responsibility to watch out for potential hazards and act in such a manner as to protect yourself and any others also on-farm.

SIDDC FOCUS DAY
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8 October 2025

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LUDF Update

LUDF's move to efficiency
Season to date
Presenters: Racheal Bryant, Lincoln University and SIDDC Chair, Antoinette Archer, SIDDC

The Balancing Act of Profitability and Emissions

The link between profit and emissions – Fonterra & DairyNZ Emissions & Profitability Project.
Presenter: Louise Cook, Fonterra

The Engine at Work: Optimising Cow Performance

Focussing on improving cow quality and efficiency, to have a more productive cow and herd.
Presenter: Alice Buchanan, LIC

Fuelling Growth: Optimising Pasture & Feed

The golden rules of feed management on farm, managing a surplus, optimising supplement use, and making money from milk.
Presenter: Jane Kay, DairyNZ

Contact us: Ph: 03 423 0022 www.siddc.org.nz www.ludf.org.nz

With thanks to our partners:

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SIDDC

Lincoln University Dairy Farm (LUDF) is a demonstration farm developed by the South Island Dairying Demonstration Centre (SIDDC). This industry-funded partnership of seven leading dairy sector organisations collaborate to promote the sustainable development of South Island dairying via demonstration activities, research, education and training of farmers. The current partners of SIDDC are:

Strategic Objective at LUDF

To maximise sustainable profit embracing the whole farm system through:

- Increasing productivity
- Without increasing the farm's total environmental footprint
- While operating within definable and acceptable animal welfare targets; and
- Remaining relevant to Canterbury (and South Island) dairy farmers by demonstrating practices achievable by leading and progressive farmers.

Focus for 2025/26 Season:

Nil-Infrastructure, low input, low N-loss, optimise profit.

Current farm system:

- 3.5 cows/ha (target 560 peak milked).
- Target up to 190kg N/ha synthetic fertiliser.
- 450kgDM/cow imported supplement with cows wintered off farm.
- Cost control - FWE budget of $5.50/kg MS or less.
- Target production 487 kg MS/cow on a hybrid milking system.

Current projects at LUDF

Plantain Grazing Project

- Aim for a minimum of 10% of the diet, with a target of 30% of the diet, in plantain via a mixed sward.
- Currently assessing composition over time through direct drilling and broadcasting, with a spring and autumn sowing date.
- To result in decrease in N loss in OverseerFM from 26 kg N/ha/yr to 23 kg N/ha/yr for expected composition when direct drilled and 22 kg N/ha/yr for expected composition when broadcasted.

Mating Benchmarking Project

- Continued focus on our reproductive performance by focusing on:
- Transition cows – milk cows OAD cows for first 10 days of lactation, or until rumination criteria is met, with a focus on feeding and silage allocation during this period. This is aimed to improve BCS loss over this period.
- Body condition score (BCS) targets for dry off and targeted winter feeding to achieve planned start of calving BCS targets, aiding in planned start of mating BCS.
- Early scanning based on data via wearables to implement our phantom cow strategy, see reproduction project for more information.
- Use of short gestation semen to allow a longer mating period (12 weeks), whist achieving a shorter calving period.

Flexible Milking Project

- LUDF has applied 10-in-7 milking regime all season, for four seasons.
- Prediction was 6% drop in MS production.
- LUDF did observe a drop of 8.3% compared to our TAD average, however the seasons were variable and below 'average'.
- LUDF was compared to a regional benchmark, that indicated LUDF's drop was in line with the regional drop. This was 5.2% over the first three seasons of 10-in-7, compared to the previous three seasons TAD.
- This resulted in a 6.2% drop for LUDF.
- Profitability aim to remain the same due to lower costs, through labour demand, less animal health and shed costs, better cow condition, targeted winter feeding levels on BCS and improved mating results.
- Profitability challenged during higher payout years due to drop in production.
- LUDF will now adopt a hybrid flexible milking system for the 25/26 season.

LUDF's Focus on Efficiency

SIDDC's purpose is to lead, engage and enable change for South Island dairy farms and demonstrate an environmentally responsible, highly productive, and financially resilient operation. In doing this we must continuously improve and openly share our learnings.

SIDDC sets the strategic pathway for LUDF to implement and demonstrate which requires continual monitoring, review and refinement of the system. Our goal is to demonstrate possible future systems that lead to a sustainable and successful dairy industry now and into the future. Tomorrow's Dairying Today.

In 2021 we implemented three key strategies to demonstrate the scalability of research which supported people, production and environment and these included 1. Flexible milking, 2. Improved fertility for lower replacement rate and 3. Plantain for reduced nitrate leaching. After four consecutive seasons we sought to review our system through a GAP analysis which was completed by DairyNZ and want to share our findings from that and the subsequent refinement that defines our current strategic refocus at LUDF.

This GAP analysis highlighted key areas for growth, particularly in optimising our financial outcomes to match the top-performing farms in Canterbury. We are aiming for the top 10% in profitability in Canterbury and striving to be the leading exemplar of a low-emission (top 10% in GHG and top 5% for N leaching), profitable, and productive dairy farm. To do this we have revisited our strategies and applied our learnings to refine the LUDF farm system.

We are committed to operating using best practice in all aspects of the business and to serve as a vital resource for the dairy community by providing practical, research-backed insights.

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1. LUDF's Flexible Milking Regime: From 10-in-7 to Tactical Milking

LUDF has implemented a 10 in 7 milking regime for the past 4 seasons to explore scalability of current research. We had modelled a 6% drop in milk production, along with reduced FWE and improved outcomes for our people and our cows, through less hours milking, enabling of a 5 in 2 roster, and for cows - reduced lameness, improved BCS and better fertility.

In review - Successes and Challenges

The 10-in-7 milking regime, adopted in the 2021-22 season, was a crucial part of placing "people at the core of farm activities". We saw success in the People metric:

- Staff reported being "happier and less tired".
- The hours worked per week per person decreased over the peak by 3.9 hours, enabled through reduced milking time and the ability to adjust our roster to 5 in 2.
- We also realised a decrease in variable costs, including fuel usage and kilowatt consumption, which supports efficiency.

However, there were challenges.

The 10-in-7 system led to an approximate 8% reduction in milk production off our targeted Twice-A-Day (TAD) production. This drop impacted our ability to dilute fixed expenses, creating a gap in operating profit compared to top performers.

Pasture harvested – this system along with the implementation of plantain during this period (including a pure sward approach) did reduce the amount of pasture harvested.

Refinement of Flexible Milking

Our strategic objective is to improve efficiency and be in the top 10% for profitability as we kook to optimise the system. To achieve this we will use a flexible milking approach to implement a tactical milking regime that strategically applies different milking frequencies throughout lactation.

This approach leverages the learnings from past research and our own experience with the flexible milking project to maintain efficiency and productivity gains while honouring our commitment to staff and cow welfare. Our system will now encompass:

1. **Once-A-Day (OAD) for the First 10 Days of Lactation:** This initial OAD phase supports cow recovery during the critical transition period, prioritising health and body condition. See our reproduction project for more information.

2. **Transition to Twice-A-Day (TAD):** Following from the 10 day OAD period, we revert to TAD during the peak pasture growing season to optimise pasture utilisation and milk production.

Introduction of Flexible Milking Based on Specific Triggers: This is the core tactical component. We will split the mobs into two herds to look after cows which may be more vulnerable and we will shift to 3-in-2 milking (or 10 in 7) when we reach our triggers, which include:

- **Body Condition Score (BCS):** To maintain or improve cow condition.
- **Climatic Conditions:** Adapting to environmental stressors like heat and wet periods.
- **Animal Welfare:** Using lameness levels as a trigger.
- **People Metrics:** Prioritising staff well-being.
- **Late Lactation Flexible Milking:** We have a default shift at March 1st if not triggered earlier, this is to achieve benefits of flexible milking, whilst minimising production drop.

This system seeks to maintain high productivity and efficiency, with a goal of achieving >100% milk solid production per cow as a % of liveweight, which will flow on to improved FWE.

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2. Plantain in the Diet: Refining our Plantain Strategy

A cornerstone of our strategy is our commitment to our environment, aiming for Top 5% for N leaching. Over time we have been adopting science based solutions to reduce nitrogen (N) leaching and have incorporated "Pastoral 21", (reduced N, stocking rate and purchased supplement) and incorporating plantain based on the science from the "Forages for Reduce Nitrate Leaching" (FRNL) and "Plantain Potency and Practice" (PPP) programs.

Why We Moved Away from Pure Plantain Swards

Our previous strategy of sowing 30% of the farm as a pure plantain stand encountered significant hurdles:

- **Establishment and Production Loss:** Establishment took 12-13 weeks, resulting in five weeks of lost grazing. The pure sward yielded approximately 15-20% less dry matter per annum compared to conventional pastures.
- **Profit Impact:** This pasture deficit resulted in an additional cost for bought-in feed to maintain stocking rate and milk production. The lower yield negatively affected farm profitability.
- **Operational Complexities:** We did face additional issues with increased weed presence, with limited chemistry available for control.

Plantain in New Pastures Only

Given these challenges, we have ceased the pure sward concept and moved back to incorporating plantain into a mixed sward. For now, we are focusing on introducing plantain into new pastures only as part of our annual renovation program (10% of the farm).

The decision to continue using plantain aligns with the science that demonstrates that even a small amount of plantain can reduce nitrate leaching. So we have set a more realistic, target to achieve 10-20% plantain in the sward, year on year. To help us achieve this we are investigating the option of under (direct drill) or oversowing (broadcast) plantain into existing pastures and will confirm our approach once we have reviewed our findings from our demonstration trial.

Current Demonstration: The Sowing Method

To provide practical, research-backed information for farmers, we initiated a demonstration project, comparing establishment methods and sowing dates for plantain:

- **Sowing Dates:** Autumn vs. Spring.
- **Sowing Methods:** Broadcast (oversowing) vs. Direct Drill (undersowing).

Preliminary results (as of April 2025):

Sowing Method	Sowing Date	Plantain % (after days)
Broadcast (BC)	Autumn	1.0% (137 days)
Direct Drill (DD)	Autumn	1.0% (137 days)
Broadcast (BC)	Spring	5% (165 days)
Direct Drill (DD)	Spring	7% (165 days)

Early data suggests that spring sowing is showing higher plantain content after the same number of calendar days compared with autumn sowing. We will continue to gather data from these trials to inform future decisions on how we best maintain plantain in the sward.

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3. Replacement Rate Policy

Our focus on efficiency extends through to our herd reproductive performance and replacement rate. The initial goal for our replacement rate was a very low at 15%, driven primarily by Greenhouse Gas (GHG) Efficiency and to reduce our FWE. Rearing replacements contributes to our farm's total GHG emissions, and reducing the rate to 15%, from 25% was projected to achieve a 5% reduction in GHG compared. to 28% to 15% 7%. This would offer a reduction in grazing costs and total rearing costs.

Why the 15% Target is Too Ambitious for LUDF at this time

On review, we acknowledge that the 15% target is highly ambitious for our system aiming for sustainable performance and genetic progression. This policy results in large compromises in other farm goals:

- **Involuntary Losses:** Even with improved performance, involuntary losses (deaths, health, and not-in-calf cows) already range from 12-20% of the herd. With high involuntary losses, the 15% rate severely restricts our ability to maintain herd size. A key focus as an outcome is to focus on where our wastage is, one being our loss rate of R2's & R3's.
- **Limited Culling Room:** A 15% rate allows for only about 18 "Quality Cull" cows in our 560-cow herd. This critically limits our capacity for selective culling based on SCC, lameness, udder confirmation, and other traits.

- **Genetic Gain Compromise:** High genetic gain requires higher discretionary culling. The 18 quality culls represents only 3.2% of the herd, which is the absolute minimum threshold and severely limits our ability to drive genetic improvement.

Refining our replacement rate goals:

We are revising our target. The industry recommends 18-22%. This target still allows for a lower replacement rate while improving our selection pressure for necessary for discretionary culling. We are currently reviewing where LUDF should sit in respect to replacement rate, based on our current fertility, herd losses and requirement to maintain genetic gain improvements.

Achieving a lower replacement rate depends on continued success in two key areas:

1. **Improving Fertility:** We have made significant strides, improving our Not-In-Calf Rate (NICR) from 20% to an average of 10%. We achieved this through improved transition management, early pregnancy scanning (managing phantom cows) and strategically extending the mating period by two weeks, using short gestation semen. A remaining challenge for LUDF's system is to manage an energy deficit in early November (controlling pasture quality and intakes) to maintain these gains.
2. **Reducing Cow Wastage:** We must focus on prioritising animal well-being. The GAP analysis noted opportunities to address moderate levels of mastitis and high incidences of lameness to reduce wastage and enhance herd health and welfare.

Conclusion

LUDF's strategic refocus, informed by the GAP Analysis, is about refining our approach to ensure we achieve our vision: to demonstrate an environmentally responsible, highly productive and financially resilient dairy farm.

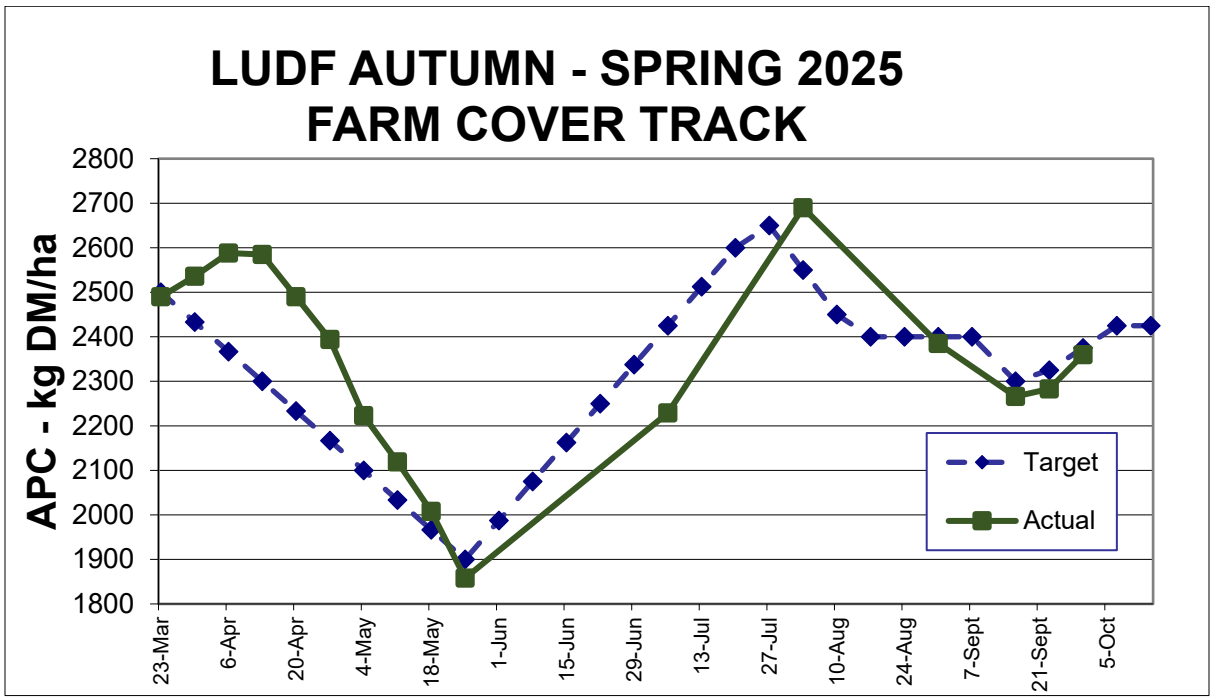
We are committed to continuous improvement, targeting:

- **Productivity:** 1% gain year on year.
- **Profitability:** Top 10% profit.
- **Environment:** Top 10% for GHG emissions & Top 5% for N leaching.

LUDF Update

FARM PERFORMANCE – Pasture & Feed

- APC at calving was 2690 kg DM/ha, target of 2600 kg DM/ha
- 1st Round completed 22 September 2025
- Balance Date will likely be later due to lower soil temperatures – hoping for second week of October.
- Very wet start to spring (early August) – this has reduced utilisation and higher allocations given to reduce pasture damage.
- This has led to some increased residuals that will require mechanical intervention (mowing) when in surplus.



- As at 28 September we had fed 290 kg DM/cow as supplement, this is 64% of our annual brought in feed budget.

Spring Indicators:

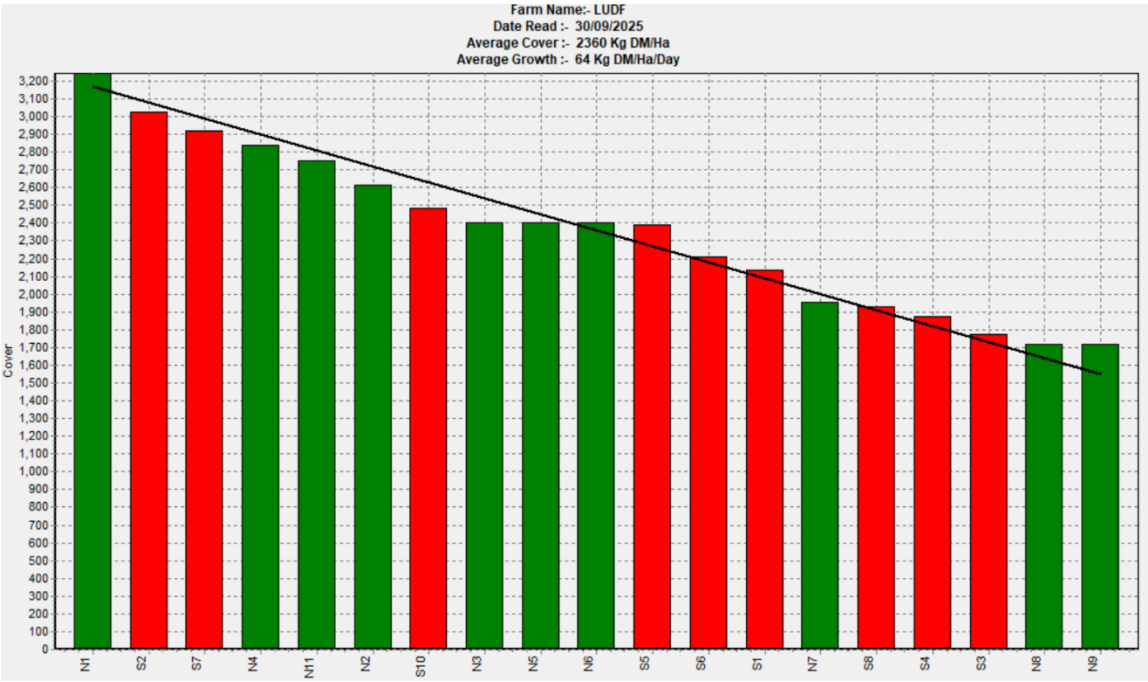
Date	3-Aug-25	10-Aug-25	17-Aug-25	24-Aug-25	31-Aug-25	7-Sept-25	14-Sept-25	21-Sept-25	28-Sept-25
Growth Rate - kg DM/ha/day	17	17	14	14	14	14	34	50	64
APC - kg DM/ha	2690	2690	2630	2550	2500	2385	2266	2283	2360
Growth Demand - kg DM/ha	11	19	35	45	54	56	58	65	67
Round Length - days	516	112	63	54	44	43	39	32	32
Stocking Rate - cows/ha	0.6	0.9	1.3	1.9	2.5	2.8	3.0	3.3	3.4

October Feed Budget & Grazing Rules

- 550 cows on 146.2 ha = 3.76 cows/ha.
- Target allocation = 19.0 kg DM/cow
- Residual target = 1,550 kg DM/ha.
- Demand = 71 kg DM/ha.
- Pasture required = demand x round length

Current Grazing Plan					Total Diet	19.0 kg DM/cow	
Post Grazing	1550 kg DM/ha	Round length	23 days		Total Area	160 ha	
Herd	Cows	Pre-grazing target	Area in round - ha	Feed offered - kg DM/cow	Supplement offered - kg DM/cow	ha/day	m^2/cow /day
1st herd	373	3,194	108.5	19.0	0.0	4.3	116
2nd herd	160	3,194	46.5	19.0	0.0	1.8	116
OAD	17	3,194	4.9	19.0	0.0	0.2	116
Total	**550**		**146.2**	**19.0**	**0.0**	**6.4**	**ha**

Current Feed Wedge:



Regrassing:

N10 - high weed burden - Italian as a break crop

Mix	Seed treatment	Rate kg/ha
Tabu+ Italian ryegrass	Agricote	20 kg/ha

S9

Mix	Seed treatment	Rate kg/ha
Array NEA2 Perennial ryegrass	Agricote	7.5
4front NEA2 perennial ryegrass	Agricote	11
Kotuku white clover	Agricote	2
Ruru white clover	Agricote	2
Ecotain plantain	Agricote/Superstrike*	2.5
	Total seed/ha	25 kg/ha

N6 - repair

Mix	Seed treatment	Rate kg/ha
Forge NEA hybrid ryegrass	Agricote	15 kg/ha

Repair on balance

Mix	Seed treatment	Rate kg/ha
Array NEA2 Perennial ryegrass	Agricote	7
4front NEA2 perennial ryegrass	Agricote	8
Kotuku white clover	Agricote	1
Ruru white clover	Agricote	1
	Total seed/ha	17 kg/ha

- We are rolling paddocks after grazing, as required, we have rolled 5 paddocks STD.

Feed Quality Tests

Date	Protein % DM	NDF % DM	ADF % DM	Digestibility % (DMD)	MJ ME/ kg DM	OM %	WSC % DM	DM %
Jul-25	23.32	40.36	21.91	81.03	12.39	92.11	18.04	16.93
Aug-25	18.08	37.98	20.61	82.84	12.64	92.01	27.22	20.96
Sept-25	20.88	40.43	21.46	81.12	12.42	92.25	22.13	20.19

Note: this is a weighted average of all samples

2025/26 Feed Budget:

FarmRight
Investing Sustainably

LUDF													
Start date	**1-Jun-25**	Period start	1-Jun	1-Jul	1-Aug	1-Sept	1-Oct	1-Nov	1-Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May
Total days		365	30	31	31	30	31	30	31	31	28	31	30	31
Effective grazeable area (ha)		160.0	160.0	160.0	160.0	160.0	152.5	145.0	152.5	160.0	160.0	160.0	160.0	160.0
Remove or add area		157.5					-7.5	-15	-7.5					
Feed demand														
Total cows on farm			0	156	320	540	555	554	554	554	554	549	549	474
Cows Calving (No. in each period)				100	425	38								
Cows dried off /**culled** (last day of period)				2	2	4	1				5		75	*474*
Average milking cows				50	311	540	555	554	554	554	554	549	549	474
Intake dm/day		17,394		15.0	17.0	17.5	18.5	19.0	19.0	18.0	17.0	16.5	16.0	16.0
Total feed demand /ha		17,796	0	5	33	59	67	73	69	62	59	57	55	47
Stocking rate (cows equiv./ha)			0.0	1.0	2.0	3.4	3.6	3.8	3.6	3.5	3.5	3.4	3.4	3.0
			kgs dm/ha/day											
Pasture growth		16,835	15	12	16	42	67	70	73	68	63	53	43	33
Total milking cow supplement		348 kgDM/cow												
Total supplement		192,516 kgDM					Supplements fed per day in each period							
Milking cow supplement		Intake/cow/day		3.0	5.0	4.0						1.5	3.0	
Baleage	bales	642	0.0	0.5	5.2	7.2	0.0	0.0	0.0	0.0	0.0	2.7	5.5	0
	kgDM/day fed	192,516	0	150	1,553	2,160	0	0	0	0	0	824	1,647	0
Total feed supply kgDM/ha/day		18,038	15	13	26	56	67	70	73	68	63	58	53	33
Feed utilisation			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Area removed for silage /baleage									10					
Total silage/baleage made (kgDM)		15,000	0	0	0	0	0	0	15,000	0	0	0	0	0
Silage/baleage made (kgDM/ha/month)			0	0	0	0	0	0	98	0	0	0	0	0
Total silage made/ha/day			0	0	0	0	0	0	3	0	0	0	0	0
Pasture cover														
Cover change kgDM/ha/day		143	15.0	8.3	-7.3	-3.6	-0.3	-2.6	0.8	5.7	3.7	1.5	-1.6	-14.4
Predicted closing pasture covers		1,850	2,300	2,556	2,330	2,223	2,213	2,135	2,160	2,336	2,441	2,488	2,440	1,993

Notes to feed budget:

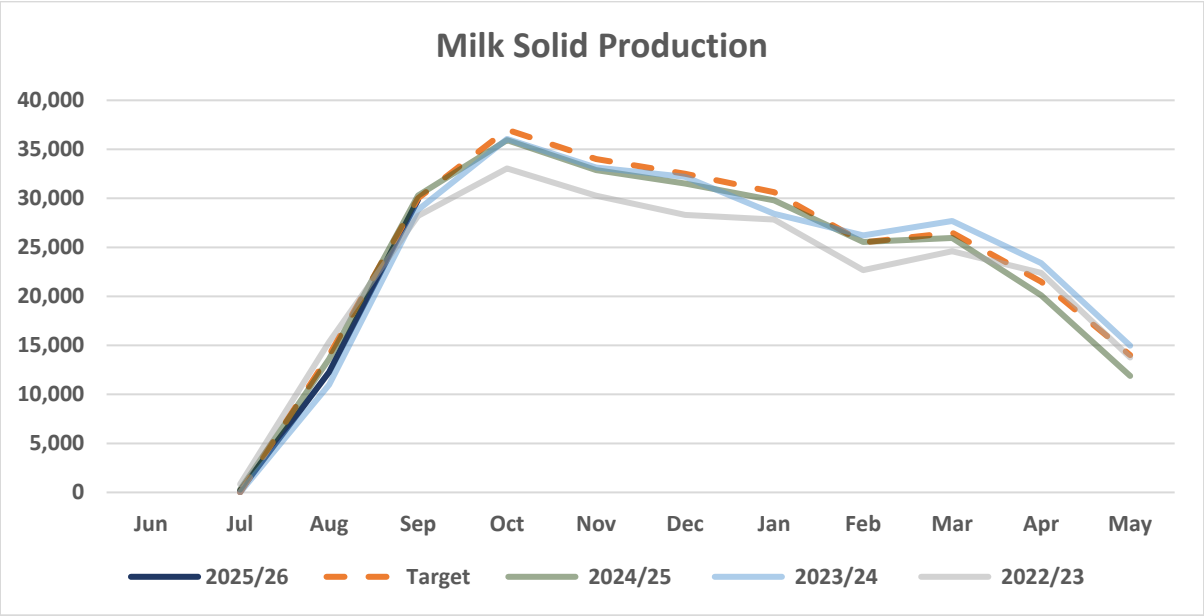
- Assumption of 80% silage utilisation.
- Assumption of 90% pasture utilisation.

FARM PERFORMANCE – Herd & Milk Production

Milk Production has started off slower with a small effect of calving spread, but primarily due to wet spring and poorer utilisation and higher inputs of silage.

Milk Production: STD 42,323 kg MS, which is -4.2% down from last season and -3.8% down from target.

- **Milk production per cow:** Currently doing 2.16 kg MS/cow/day.
- **Herd Test:** Yesterday PM/today PM.
- **Milk production budget:** 487 kg MS/cow, 1660 kg MS/ha or 265,633 kg MS.



Date	Litres	kg MS (%)	Avg SCC	2025/26 kg MS	2025/26 Target	Variance to Target	2024/25 kg MS	Variance to 2024/25
Jul	1,797	8.96	132	179.4			282.3	-36.5% ↓
Aug	130,471	9.40	127	12,268.0	14,000	-12.4% ↓	13,610.9	-9.9% ↓
Sep	333,587	9.99	70	29,875.7	30,000	-0.4% ↓	30,282.0	-1.3% ↓
Total	**465,855**			**42,323.1**	**44,000**	**-3.8%**	**44,175.2**	**-4.2%**

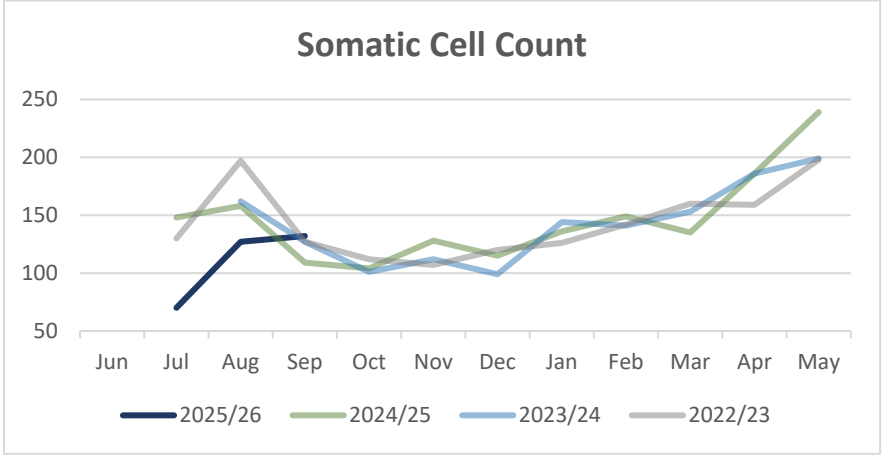
Calving Rate & Per Cow Production

Date	3-Aug-25	10-Aug-25	17-Aug-25	24-Aug-25	31-Aug-25	7-Sept-25	14-Sept-25	21-Sept-25	28-Sept-25
Cows milking into vat	61	82	148	246	346	407	449	502	524
Cows milkng NOT into vat	31	56	65	65	50	37	34	22	14
Total cows in milk	92	138	213	311	396	444	483	524	538
Milk Production per cow - kg MS/cow/day	1.02	2.02	2.01	2.16	2.09	2.07	2.07	2.03	2.16

Date	31-Jul-24	7-Aug-24	14-Aug-24	21-Aug-24	28-Aug-24	4-Sept-24	11-Sept-24	18-Sept-24	25-Sept-24
Cows milking into vat	116	139	270	323	394	460	500	521	531
Cows milkng NOT into vat	34	59	36	57	40	32	23	14	15
Total cows in milk	150	198	306	380	434	492	523	535	546
Milk Production per cow	1.22	1.21	1.52	1.79	1.78	1.83	1.87	2.03	2.08

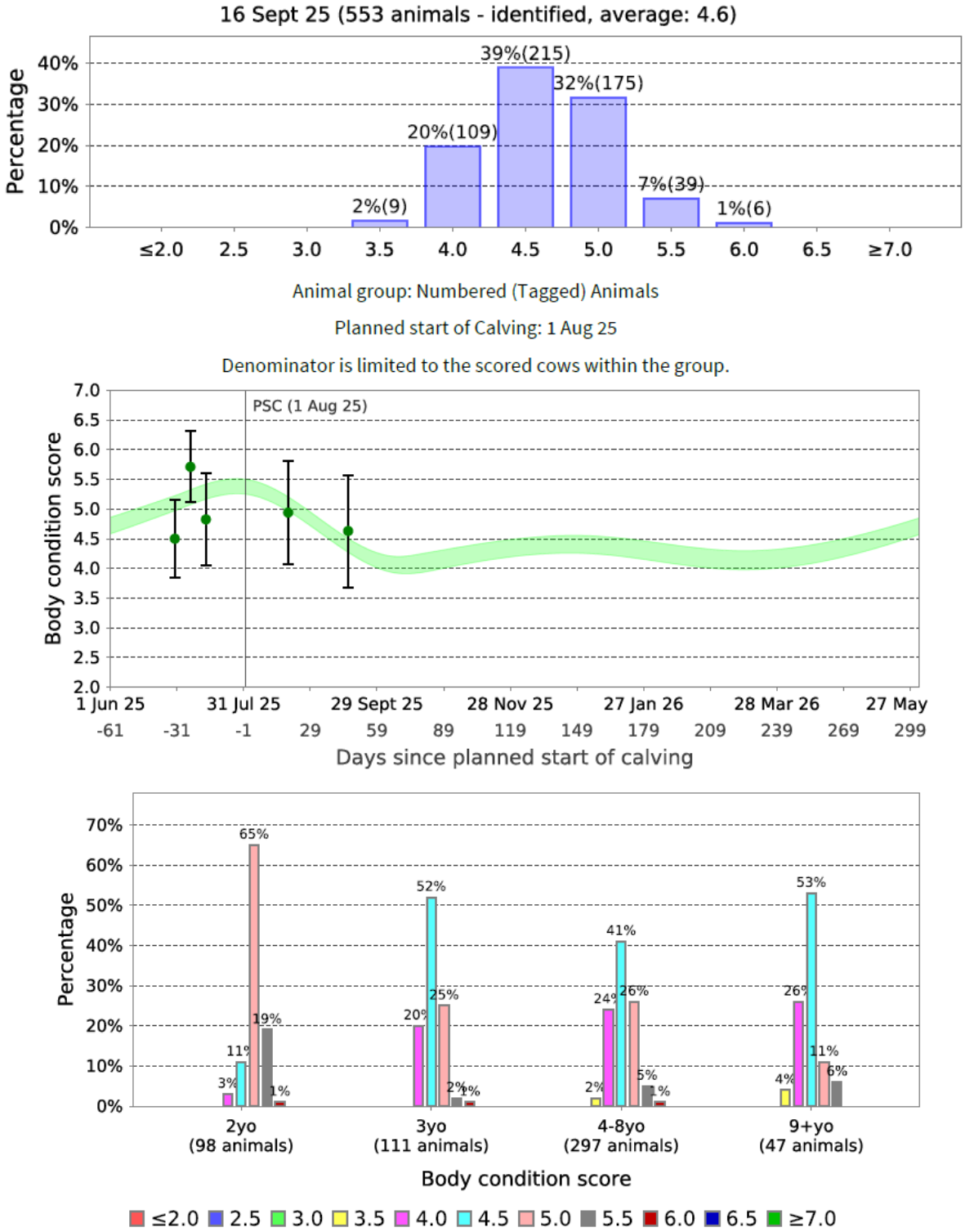
Somatic Cell Count:

Month	2025/26	2024/25	2023/24
Jul	70	148	130
Aug	127	163	197
Sep	132	109	127



ANIMAL CARE

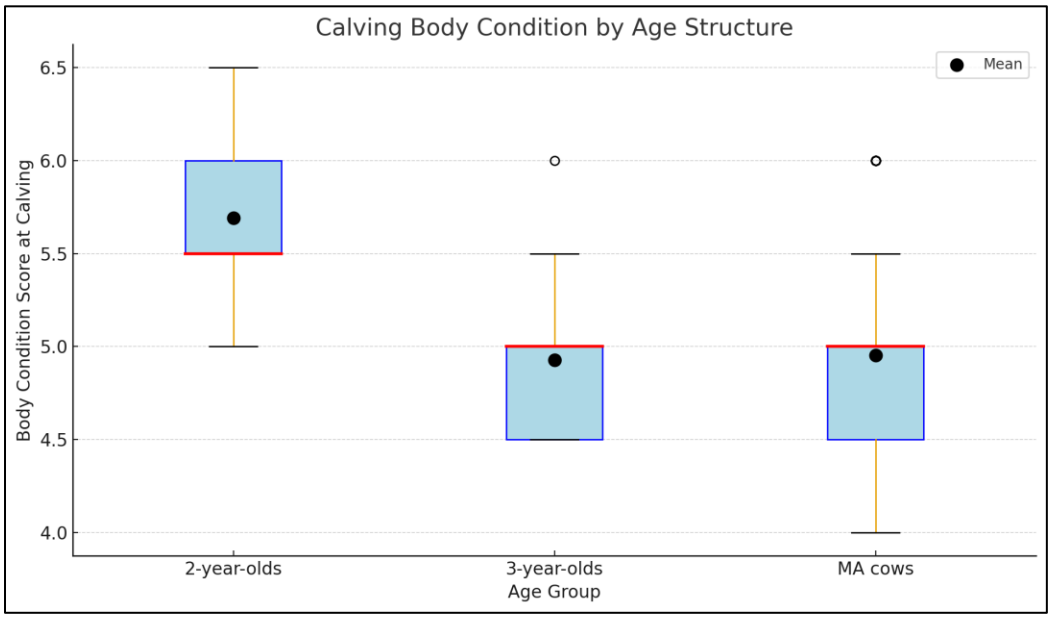
- Most recent Body Condition Score was 4.6 on 16 September.
- Spread of 3.5 to 6.0.



- This season we will be running two herds to give preferential management for R2's and R3's with a BCS of 5.0 or below and any other lighter cows, 4.0 and below to a herd size of 160. With the aim to reduce herd pressure on our young and vulnerable cows.

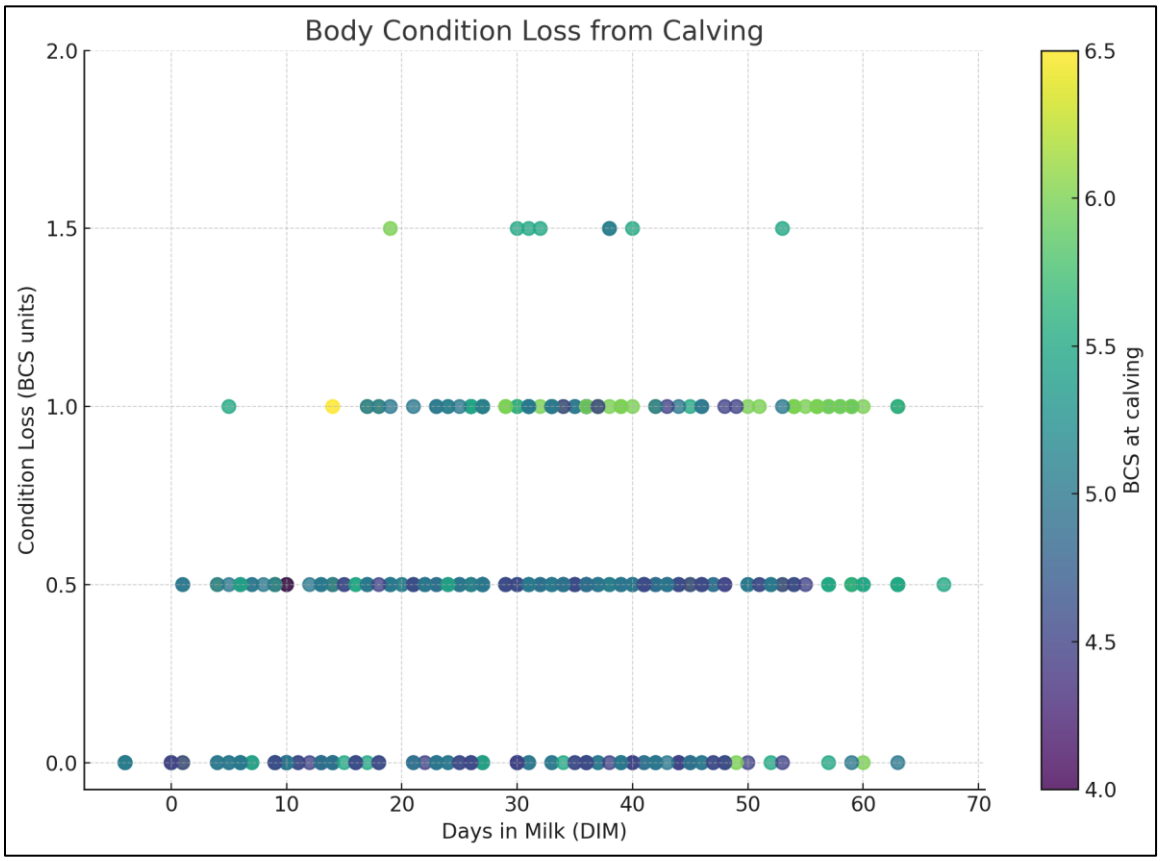
Calving Body Condition Summary

- Late calvers on **16 September** averaged BCS 5.0 (range: 4.5 - 6.0).
- The graph below shows the calving body condition spread by the age structure of the calved cows. The red line represents the median for each group, while the black dot represents the mean or average for each group.
- The average calving condition was:
    - R2: 5.69
    - R3: 4.93
    - MA: 4.95



Body Condition Loss Post-Calving

- The graph below shows the body condition loss from calving by days in milk (DIM) and by the calving condition.
- Many cows with > 30 DIM lost little or no condition (0 - 0.5 points).
- Cows with similar DIM but higher BCS lost 1-1.5 body condition.
- Research shows cows losing ≥ 1.0 BCS are less likely to conceive in the first six weeks of mating compared with cows losing 1 or less condition.



Key Points

- Cows typically lose condition for the first 7 to 8 weeks after calving, due to negative energy balance, regardless of calving date.
- Early calvers have more time to recover before mating than the late calvers.

Next steps to consider:

- Cows with > 1 BCS loss – preferential management – ie second herd or OAD.
- Late calvers (late September – October) – monitor recovery, could consider OAD.
- Balancing priorities – how do we implement the above without compromising the R2/R3 and pasture management?

Mating Focus & Strategy – see next session

Stock Reconciliation:

1 June – MA inc R2's	561
Deaths	14
Culls	5
MA inc R2's	542
Purchases	10
MA inc R2's	**552**

ANIMAL CARE – Youngstock

2025 Born (R1s):

- Target up to 130 replacement heifers, sell surplus calves at weaning.
- Beef calves – 100 calves for sale at weaning.

2023 Born (R2s):

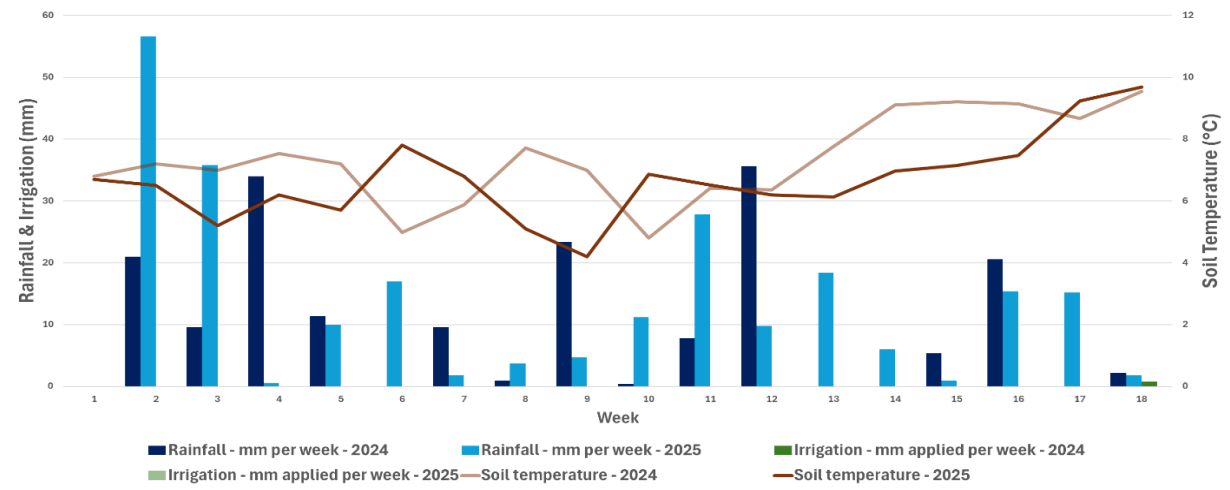
- 103 yearling heifers.
- Average 289 kg on 9 September.
- Range – 238 - 342 kg LWT lightest are being run in a separate group.

Animal health winter plans completed: vaccinations, drenches, iodine and B12 administered to appropriate age groups – see our animal health plans.

ENVIRONMENT

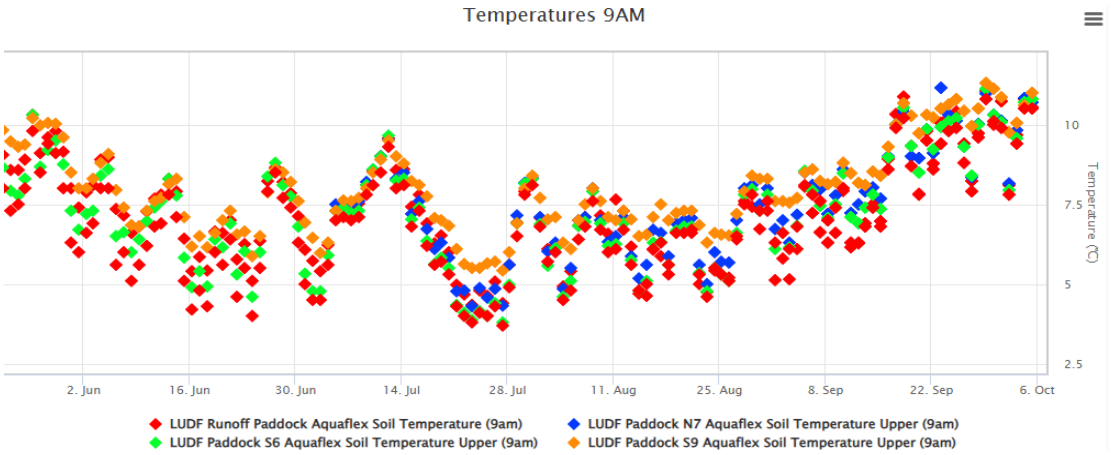
- **Rainfall (Jun-Sep):** 236.9 mm STD

Weekly Rainfall, Irrigation & Soil Temperature

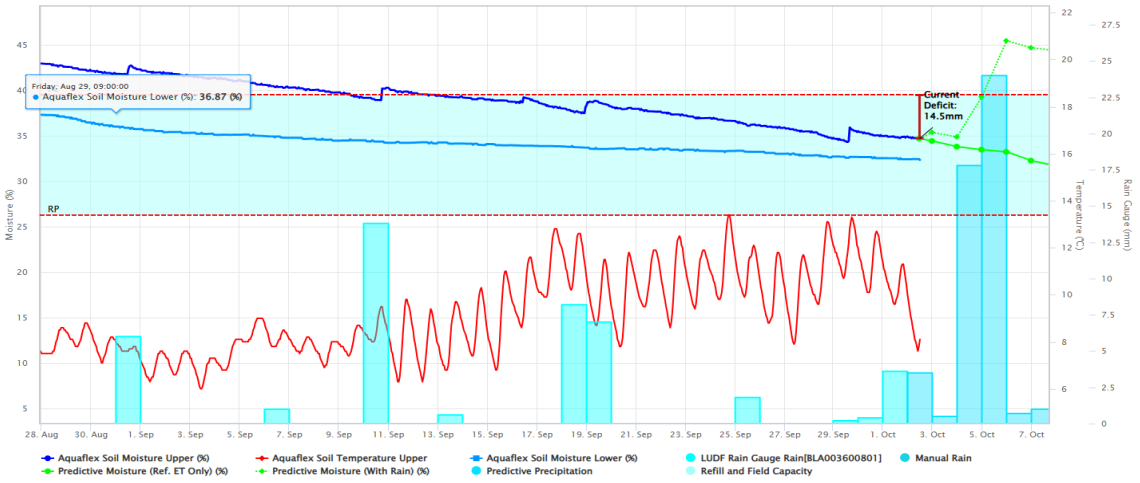


Soil Temperatures

Month	Average	Min	Max
June	8.9	4.0	9.1
July	6.9	3.7	9.7
August	6.5	4.5	8.4
September	8.5	11.3	5.1



- **Irrigation:** 1st round started on 29th September, now paused due to predicted rainfall.



Fertiliser:

- We have completed the first round of Ammo 31 at a rate of 86 kg/ha, which is 26 kg N/ha.
- We did have to chopper on 70 ha due to wet conditions.

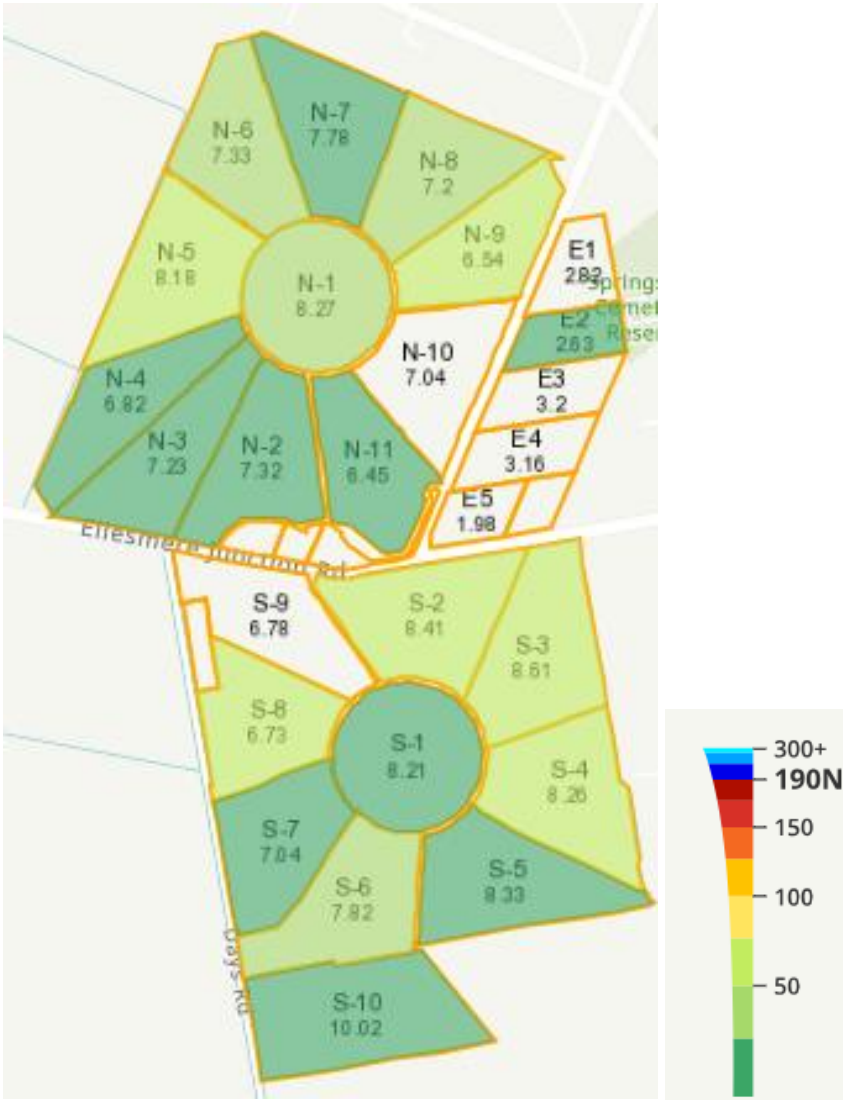
LUDF Super 2025/26

Block	Area	kg/ha	N	P	K	S	Ca	Mg	Total
Olsen P 20-29	11.7	610 kg		55.0		67.0	122.0		7.15t
Olsen P 30-40	82.1	390 kg		35.0		43.0	78.0		32.00 t
Olsen P >41	81.5	230 kg		20.0		34.0	44.0		18.70 t

Nitrogen 2025/26

Time	Rate - kg/ha	Product	kg N/ha
September	85.0	Ammo 31	26
October	60.0	N-Protect	28
November	60.0	N-Protect	28
December	60.0	N-Protect	28
January	60.0	N-Protect	28
February	60.0	N-Protect	28
March	50.0	N-Protect	23
Total kg N/ha			**187**

Nitrogen Heat Map



PEOPLE, WORKPLACE COMMUNITY & CULTURE – Team Update

- **Our Team:** Peter, Eugene, Jeremy & Jack
- **Roster**: 5 on / 2 off
- **Focus**: Leave for our team after calving.

  Post calving review, including personal development plan and training opportunities.

A big thanks to the team for all their effort this spring!

BUSINESS HEALTH – Financials & Farm Plan

Overview

Measure	25/26 Budget	24/25 Actual	24/25 Budget
Peak Cows	545	560	560
Total Production	**265,633**	**257,815**	**266,000**
Per Cow	487	460	475
Per ha	**1,660**	**1,611**	**1662**
Milk Price	$10.00	$10.00	$9.00
Farm Op Exp	$5.36	$5.48	$5.43
Total Op Exp	**$5.36**	**$5.56**	**$5.50**
EBIT	$1,381,255	$1,355,755	$1,099,186
EBIT/ha	**$8,633**	**$8,473**	**$6,870**

Notes to Budget:

Stock Sales	
Beef Calf Sales	Beef calves to be sold as early as possible. Budgeted to rear – decision to rear to capitalise on market.
Dairy Heifer Sales	All dairy heifers will be reared to 100kg. Retaining 125-130 and sell surplus.

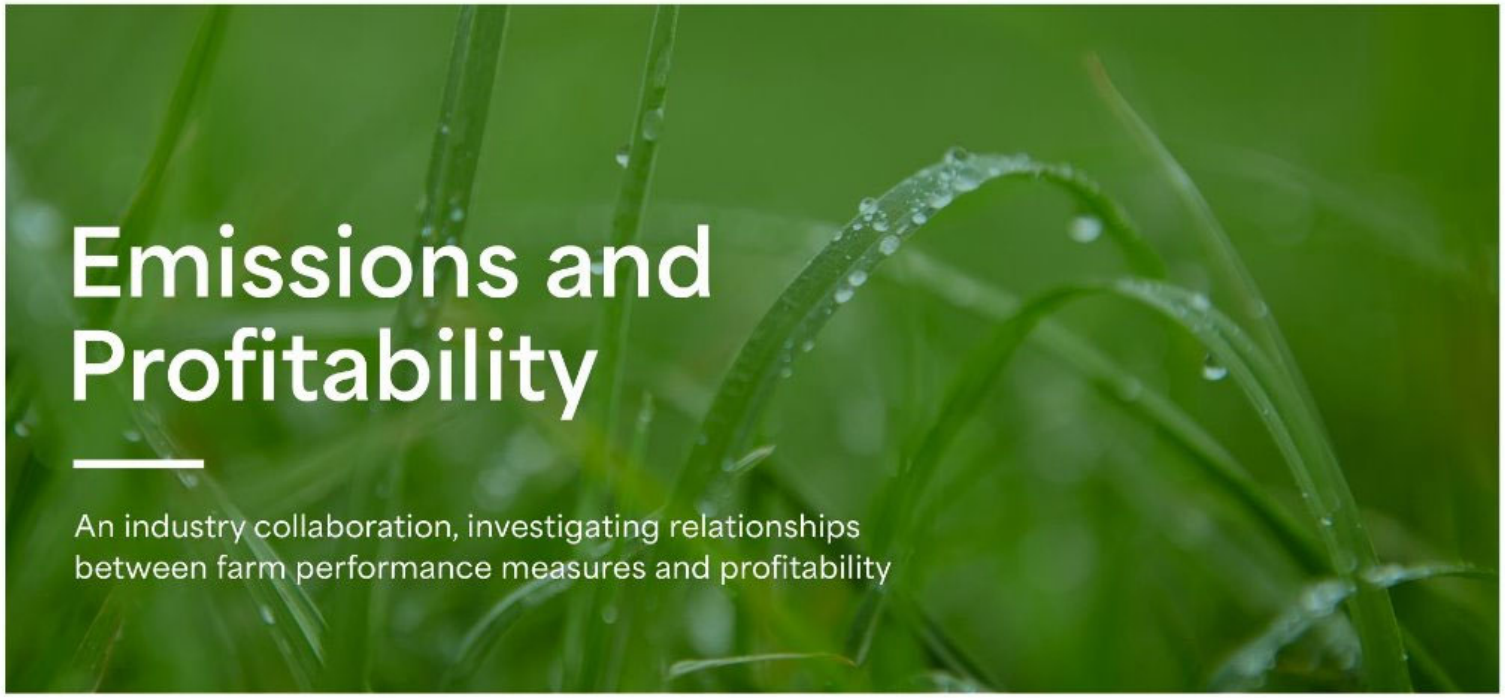
Expenses:	
Labour	Federated Farmers hourly rates used to normalise to a "standard" dairy operation.
	FM - $40.43/hour, 2IC - $31.35/hour, FA - $27.30/hour. This is to reflect actual hours worked given roster, flexible milking components and LU contracts.
Animal Health	Additional spend within LUDF due to Johnes Testing, BVD and BCS. Calf rearing has now been removed and put into Feed.
Breeding	100% AI - sexed semen used, beef semen used, heifer synch and additional pregnancy testing. Removed calf DNA and tags.
Grazing - Winter	All stock wintered off farm
Lease Block / Youngstock Grazing	Youngstock grazed on support blocks owned and leased by LU. Grazing fee now charged.
Calf Rearing now located in Feed	$337/calf reared this includes milk powder, concentrates, bedding, dehorning, tags, animal health and DNA testing of all dairy heifers
Fertiliser	Milking platform only
Regrassing	16 ha being regrassed and 8 ha equivalent of repair (stitching)
Vehicle Expenses	Includes tractor, ute, 4 wheeler, side by side and two 2-wheelers
R&M	Ageing dairy - 24 year old plant
Administration	Insurance has now been included in the farm budget

2025/26 Budget with 2024/25 Actuals:

LUDF 2024/25 Actuals					LUDF 2025/26 Budget					
257,815 $/kg MS	160 $/ha	560 $/cow	2024/25 $	Description	2025/26 $	Bud vs 24/25 Variance	265,633 $/kg MS	160 $/ha	545 $/cow	Notes
				Income						
$0.03	$49	$14	7,809	Sales - Bobby Calves	6,969	-840	$0.03	$44	$13	
$0.09	$144	$41	23,004	Sales - R2 Heifers	5,000	-18,004	$0.02	$31	$9	6% MT rate
				Sales - Bulls						
$0.39	$630	$180	100,859	Sales - Cows	48,750	-52,109	$0.18	$305	$89	Minimal culls - 75
$0.19	$306	$87	48,908	Sales - Surplus heifer calves	26,400	-22,508	$0.10	$165	$48	Sell surplus - retain 125
$0.12	$189	$54	30,268	Sales - Beef calf Sales	62,500	32,232	$0.24	$391	$115	125 reared vs 60
$0.82	**$1,318**	**$377**	**210,848**	**Total Stock Sales**	**149,619**	**-61,229**	**$0.56**	**$935**	**$275**	
$10.00	$16,113	$4,604	2,578,150	Sales - Milk Solids Current Season	2,656,330	78,180	$10.00	$16,602	$4,874	Increased MS - hybrid
				Sales - Co-operative Difference			$0.00	$0	$0	
				Sales - Feed, Silage, Other Crops			$0.00	$0	$0	
				Income - Other			$0.00	$0	$0	
$10.82	**$17,431**	**$4,980**	**2,788,998**	**TOTAL REVENUE**	**2,805,949**	**16,951**	**$10.56**	**$17,537**	**$5,149**	
				Expenses						
$1.06	$1,703	$487	272,540	Labour - Perm & Fixed Term	279,838	-7,298	$1.05	$1,749	$513	Change in methodology
$0.04	$57	$16	9,179	Other labour: ACC, Super, H&S, Clothing	12,593	-3,414	$0.05	$79	$23	
$1.09	**$1,761**	**$503**	**281,719**	**Total Labour Expenses**	**292,430**	**-10,711**	**$1.10**	**$1,828**	**$537**	
$0.36	$588	$168	94,099	Animal Health	63,316	30,783	$0.24	$396	$116	Removed calf rearing exp
$0.28	$455	$130	72,756	Breeding	55,988	16,768	$0.21	$350	$103	Removed calf rearing exp
$0.01	$24	$7	3,773	Dairy Shed Operating Expenses	10,234	-6,461	$0.04	$64	$19	Had stock on hand
$0.12	$195	$56	31,251	Electricity - Other	35,000	-3,749	$0.13	$219	$64	
$0.20	$319	$91	51,031	Electricity - Irrigation	70,000	-18,969	$0.26	$438	$128	
$0.51	$826	$236	132,080	Feed Made/Purchased	115,800	16,280	$0.44	$724	$212	
$0.70	$1,125	$321	179,926	Grazing - Winter	193,644	-13,718	$0.73	$1,210	$355	
$0.05	$76	$22	12,105	Freight - Livestock	8,041	4,064	$0.03	$50	$15	
$0.30	$483	$138	77,329	Youngstock Grazing	91,296	-13,967	$0.34	$571	$168	Increase due to support block
$0.25	$399	$114	63,858	Calf Rearing	100,431	-36,573	$0.38	$628	$184	Now includes all rearing costs
$0.29	$473	$135	75,622	Fertiliser - Nitrogen	46,295	29,327	$0.17	$289	$85	Removed lease block
$0.13	$210	$60	33,566	Fertiliser - Other	28,685	4,881	$0.11	$179	$53	Removed lease block
$0.07	$119	$34	19,052	Fertiliser - Spreading	15,487	3,565	$0.06	$97	$28	Removed lease block
$0.03	$48	$14	7,675	Seed	11,800	-4,125	$0.04	$74	$22	16 ha regrassed 8 ha stitched
$0.15	$239	$68	38,228	Contractors - Regrassing	23,520	14,708	$0.09	$147	$43	16 ha regrassed 8 ha stitched
$0.00	$8	$2	1,200	Weed & Pest Control	2,000	-800	$0.01	$13	$4	
$0.08	$124	$35	19,807	Vehicle Expenses	18,160	1,647	$0.07	$114	$33	
$0.05	$86	$25	13,808	Vehicle - Fuel	20,040	-6,232	$0.08	$125	$37	
$0.09	$149	$42	23,770	R&M - Land & Buildings	40,500	-16,730	$0.15	$253	$74	
$0.11	$175	$50	27,953	R & M - Irrigation	25,000	2,953	$0.09	$156	$46	
$0.25	$405	$116	64,877	R & M - Plant, Machinery, Other	40,000	24,877	$0.15	$250	$73	Ageing plant - above BAU last
$0.01	$22	$6	3,502	R & M - Farm Houses	2,500	1,002	$0.01	$16	$5	
$0.00	$2	$1	399	Freight	500	-101	$0.00	$3	$1	
$0.04	$57	$16	9,165	EcoPond	10,000	-835	$0.04	$63	$18	
$0.03	$50	$14	8,017	Administration inc Insurance	40,938	-32,921	$0.15	$256	$75	Insurance equiv now included
$0.03	$56	$16	9,000	Consultant	12,000	-3,000	$0.05	$75	$22	
$0.05	$74	$21	11,803	Fixed Charges - Rates	12,800	-997	$0.05	$80	$23	
$0.04	$57	$16	9,093	Fixed Charges - Land Rent	0	9,093	$0.00	$0	$0	Grazing now charged
$0.09	$152	$43	24,288	Lease - Technology (Collars)	24,209	79	$0.09	$151	$44	
$0.05	$81	$23	12,891	DairyNZ Levy	14,079	-1,188	$0.05	$88	$26	
$5.48	**$8,835**	**$2,524**	**1,413,643**	**TOTAL FARM WORKING EXPENSES**	**1,424,693**	**-11,050**	**$5.36**	**$8,904**	**$2,614**	
$5.33	**$8,596**	**$2,456**	**1,375,355**	**CONTRIBUTION PROFIT**	**1,381,255**	**5,900**	**$5.20**	**$8,633**	**$2,534**	
$0.08	$123	$35	19,600	*Less* East Block Adj - Support block	0	-19,600	$0.00	$0	$0	Grazing now charged
$5.56	**$8,958**	**$2,559**	**1,433,243**	**Total Operating Expenses inc East Block**	**1,424,693**	**8,550**	**$5.36**	**$8,904**	**$2,614**	
				Financial Ratios						
$10.00	$16,113	$4,604	$2,578,150	Milk Gross income	$2,656,330	$78,180	$10.00	$16,602	$4,874	
$0.82	$1,318	$377	$210,848	Stock Gross income	$149,619	-$61,229	$0.56	$935	$275	
$10.82	$17,431	$4,980	$2,788,998	Total Gross income	$2,805,949	$16,951	$10.56	$17,537	$5,149	
$5.56	$8,958	$2,559	$1,433,243	*Less* Farm Operating Expenditure	$1,424,693	$8,550	$5.36	$8,904	$2,614	
$5.26	**$8,473**	**$2,421**	**$1,355,755**	**EBIT**	**$1,381,255**	**$25,500**	**$5.20**	**$8,633**	**$2,534**	

Emissions and profitability project

https://www.dairynz.co.nz/research/science-projects/emissions-and-profitability/



Why did we do this study?

Fonterra, DairyNZ (DairyBase) and LIC worked together to create an anonymous dataset of unprecedented scale to get a deeper understanding of the relationships between physical and financial performance

Customer driven aim to reduce GHG emissions ($kgCO_2$-eq per unit product)

Now being delivered to farmers via incentives
This metric is important because it is the basis for comparing different sources of milk during procurement

However, there are also other goals that must be considered

Total GHG from biological emissions (domestic goals)
Profit
Purchased Nitrogen Surplus

Pasture-based farm systems are complex and dynamic and therefore there is a risk that the pursuit of a single goal will come at the expense of others if not carefully considered

Opportunity to investigate these relationships with on-farm data

Important Context

1

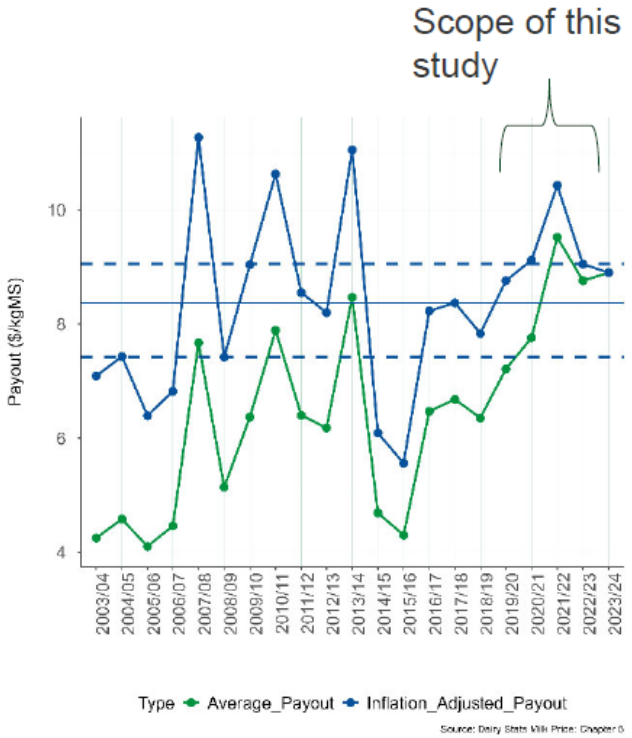
Farm data is informative, but not a controlled experiment:

- **Describes 'what is' (across farms), not necessarily what each farmer could do.**
- Describes relationships and associations, but cannot assume that changing some variable (e.g. SR) by some amount will lead to a certain change in another variable (e.g. MS/ha).
- Farmers change multiple aspects of their farm system at the same time, with knowledge about their farm that we do not have (e.g. pasture potential).

2

Scope of the study

- The 4 years of the study were higher milk prices and high-cost inflation (higher milk prices typically increase returns to higher feeding levels).
- Last 3-4 years were not consistently high or low for pasture harvest.
- Waikato and Canterbury chosen as example regions due to volume of data.
- We have looked at the other regions and found generally similar effects.

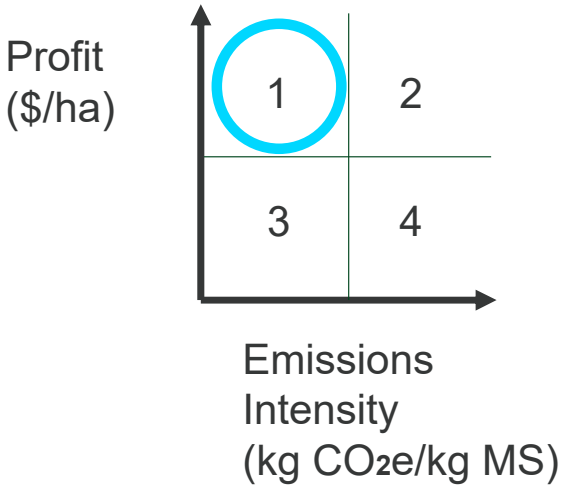


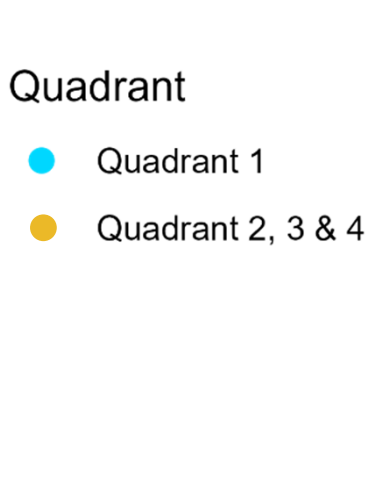
What did we find?

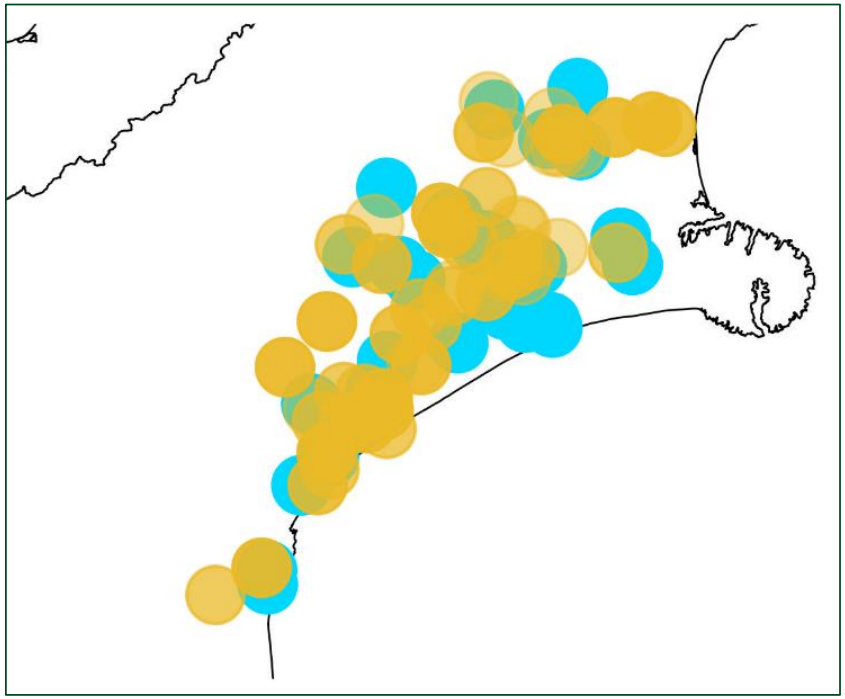
1. High profit can be generated in systems with either low or high emissions intensity
2. The key to high profit and low emission intensity is using low footprint feed to achieve good, but not exceptional, milk production per kg liveweight
3. Low footprint feed is homegrown, using nitrogen efficiently, and supplements with lower embedded CO_2 emissions
4. Aiming for low emissions intensity through increasing production per cow, without focusing on the footprint of the feed, is likely to have undesirable consequences on other key outputs e.g., profitability, total emissions, PNS
5. High profit farms with low emissions intensity can be found anywhere within each region
6. All farms have opportunities to lower emission intensity, without compromising other outputs

High profit & low emissions intensity

High profit farms with low emissions intensity can be found anywhere within each region.







Quadrant Analysis - Canterbury

Within the top 50% for profit (quadrant 1 & 2):

- 12% lower emissions intensity in Q1 farms.
- Mostly due to lower embedded emissions in the supplement (1.8% vs 8.0% of all feed coming from high embedded emissions feeds).
- Partly due to slightly higher proportion of homegrown feed.
- 14% lower Purchased N Surplus in Q1 farms.

	Canterbury	
Variable	Quadrant 1	Quadrant 2
Emissions Intensity ($kgCO_2e/kgMS$)	**9.31**	**10.58**
Absolute Biological Emissions ($kgCO_2e/ha$)	15,628	15,233
PNS (kgN/ha)	**112**	**130**
Operating Profit ($/ha)	5,960	6,369
Total Feed Eaten (tDM/ha)	19.9	19.6
Home Grown Feed Eaten* (tDM/ha)	**16.3**	**15.7**
Stocking Rate (cows/ha)	3.6	3.6
Production (kgMS/cow)	448	441
Production (kgMS/kgLW)	0.96	0.95
Production (kgMS/ha)	1614	1574

*Wintering is not included in home grown feed

Note: Bold implies statistically significant differences

Farm system opportunities

The key farm systems opportunities to increase profitability and reduce emission intensity that align with this study are:

Knowing your data, and where the next opportunity is for your farm.

Driving more homegrown feed eaten per ha, from:

a. Growing more

b. Improving feed quality

c. Utilising more of what is grown.

Optimising cow performance and planning for constant gains in:

a. Reproductive success and calving pattern

b. Cow quality and herd structure

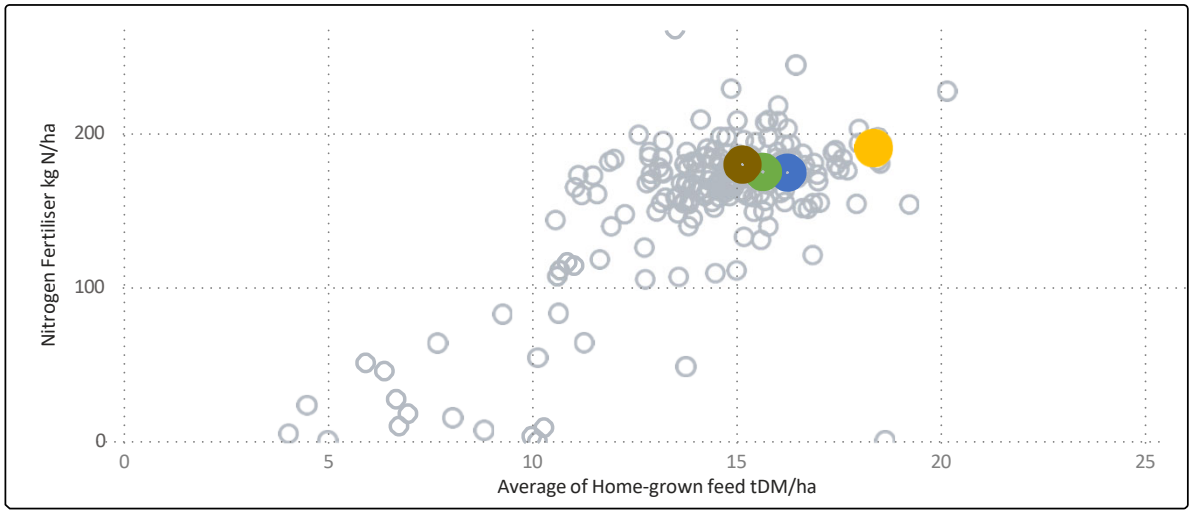
c. Hitting BCS targets and managing cow health.

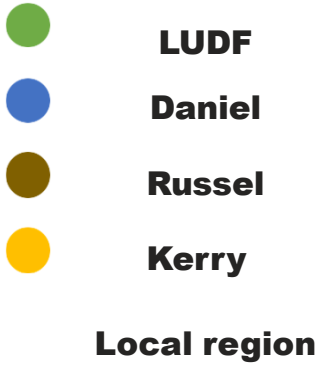
Ensuring any imported feed is used to drive additional farm production, and not leading to substitution, wastage, or system and cost increases.

Farmer Panel – farm data

	Units	Daniel	Kerry	LUDF	Russ
Farm area	Ha	191	148	160	291
Stocking Rate	Cows/ha	3.6	3.9	3.5	3.5
Peak milked cows	Cows at peak milk	680	550	560	1014
Production per ha	kgMS/ha	1,681	1,922	1,611	1,666
Production per cow	kgMS/peak milked cow	472	517	460	479
Production /kgLWT	kgMS/kgLWT peak milked cows	103	112	100	104
Homegrown Feed eaten	tDM/ha	16.4	18.5	15.8	15.3
Imported Supplements per cow	tDM/cow	0.5	0.6	0.4	1.1
Nitrogen Fertiliser	kgN/ha	174	189	174	179
Purchased Nitrogen Surplus	surplus kgN/ha	90	94	86	135
Feed used for milk production	%	58	60	58	59

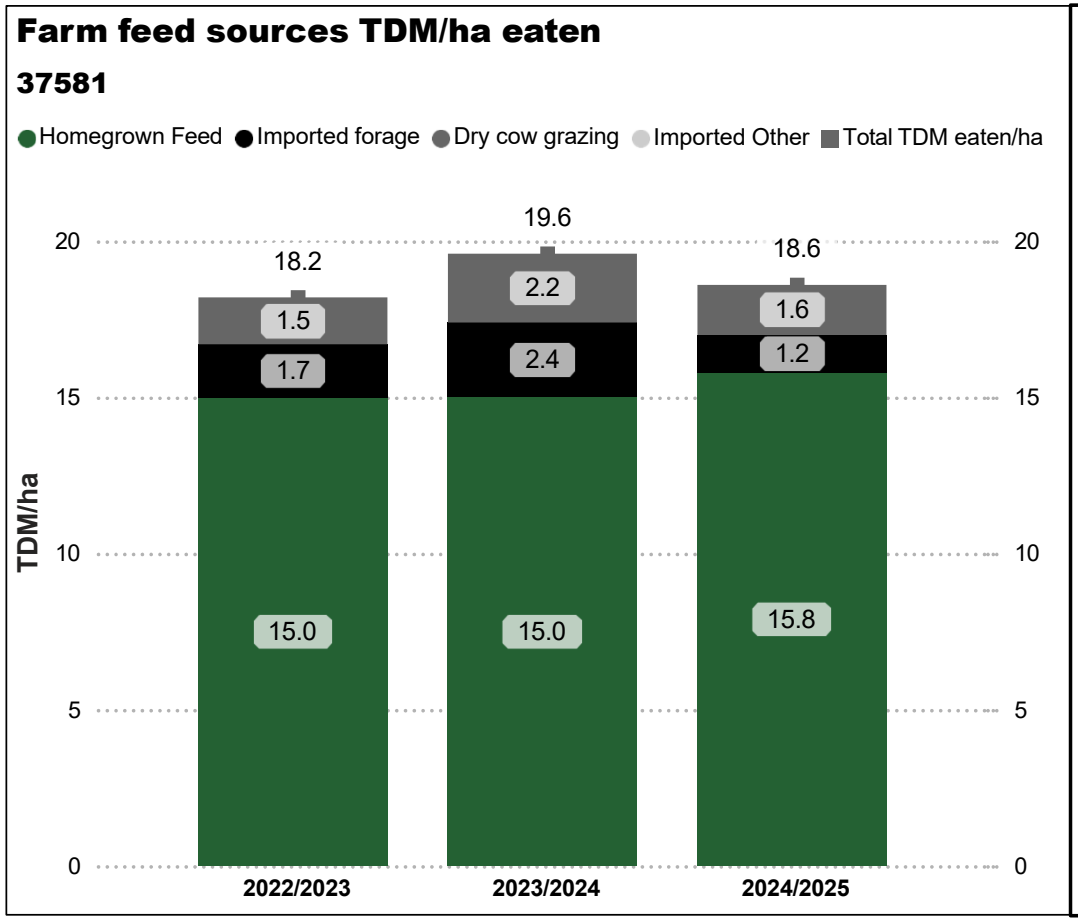
Homegrown Feed – farm data

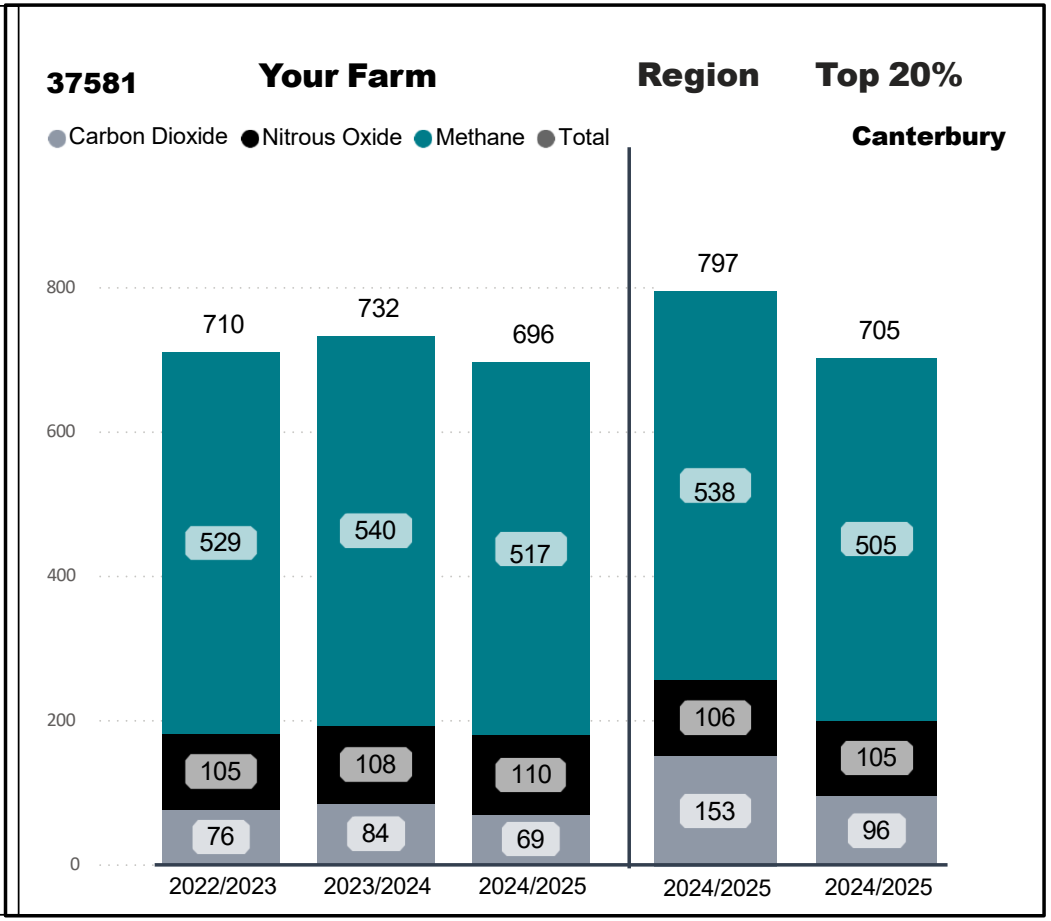




	Daniel	Kerry	LUDF	Russ	Canterbury Average	Canterbury Top 20%
Homegrown feed Eaten (tDM/ha)	15.9	18.9	**15.8**	15.7	15.2	18.8
Nitrogen fertiliser used to grow this homegrown feed (kgN/ha)	165	178	**174**	163	150	164
Imported feed eaten (including winter grazing tDM/ha	4.0	3.4	**2.8**	3.6	3.7	3.4

LUDF Feed, and Emissions data





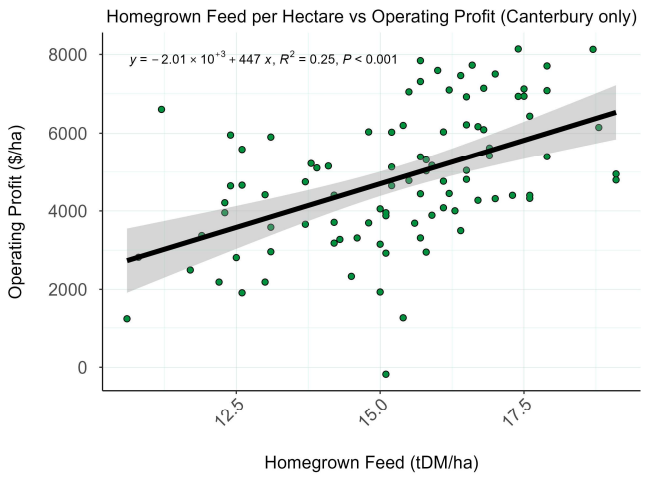
DairyNZ

Maximising Homegrown Feed for Profit, Footprint and Resilience

Canterbury, October 2025

The importance of homegrown feed

- Grazeable forages are central to NZ's dairy competitiveness.
- Focusing on homegrown feed is the most favourable pathway for farmers to reach profit and footprint goals.
- Many regions have falling homegrown feed harvested (pasture and crop eaten)
  - 10-year trend shows Canterbury declining at ~100 kg DM/ha/year (1 t DM/decade)



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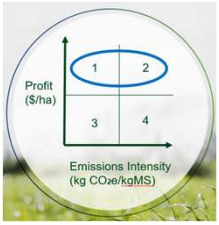
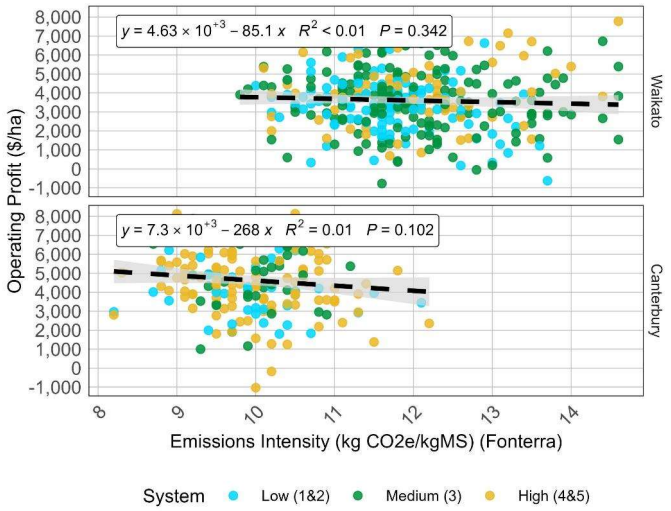
Emissions and Profit

There was no significant relationship between profit and emissions intensity (which includes LCA emissions).

It is possible to be a highly profitable farm with low or high emissions intensity.

High variation in data, individual farm results differ, and other factors are often more important for profit.





Quadrant Analysis - Canterbury

Within the top 50% for profit (quadrant 1 & 2):

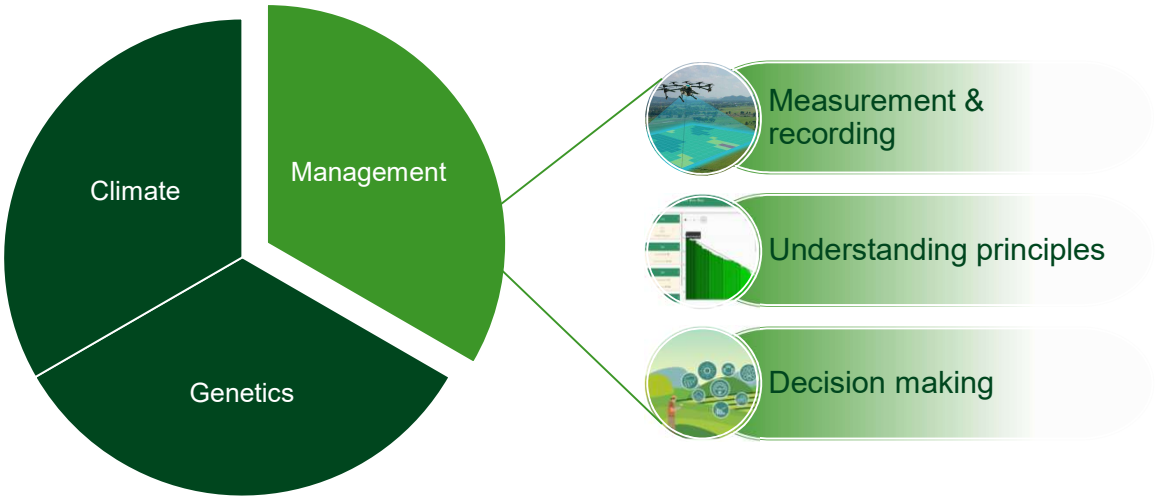
- 12% lower emissions intensity in Q1 farms.
- Mostly due to lower embedded emissions in the supplement (1.8% vs 8.0% of all feed coming from high embedded emissions feeds).
- Partly due to slightly higher proportion of homegrown feed.
- 14% lower Purchased N Surplus in Q1 farms.

	Canterbury	
Variable	Quadrant 1	Quadrant 2
Emissions Intensity ($kgCO_2e/kgMS$)	**9.31**	**10.58**
Absolute Biological Emissions ($kgCO_2e/ha$)	15,628	15,233
PNS (kgN/ha)	**112**	**130**
Operating Profit ($/ha)	5,960	6,369
Total Feed Eaten (tDM/ha)	19.9	19.6
Home Grown Feed Eaten* (tDM/ha)	**16.3**	**15.7**
Stocking Rate (cows/ha)	3.6	3.6
Production (kgMS/cow)	448	441
Production (kgMS/kgLW)	0.96	0.95
Production (kgMS/ha)	1614	1574

*Wintering is not included in home grown feed

Note: Bold implies statistically significant differences

Factors that affect homegrown feed



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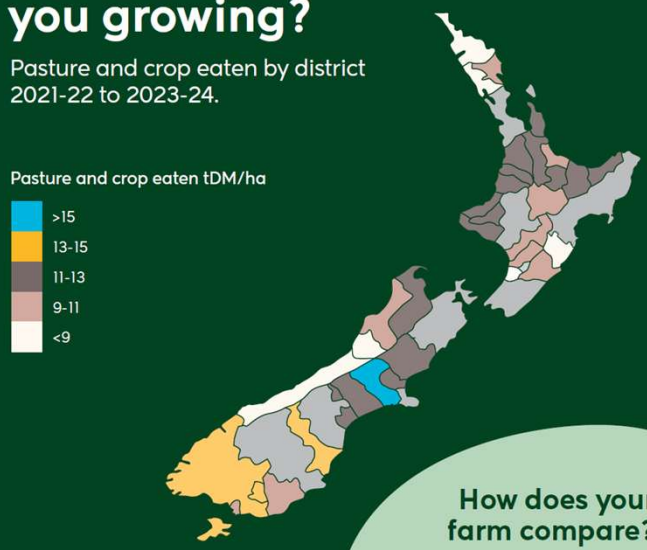
How much feed are you growing?

Pasture and crop eaten by district 2021-22 to 2023-24.



How does your farm compare?

Find out with our **Pasture Potential** tool →

Data sources: DairyBase, Stats NZ, Land Information New Zealand.
Note: Grey areas have insufficient DairyBase observations to display.

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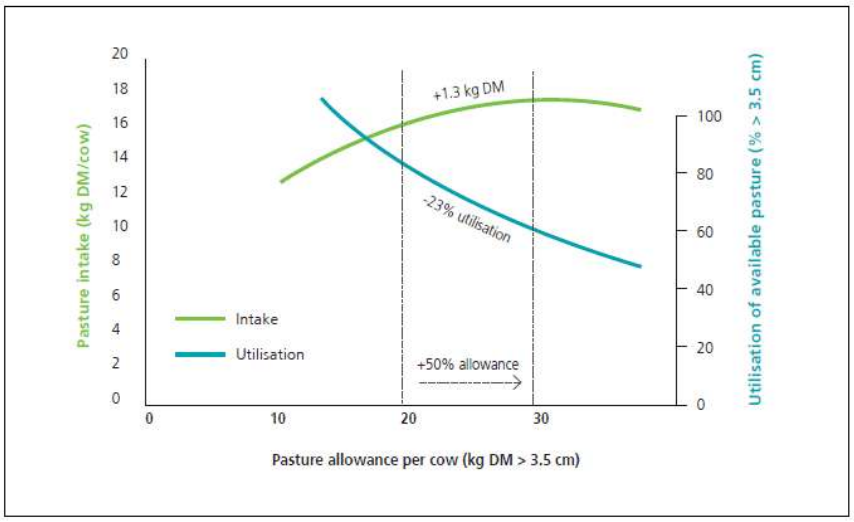
Pasture allocation and utilisation



Pasture allowance increased to target maximum per cow intake → Small increase in per cow intake and milk production → Target grazing residuals not met

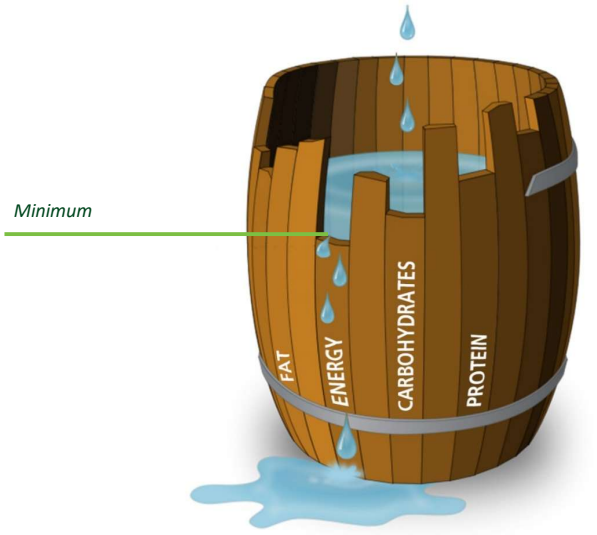
Good quality, high energy feed left in paddock (pasture wastage) → Proportion of stem and dead material in the pasture increases → Residual leaves die and pasture quality is reduced

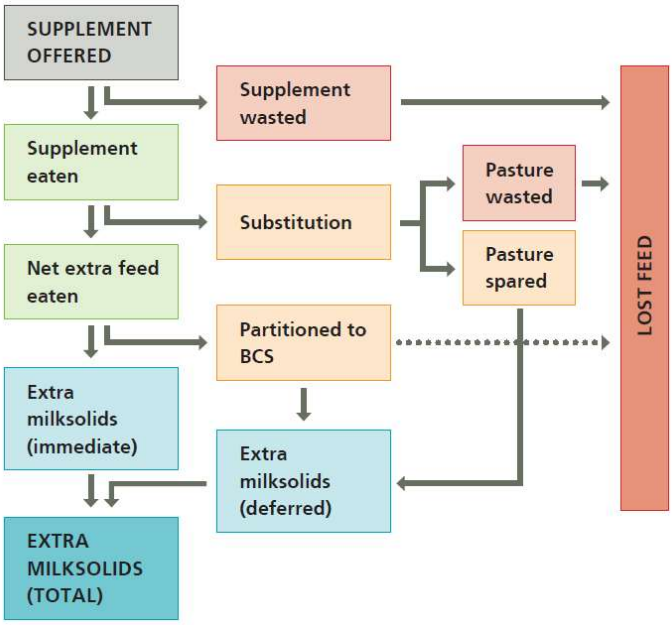
Pasture tillering is reduced and aerial tillering occurs → Pasture quality, cow intake and milksolids production is reduced at the next grazing → Total season pasture and cow performance is compromised

Effect of target- or high-residuals in spring, on summer pasture

	Target	High
ME, MJ	11	10
CP, % DM	18	15
Digestibility, % DM	73	67
NDF, % DM	51	56

How to get a good response to supplements





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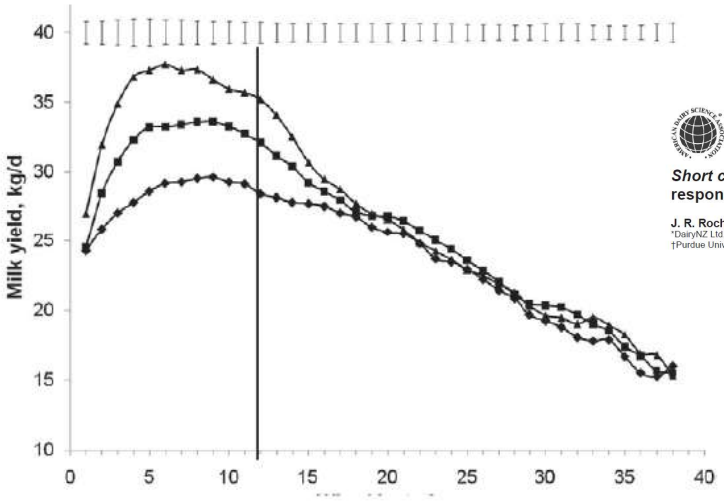
Three weeks deferred response



J. Dairy Sci. 96:2544–2550
http://dx.doi.org/10.3168/jds.2012-4626

Short communication: **Immediate and deferred milk production responses to concentrate supplements in cows grazing fresh pasture**

J. R. Roche,*† J. K. Kay,* A. G. Rius,* T. M. Grala,* A. J. Sheahan,* H. M. White,†‡ and C. V. C. Phyn*
*DairyNZ Ltd., Hamilton, New Zealand 3240
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Supplement Price Calculator Tool

Option Number	1	2	3
Feed Used	**PKE**	**Barley**	**Pasture Silage**
Amount of supplement, kg/day	3	3	3
Margin over feed and feeding expenses, $/t	**$260**	**$140**	**$220**
Price delivered, $/t	$350	$475	$305
Additional MS, g/day	189	206	179
Additional protein, g/day	72	129	68
Additional milk fat, g/day	116	77	110
Milk revenue, $/day	$1.91	$1.95	$1.81
Feed costs, $/day	$1.05	$1.42	$0.92
Non-feed costs, $/day	$0.08	$0.08	$0.23
Post-grazing residual, kg DM/ha (Without proposed supplement)	1400	1400	1400
Post-grazing residual, kg DM/ha (With proposed supplement)	1500	1500	1500

** The price for concentrate feeds is presented per tonne fresh weight. Silage and hay prices are per tonne DM. Delivery charges must be included in the purchase price.*

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Impact of post grazing residuals

Option Number	1	2	3
Feed Used	**PKE**	**Barley**	**Pasture Silage**
Amount of supplement, kg/day	3	3	3
Margin over feed and feeding expenses, $/t	**-$30**	**-$150**	**-$60**
Price delivered, $/t	$350	$475	$305
Additional MS, g/day	101	110	93
Additional protein, g/day	36	73	32
Additional milk fat, g/day	66	38	61
Milk revenue, $/day	$1.03	$1.04	$0.95
Feed costs, $/day	$1.05	$1.42	$0.92
Non-feed costs, $/day	$0.08	$0.08	$0.23
Post-grazing residual, kg DM/ha (Without proposed supplement)	1600	1600	1600
Post-grazing residual, kg DM/ha (With proposed supplement)	1700	1700	1800

** The price for concentrate feeds is presented per tonne fresh weight. Silage and hay prices are per tonne DM. Delivery charges must be included in the purchase price.*

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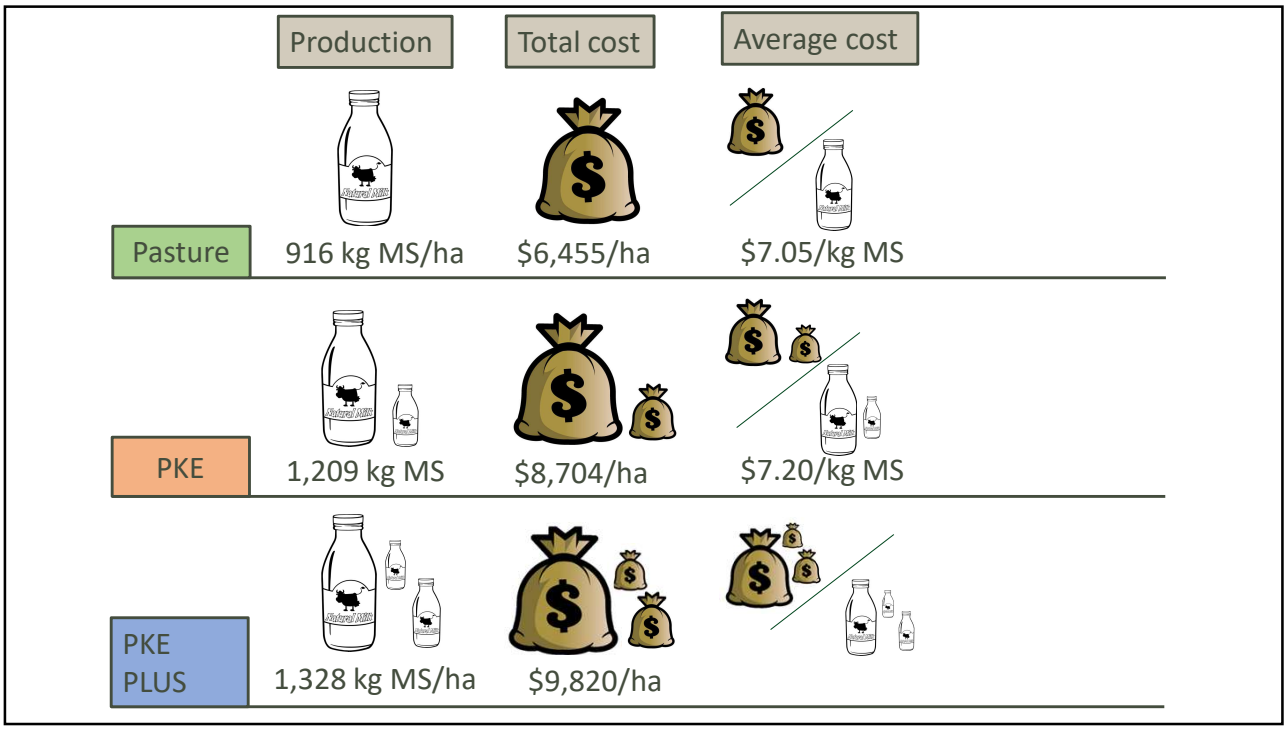
Farm system comparison (3 years)

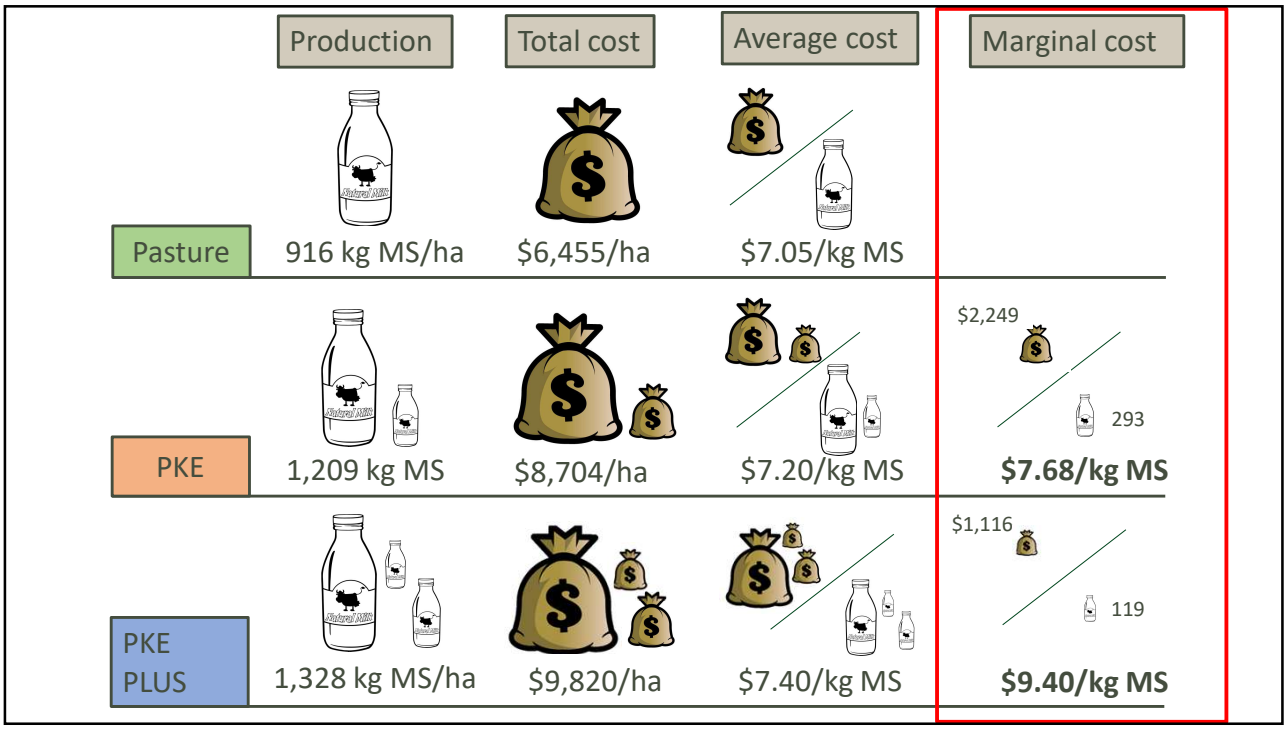
- Pasture Only
  - 2.7cows/ha, no supplement
- PKE Only (disciplined use)
  - 3.1cows/ha, limited supplement
  - PKE fed within FEI limits – 850 kg DM/cow
- PKE Plus (unrestricted use)
  - 3.1cows/ha, unlimited supplement
  - PKE fed first until FEI limiting, then DDG, SBH or pasture silage – 1.2T DM/cow

Supplement	$ Landed
PKE	$380/T
DDGs	$638/T
Silage	$360/T
Soya bean hulls	$458/T

Performance

	Production kg MS/ha	Supplement kg DM/cow	MS Response g MS/kg DM	Pasture grown T DM/ha
Pasture Only	916			12.0
PKE Only	1209	837	113	12.7
PKE Plus	1328	1253	104 (+91)	12.3


Production
Total cost
Average cost
Pasture
916 kg MS/ha
$6,455/ha
$7.05/kg MS
PKE
1,209 kg MS
$8,704/ha
$7.20/kg MS
PKE PLUS
1,328 kg MS/ha
$9,820/ha


Production
Total cost
Average cost
Marginal cost
Pasture
916 kg MS/ha
$6,455/ha
$7.05/kg MS
PKE
1,209 kg MS
$8,704/ha
$7.20/kg MS
$2,249
293
$7.68/kg MS
PKE PLUS
1,328 kg MS/ha
$9,820/ha
$7.40/kg MS
$1,116
119
$9.40/kg MS

Profit is more sensitive to milk response than supplement price

MS Response gMS/kgDM	50	75	100	125
Profit $/ha	$1,801	$2,421	$3,042	$3,662

$620/ha for every 25g/kgDM extra milk response

PKE Price $/t	$500	$400	$300	$200
Profit $/ha	$3,066	$3,340	$3,614	$3,887

$274/ha for every $100/t drop in PKE price

Farmer Survey: Cow Wearables & Research Needs

LUDF Current overview of the Herd

Our National Breeding Objective (NBO) in New Zealand is to breed dairy cows that efficiently convert feed into profit. Cows and bulls are ranked on their ability to meet this objective using the index known as Breeding Worth (BW).

We use BVs to define superiority or inferiority for a particular trait, with respect to breeding outcomes.

It we assess the LUDF direction of breeding over the past 15+ years (below graph 1), we can see that the genetic potential of the herd shows a strong direction of breeding towards increased milk solids (fat & protein) and the maintenance of mature live weight of 490-510 kgs.

Graph 1

Kg MS Production Efficiency

$$\frac{A\text{ (fat)} + B\text{ (protein)} - c\text{ (volume)}}{\text{Live weight}}$$

This formula continues to focus the attention on the efficient utilisation of feed within the dairy system.

The following tables exhibit how this focus on breeding efficient cows resonates in the LUDF herd. Data used in these views includes only the group of 292 x MA (4-8 YO) cows, that have milked for a minimum of 120 days in the 2024 season.
Given the nature of quantitative genetics, quartile groups are established for comparison based on determined criteria.

Table 1

Ranks the cows by kg MS production per cow from top to bottom. Then creates 4 groups (quartiles) to compare the average phenotypes and breeding values representative of each group.

Ranked by Milk Solids

213 Avg kgMS difference between top and bottom groups

Quartiles	No. of Animals	Avg. KgMS	Avg. BW	Avg. PW	Avg. LW	Avg. DIM	Avg. Live Wt BV	Avg. Breed F16s	Avg. KgMS/Live
Q1	70	665	171	403	903	252	0.5	9.7	1.33
Q2	73	603	131	239	615	250	1.6	10.1	1.2
Q3	74	549	98	107	384	246	-4.6	9.6	1.11
Q4	75	452	82	-9	35	233	-3	9.4	0.91
		567	121	185	484	245	-1.4	9.7	1.14

When ranked by kg MS/cow the following observations can be made:

- There is 213kgMS between top and bottom groups of cows
- Top cows have $412PW (profit per lactation) more than the bottom group (403 compared to -9), they also have a higher BW.
- There is no significant difference of the live weight BV or breed 16th (Base cow 2015 born 507 kgs).

Table 2

Breeding values (contained in Breeding Worth) are used to reflect the potential to breed animals of high genetic merit.

Production values (contained in Production Worth) reflect the potential of the animal to perform in the dairy herd.

Note: they are two very different indices.

Ranked by BW

200 Avg gBW difference between top and bottom groups

Quartiles	No. of Animals	Avg. KgMS	Avg. BW	Avg. PW	Avg. LW	Avg. DIM	Avg. Live Wt BV	Avg. Breed F16s	Avg. KgMS/Live
Q1	70	611	222	410	769	241	0.1	9.5	1.22
Q2	73	573	144	243	547	244	-5.1	9.7	1.16
Q3	74	556	98	133	410	245	-2.9	9.7	1.12
Q4	75	525	22	-46	201	251	2.2	9.9	1.05
		566	122	185	482	245	-1.4	9.7	1.14

When ranked by Breeding Worth the following observations can be made:

- There is 86 kg MS between top and bottom groups of cows
- Top cows have $200 BW (profit per lactation) more than the bottom group (222 compare to 22), they also have a higher PW.
- The high BW cows are 2.1 kgs lighter in live weight (F9.5 vs F9.9)
- In the LUDF herd in 2024, +$10 BW equates to an increase 4.3kg/kg MS per lactation.

Table 3

Ranked by Live Weight BV

-48 Avg Live Weight BV difference between top and bottom groups

Quartiles	No. of Animals	Avg. KgMS	Avg. BW	Avg. PW	Avg. LW	Avg. DIM	Avg. Live Wt BV	Avg. Breed F16s	Avg. KgMS/Live
Q1	75	551	123	180	445	245	-24.4	8.6	1.16
Q2	74	563	113	167	455	246	-7.7	9.4	1.15
Q3	73	569	127	210	518	244	4.7	9.8	1.13
Q4	70	579	115	166	490	247	23.5	11.1	1.11
		566	120	181	477	246	-1.0	9.7	1.14

When the herd is ranked by cow mature live weight BV, the following observation can be made:

- The highest PW cows ($210 PW) have a liveweight BV of +4.7kg they also have the highest BW

The question being answered here is the relationship between live weight and profitability. The most profitable cows are the most efficient (Highest PW).

LUDF Breeding Outcome 2023 mating plan

The aim of any successful breeding program is to breed the very best bulls to the very best cows and rear only the very best calves. Never more important in this period of dairy where industry pressures (not least rearing costs) demand that every cow milked is the very best.

Table 4 below, describes which cows bred the cohort of 2024 born calves.

Table 4

Dam gBW Split – 2024-born Replacements Reared

Dam Rank	Calves Retained	Avg. Dam gBW	Avg. Sire gBW	Calves BW	Percentage
gBW Q1	36	429.9	545.6	527	44.4%
gBW Q2	31	330.1	533.7	490.7	38.3%
gBW Q3	13	275.2	525.6	472.6	16%
gBW Q4	1	225.1	475.4	485.1	1.2%
Yearlings	23	410.3	549.4	501.8	-

Key messaging to take from this information:

- Only 1 replacement animal was bred from the bottom quarter of the herd (selected on BW)
- 44.4% of calves selected were bred from the top quarter of the herd
- Genetic Gain is cumulative and compounding; the benefit remains and can be built upon.

LUDF Mating Programme 2025:

LUDF Focus on Mating

Mating Checklist

- Body Condition the herd and young stock pre-mating along with weights
- Animal health: pre-mating bloods to check trace element levels
- Metricheck herd
- Heifer synchrony programme
- Non-cyclers examined
- Preferential management - 2nd herd with at risk and young cows
- Record and/or monitor pre mate heats

SELWYN RAKAIA VET SERVICES LTD

P.O.Box 52, Dunsandel. Phone (03) 325-4444, Fax (03) 325-4442

Heifer Modified 5 day CoSynch Program

Farm Name: LUDF **Number of heifers treated:** 129

Note: starting programs on a Monday or Tuesday makes all yardings fall on weekdays
Make sure the AB technician is prepared for the number of heifers to inseminate.

Program Start Date:	Tuesday 07 Oct 2025	Farmer inject 2ml Estroplan IM
	Thursday 09 Oct 2025	**Vet visit** insert CIDR & inject 1ml Gonabreed IM
	Tuesday 14 Oct 2025	Farmer pull CIDR & inject 2ml Estroplan IM
	Wednesday 15 Oct 2025	Farmer inject 2ml Estroplan IM
	Friday 17 Oct 2025	**Inseminate** all animals & inject 1ml Gonabreed IM

Important Points:

All treatments for Cosynch should be given at approximately the same time of day.

DO NOT INJECT ANY ANIMALS THAT HAVE BEEN PREVIOUSLY MATED OR ARE PREGNANT

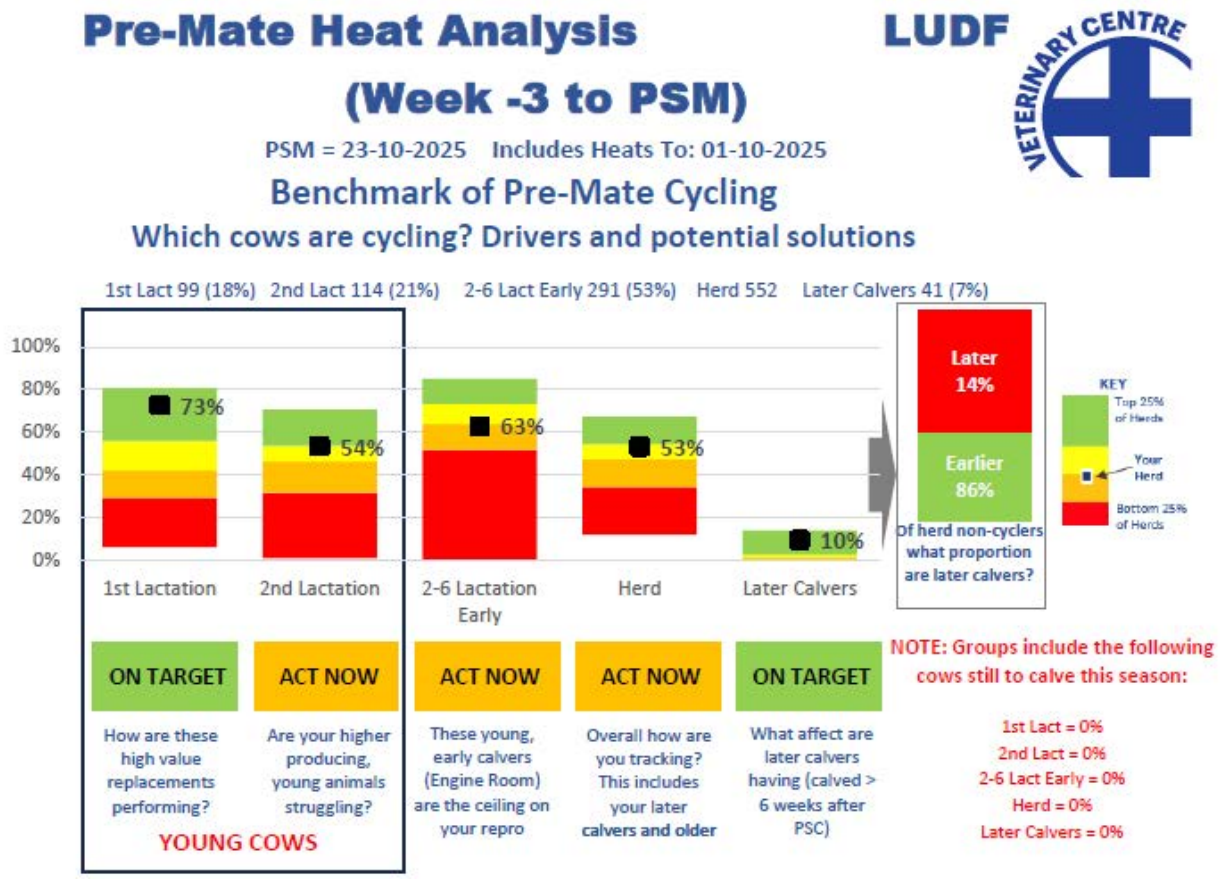
Gonabreed and Estroplan should be stored in the fridge.

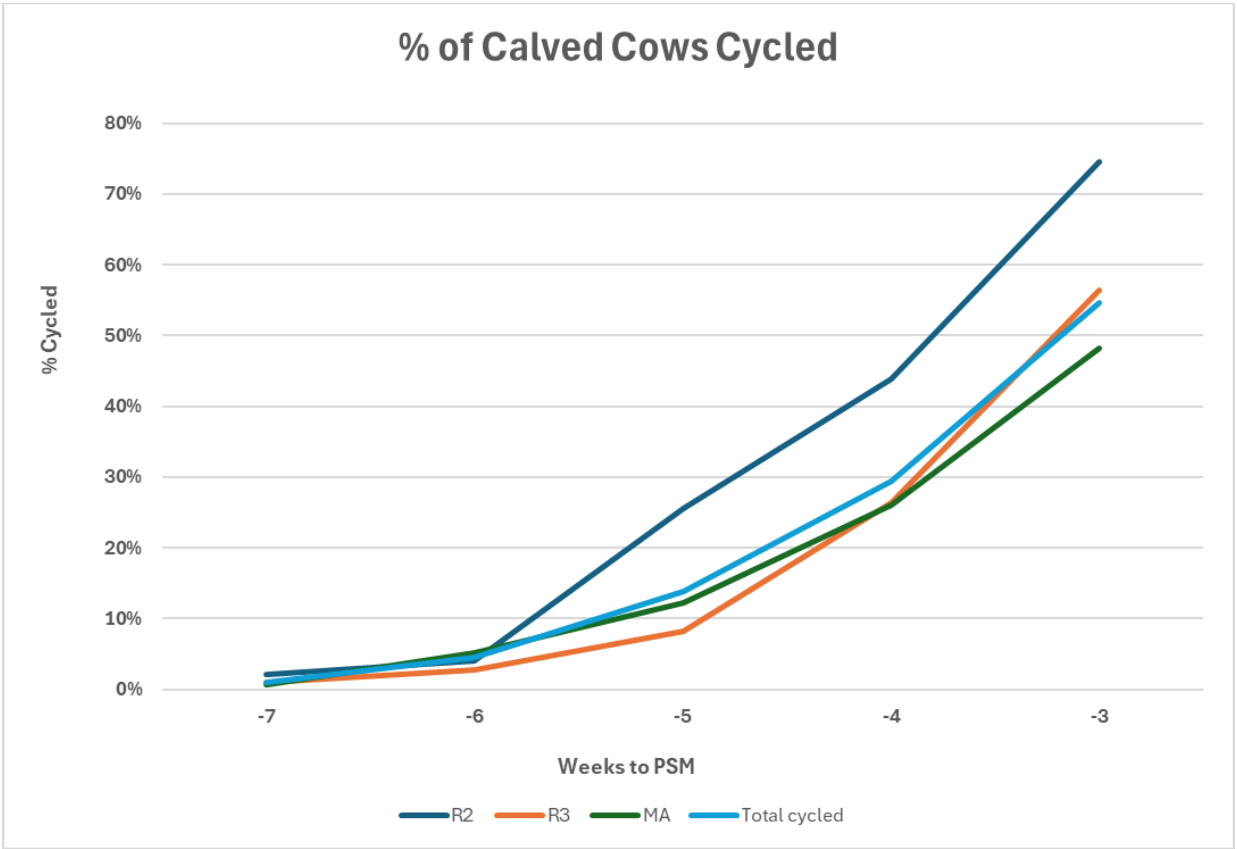
Prostaglandins such as Estroplan should not be handled by anyone who might be pregnant, asthmatic or have respiratory problems. These drugs should be handled with extreme care to avoid skin contact, inhalation, or self injection. Any skin contact should be washed immediately using soap and water. Ideally "Ventolin" should be available if breathing difficulties result from a spill.

Pre-mate heats

Targets for Pre-mate Heats:

- **PSM -10 days** – 75%
- **PSM** - 85%





Thank you for coming along to our Focus Day.

We welcome your feedback and recommendations for future topics of interest,

let us know by emailing office@siddc.org.nz, we would love to hear from you.

Our thanks to our partners: