SIDDC
South Island Dairying Demonstration Centre

FOCUS DAY

LINCOLN UNIVERSITY DAIRY FARM

LUDF
Tomorrow's farming, today

Wednesday 9 October 2024
10.15am – 1.00pm
Parking: entrance off Ellesmere Junction Rd SN37581

LOWDOWN ON LUDF

Peter Hancox & Antoinette Archer

- Season to date: review of winter and calving
- 24/25 season plan
- Preparing for mating
- 23/24 review including insights report
- 23/24 financial results and 24/25 budget

SAVE MONEY, MAKE MONEY, MANAGE MONEY

Tom Norris (ASB) & Glenn Jones (Farmer)

- What's happening in the financial markets and how does this affect me?
- Managing risk and creating resilience
- What are the tools at your disposal
- Governance and it is so important to the bank

GROW MORE GRASS WITH EACH PASS - *optimising your irrigation*

Dan McLaughlin (Waterforce) & Andrew Curtis (Primary Insight)

- Understanding your soil moisture trace. Is it set up correctly and how to use it to start and stop irrigating
- Maximising value from existing systems
- Bucket tests and full performance assessments
- System design and what's new at LUDF
- Irrigation technology

Register on the day
from 10.15am
Light lunch provided

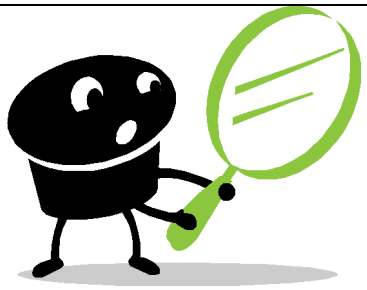
E. office@siddc.org.nz
T. (03) 423-0022

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.

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Save money, make money, manage money

- What's happening in the financial markets and how does this affect me?
- Managing risk and creating resilience
- What are the tools at your disposal
- Governance and why it is so important to the bank

Grow more grass with each pass

- Understanding your soil moisture trace.
  Is it set up correctly and how to use it to start and stop irrigating.
- Maximising value from existing systems
- Bucket tests and full performance assessments
- System design and what's new at LUDF
- Irrigation technology

Contact us: Ph: 03 423 0022 www.siddc.org.nz www.ludf.org.nz **With thanks to our sponsors:**

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agresearch
āta mātai, mātai whetū

SIDDC

Lincoln University Dairy Farm (LUDF) is a demonstration farm developed by the South Island Dairy 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 2024/25 Season:

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

Current farm system:

- 3.5 cows/ha (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 - $1.464M.
- Target production 475 kg MS/cow (100% liveweight in milk production less 6% with 10 in 7 milking).

Current research projects on the farm

Flexible Milking Project

- 10 milkings in 7 days all season – incorporating OAD milking for transition cows (10 days).
- Fourth season implementing a 10 in 7 flexible milking regime.
- Prediction was 6% drop in MS production.
- Last season we achieved a 6.2% drop over our three year TAD average.
- Challenge it to maintain a 6% (or less) drop year on year.
- Profitability aim is to remain the same due to lower costs. Though labour demand, less animal health and shed costs, better cow condition, targeted winter feeding levels on BCS and improved mating results.
- Profitability will be challenged during higher payout years due to drop 6% drop in production.

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.
- To assess composition over time through direct drilling and broadcast 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

- Continue with a focus on our reproductive performance by focusing on:
- Transition cows – ad lib silage for OAD cows for first 10 days of lactation, or until rumination criteria is met.
- Body condition score (BCS) targets for dry off and targeted winter feeding to achieve planned start of mating BCS targets.
- 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.

Lowdown on LUDF

- Season to date: review of winter and calving
- 24/25 season plan
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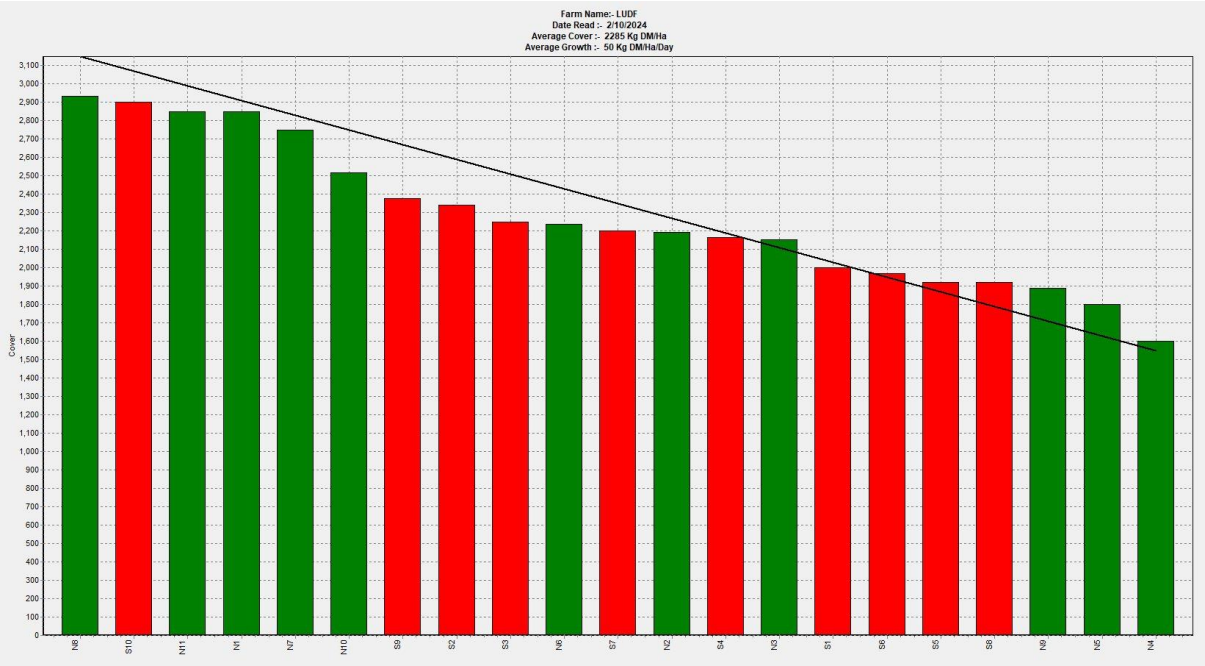
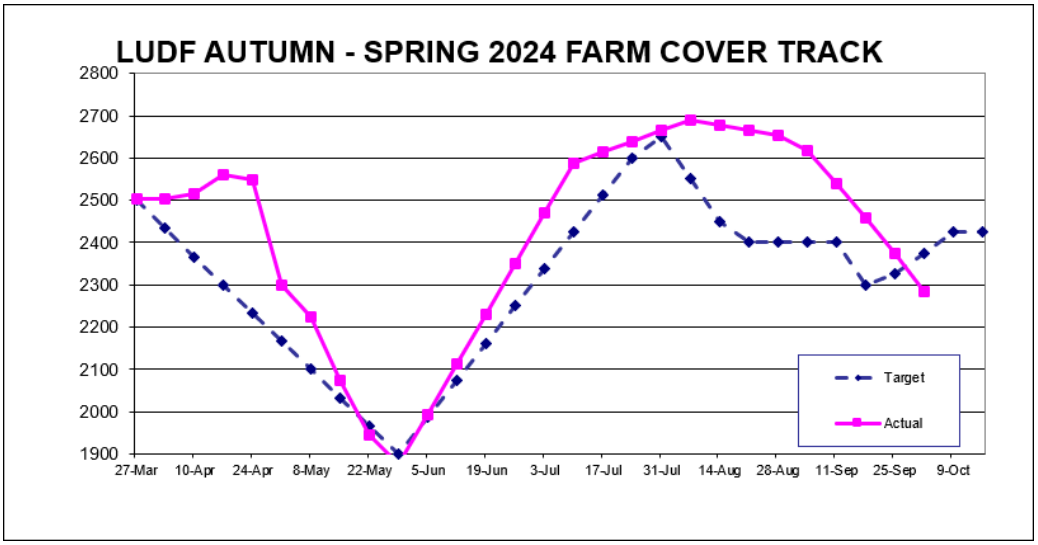
Feed & Pasture

- 1st round finished 21st September (23rd September last year).
- Better utilisation of feed this calving, primarily due to weather conditions (less wet weather events).
- We have fed an average of 2.2 kg DM silage/cow/day which is comparable to last season. We did feed a higher allocation during August which resulted in higher APC's than target, see spring-autumn farm cover tracker. We removed supplement mid-September to reduce APC's. We have now fallen slightly behind target and will add silage until we grow our demand.
- We have completed a full round of Ammo 31 at 80 kg/ha which is 24 kg N/ha.
- We are currently still in a feed demand deficit, with current growth rates of 50 kg DM/ha/day, versus cow demand of 67 kg DM/cow/day at peak numbers.
- We expect to hit balance date in the first or second week of October.

Feed Wedge – 02/10/2024





October Feed Budget & Grazing Rules:

- 564 cows on 160 Ha = 3.5 cows/ha.
- Target allocation = 19.0 kg DM/cow - feed quality high at 12.2 MJ ME/kg DM for 1st round and 12.5 MJ ME/kg DM for 2nd round.
- Residual target = 1,550 kg DM/ha.
- Demand = 67 kg DM/ha.
- Pasture required = demand x round length.

Current round length - 23 day rotation on 160 ha

			Total Diet	19 kgDM			
Post-grazing	1550 kgDM/ha		**Round length**	23 days		**Area**	160 ha
Herd	**Cows**	**Pre-grazing target**	**Area in round**	**kgDM/cow offered**	**Supplement offered –kgDM/cow**	**ha/day**	**m^2/cow /day**
1st Herd	529	3,090	150 ha	19.0	0.0	6.5	123
OAD	20	3,090	6 ha	19.0	0.0	0.2	123
Sick/lame cows	15	3,090	4 ha	19.0	0.0	0.2	123
Total	**564**			**19.0**	**0.0**	**7.0**	

First Round

Lincoln Univsersity Dairy Farm

Sample Date 22 August 2024

	Your sample		
Paddock	**S5**	**S1**	**Average**
MJ ME/kg DM	12.16	12.29	12.23
Dry Matter %	17.20	13.60	15.40
Protein % DM	21.87	21.46	21.66
NDF % DM	44.82	40.52	42.67
ADF % DM	22.56	21.68	22.12
WSC % DM	17.04	19.78	18.41
OM%	91.54	91.14	91.34
Digestibility % (DMD)	80.05	81.31	80.68

Second Round

Lincoln University Dairy Farm

Sample Date 25 September 2024

	Your sample			
Paddock	**S8**	**S4**	**N9**	**Average**
MJ ME/kg DM	12.07	12.62	12.78	12.49
Dry Matter %	16.80	20.60	18.20	18.53
Protein % DM	26.07	22.20	21.31	23.19
NDF % DM	36.91	38.95	38.27	38.04
ADF % DM	19.48	19.58	19.01	19.36
WSC % DM	15.49	22.69	25.13	21.10
OM%	89.56	91.65	92.56	91.26
Digestibility % (DMD)	81.25	83.08	83.27	82.53

Milk Production

Milk Production for the season has started off extremely well. We are currently sitting 11% ahead STD. This is due to an early start with 150 calved by end of July. From mid-August, total cows calved are comparable between this season and last. Per cow performance STD has been strong and are currently sitting at close to 2.13 as of last week.

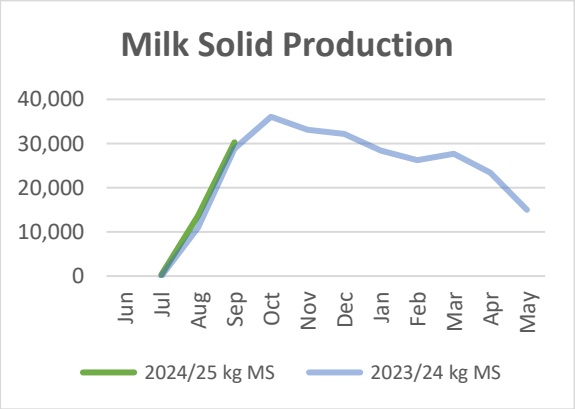
Milk Production to September

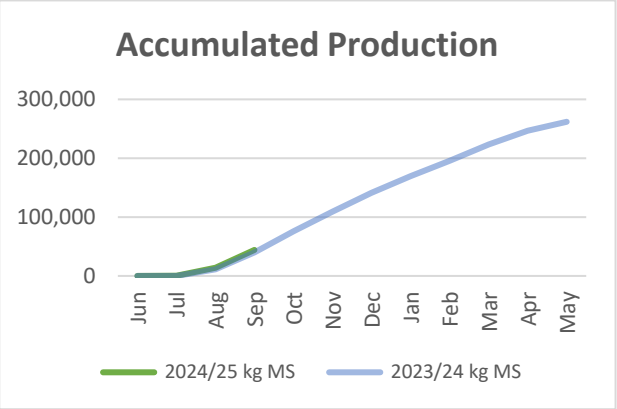
Date	Litres	2024/25 kg MS	Variance	2023/24 kg MS	Total kg MS	kg MS (%)	Avg SCC
September	330,893	30,282.0	5.0% ↑	28,827.1	44,175.0	9.15	109
August	143,217	13,610.9	24.0% ↑	10,979.9	13,893.0	9.50	158
July	2,875	282.3	-		282.0	9.82	148
Total	**476,985**	**44,175**	**11.0% ↑**	**39,807.0**			

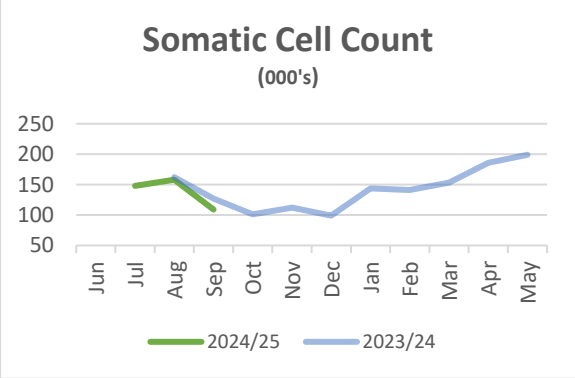
Calving Rates & Per Cow Production

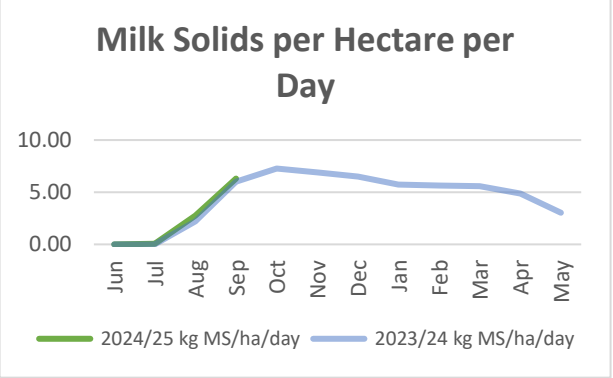
2023/24	2-Aug-23	9-Aug-23	16-Aug-23	23-Aug-23	30-Aug-23	6-Sep-23	13-Sep-23	20-Sep-23	27-Sep-23	4-Oct-23
Cows milking into vat	0	144	261	315	416	473	507	517	534	542
Cows milking NOT into vat	80	29	33	59	34	26	8	14	6	9
Total Cows Milk	**80**	**173**	**294**	**374**	**450**	**499**	**515**	**531**	**540**	**551**
Milk Production per cow (kg MS/cow/day)					1.87	1.81	1.92	1.94	1.99	2.05

2024/25	31-Jul-24	7-Aug-24	14-Aug-24	21-Aug-24	28-Aug-24	4-Sep-24	11-Sep-24	18-Sep-24	25-Sep-24	2-Oct-24
Cows milking into vat	116	139	270	323	394	460	500	521	531	
Cows milking NOT into vat	34	59	36	57	40	32	23	14	15	560
Total cows in milk	**150**	**198**	**306**	**380**	**434**	**492**	**523**	**535**	**546**	**560**
Milk Production per cow (kg MS/cow/day)	1.22	1.21	1.52	1.79	1.78	1.83	1.87	2.03	2.08	#DIV/0!









Regrassing & Cropping

- Paddock S6 (7.5ha) is scheduled to be regrassed in mid to late October. This has been an annual (part of our plantain pure sward strategy) and will be sown with cultivars: Forge (tetraploid hybrid ryegrass),

Kotuku & Ruru (white clover) and Ecotain (plantain).

- Paddock N11 (6.45 ha) will be regrassed in mid-November, also with the above cultivars.

Fertiliser

LUDF's Nitrogen fertiliser strategy is to use a higher rate of N in early September and through to October to get an improved response rate and encourage greater vegetative growth during the seed head phase of pastures, which would in turn drive a higher quality pasture into weeks 5-9 of mating. We have noticed that LUDF has a reduced conception rate during this period, likely due to feed quality as we are all grass at this stage. Last season we did see an improvement and we are interested in seeing if we can repeat the gains we achieved in our reproductive performance.

Time	Rate	Product	kg N/ha
Early September	80	Ammo 31	24
Late September	65	Urea	30
October	65	Urea	30
November	55	N-Protect	25
December	43	N-Protect	20
January	43	N-Protect	20
February	43	Urea	20
March	43	Urea	20
Total kg N/ha			**188**

Stock Reconciliation

Wintered cows	583 cows
Peak milk cows	564 cows expected as at 2/10/2024
Winter losses	2 deaths, 8 involuntary culls, 6 culls – 16 or 2.7%.

Industry loss targets:

2% - great result, low disease, good transition etc.
3% - average / acceptable.
4% - look for disease issues, cows identified as calved?
5%+ - getting too high, may have disease on the farm (Johne's / BVD). Need to survey to confirm what is causing problems.

Calves:

AB Calves	212 – DNA to be completed
Beef Calves to Sell	43

SIDDC has challenged LUDF to reduce our replacement to 15% replacements. This equates to 88 reared post weaning, from our wintered cow numbers. We will sell the balance of dairy heifers and beefs clave post weaning. This strategy is aimed to reduce our cost structure and our greenhouse gas emissions from our system.

2024/25 Feed Budget

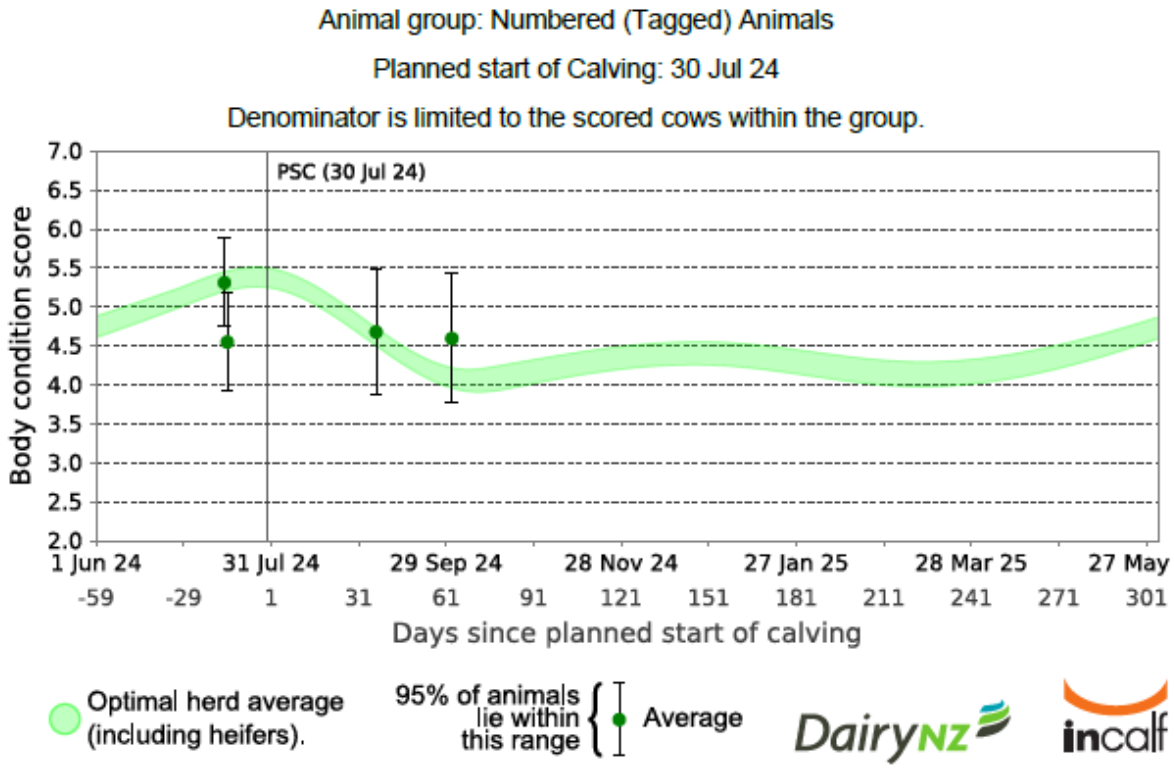
Notes to feed budget:

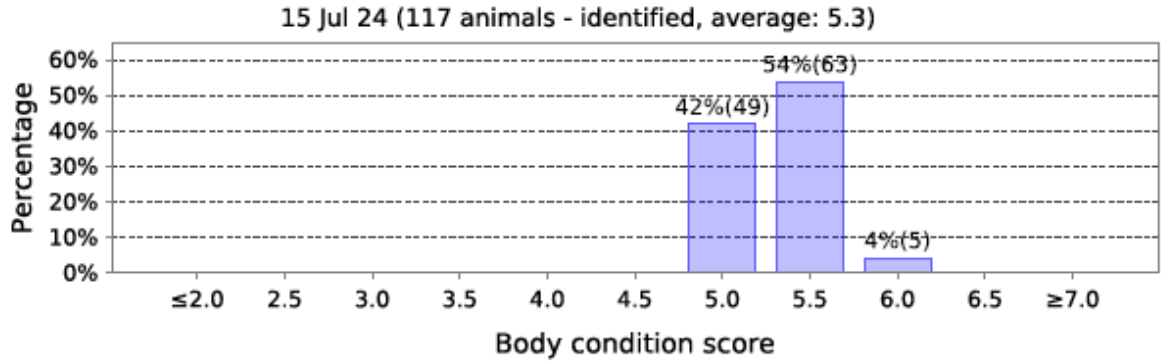
- Assumption of 80% silage utilisation. Total silage demand is 196t DM which equates to 349 kg DM/cow (milkers).
- Assumption of 90% pasture utilisation, which takes total supplement to 215t DM, which equates to 385 kg DM/cow (milkers).
- Dry cow silage requirement is 12.5t DM which equates a total supplement requirement of 227.5 t DM, which equates to 406 kg DM/cow (total).
- We have budgeted 322t of supplement for milkers and dry cows in our financial budget.

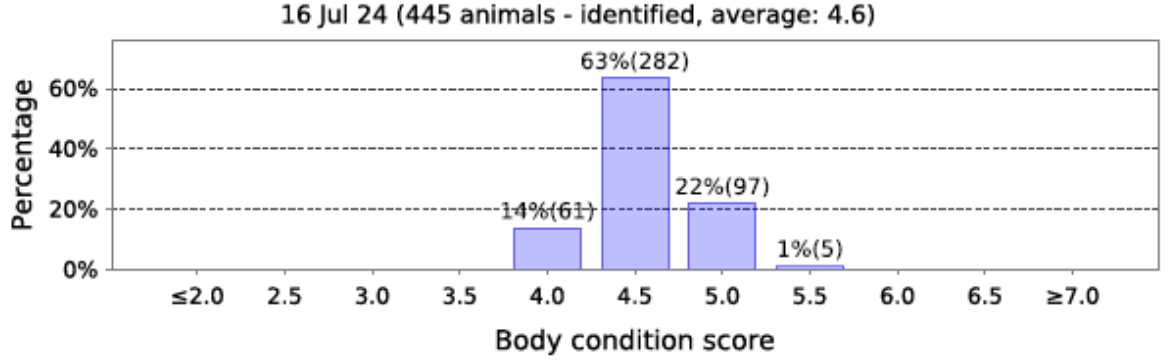
FarmRight
Investing Sustainably

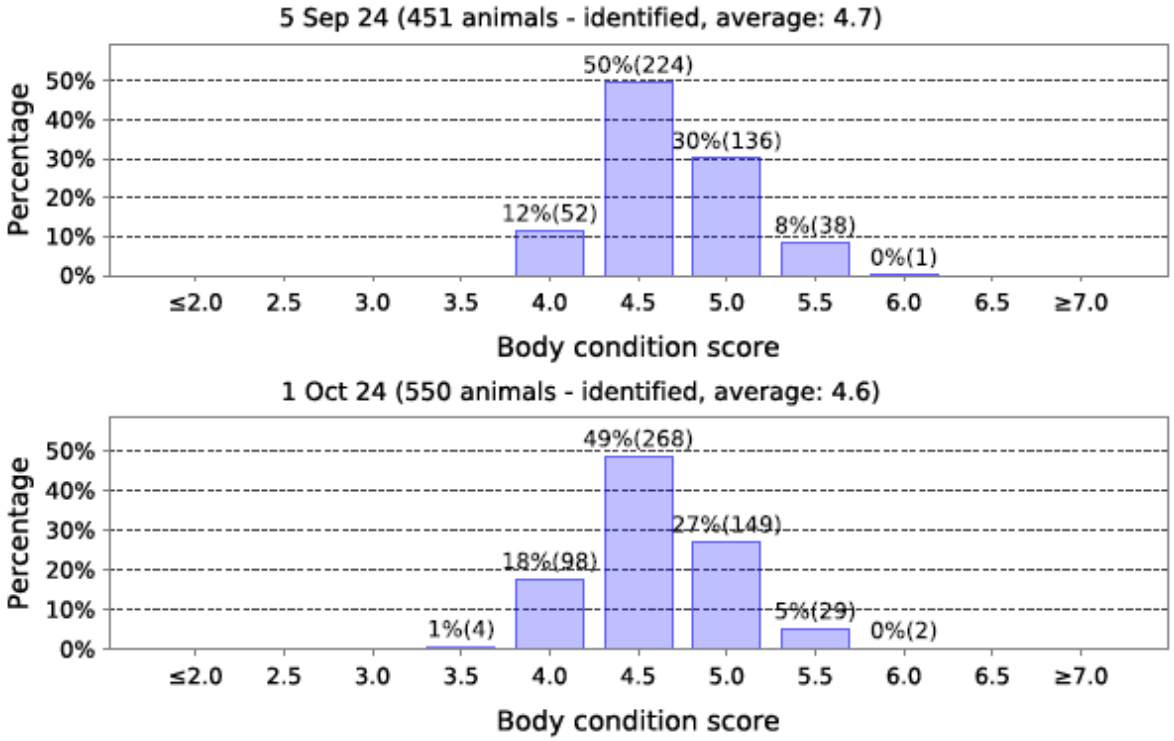
LUDF													
Start date	1-Jun-24	Period start	**1-Jun**	**1-Jul**	**1-Aug**	**1-Sep**	**1-Oct**	**1-Nov**	**1-Dec**	**1-Jan**	**1-Feb**	**1-Mar**	**1-Apr**	**1-May**
Total days		365	30	31	31	30	31	30	31	31	28	31	30	31
Effective grazeable area (ha)		**160.0**	160.0	160.0	160.0	160.0	152.5	145.0	152.5	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**	**162**	**331**	**556**	**566**	**564**	**564**	**564**	**564**	**559**	**559**	**480**
Cows Calving (No. in each period)				106	434	40								
Cows dried off /**culled** (last day of period)				2	2	*10*	*2*				5		79	*480*
Average milking cows				53	321	556	566	564	564	564	564	559	559	480
Intake dm/day		17,368		15.0	17.0	17.5	18.0	18.0	17.5	17.5	17.0	16.5	16.0	16.0
Total feed demand /ha		17,756	0	5	34	61	67	70	65	62	60	58	56	48
Stocking rate (cows equiv./ha)			0.0	1.0	2.1	3.5	3.7	3.9	3.7	3.5	3.5	3.5	3.5	3.0
			kgs dm/ha/day											
Pasture growth		17,840	15	15	16	42	68	79	75	73	63	58	52	33
Total milking cow supplement		**289 kgDM/cow**												
Total supplement		**163,112 kgDM**					Supplements fed per day in each period							
Milking cow supplement		**Intake/cow/day**		2.5	5.0	3.5						1.0	2.0	
Baleage	bales	544	0.0	0.4	5.4	6.5	0.0	0.0	0.0	0.0	0.0	1.9	3.7	0
	kgDM/day fed	163,112	0	133	1,605	1,946	0	0	0	0	0	559	1,118	0
Total feed supply kgDM/ha/day		**18,859**	15	15	26	54	68	79	75	73	63	61	59	33
Feed utilisation			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Area removed for silage /baleage								20	30	30				
Total silage/baleage made (kgDM)		**130,000**	0	0	0	0	0	34,000	51,000	45,000	0	0	0	0
Silage/baleage made (kgDM/ha/month)			0	0	0	0	0	234	334	281	0	0	0	0
Total silage made/ha/day			0	0	0	0	0	8	11	9	0	0	0	0
Pasture cover														
Cover change kgDM/ha/day		254	15.0	10.5	-8.1	-6.7	1.2	1.2	-0.5	2.2	2.7	3.6	2.9	-15.2
Predicted closing pasture covers		**1,900**	**2,350**	**2,674**	**2,424**	**2,224**	**2,261**	**2,297**	**2,281**	**2,350**	**2,425**	**2,538**	**2,625**	**2,154**

Body Condition Score



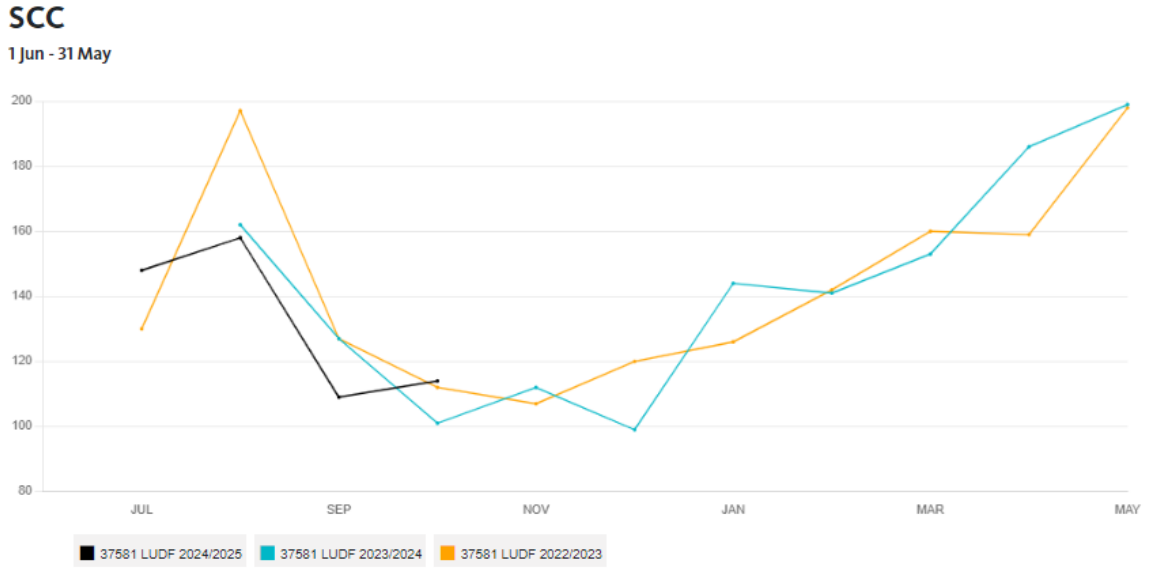






Animal Health

- This season has been a fairly good season, with low incidence of metabolics and RFM's, however we have had an increase in mastitis.
- Last season, at dry off, we did culture 23 of our high SCC cows and did find Staph aureus. This did change our dry off strategy which resulted in using longer active dry cow therapy on high SCC cows and supported with teat seal on the balance of our herd.
- We have been monitoring our SCC and do strip every cow over calving to help identify clinical cases.



- Premating blood results:
- Copper and selenium look good.
- Some B12's were low, therefore will administer B12 prior to mating.
- Pooled iodine was also low, however this only indicated intake and not storage, however we will increase potassium iodine in the dosatron to ensure this isn't a limited factor through mating.

Animal ID	Serum B12 * pmol/L	Serum Copper µmol/L	Serum Selenium nmol/L	Inorganic Iodine * µg/L
164	97	11.0	661	
474	71 L	11.0	806	
45	64 L	9.0	879	
4011	100	8.0	838	
142	83	10.0	844	
204	65 L	10.0	774	
356	113	8.0	530	
69	92	10.0	697	
332	124	10.0	946	
POOLED SERUM				33.0 L
Mean	90	9.7	775	33.0
Adequate Range	83 - 368	7.0 - 20.0	140 - 2000	45.0 - 220.0
Regional Trend	L 15% A 83% H 2%	L 1% A 98% H <1%	L 1% A 98% H 1%	

Mating

LUDF has remarkedly improved their not in calf rate (NICR) form a historical 18-20%, to 9% and 7% consecutively, for the last two season. The keys changes that have been made are:

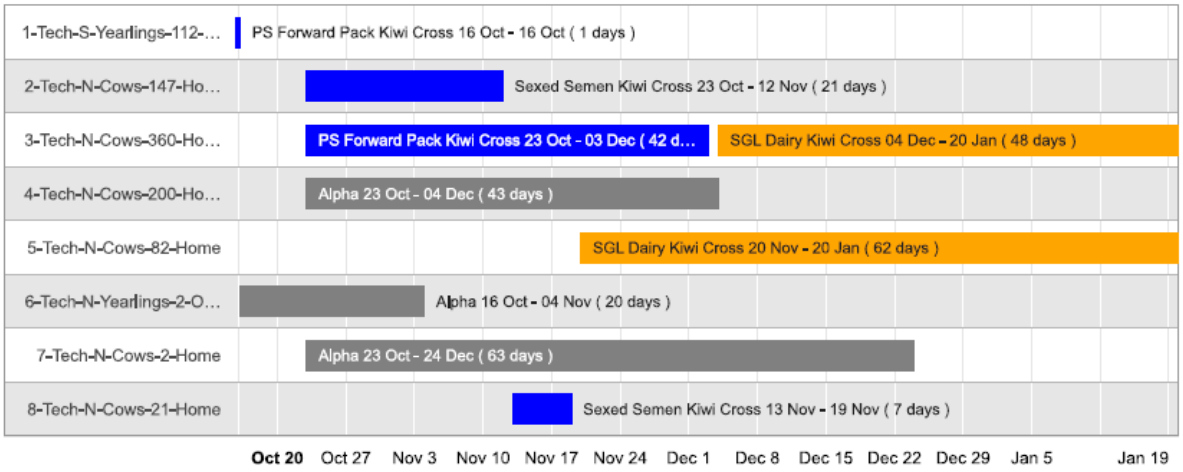
- Mating length of 12 weeks, with the use of short gestation semen. This results in a calving spread of 10 weeks.
- Use of technology to identify heats and monitor cow activity, or inactivity.
- Phantom scanning – with data we have implemented early scanning to confirm if cows held to inseminations, for those that have not, we intervene with progesterone.
- We have calculated the improvement in our NICR of 9% (after embryo losses).
- 4.2% improvement of in calf rate was achieved from extending mating length.
- 3.4% improvement of in calf rate was achieved from use of data and intervention.
- 1.4% improvement of in calf rate was achieved to improved performance like improved BCS, transition and energy levels over mating.

2024 Mating Plan

This year's plans is a 12 week AI period.

This season we will use:

- 4 weeks of sexed semen KX to top 30% of herd (increased by 1 week from last season).
- 6 weeks of forward pack KX to middle 30% of herd.
- 6 weeks of beef to the bottom 40% of herd.
- Short gestation semen from week 6 to week 12.



Heifer Mating Programme

Due to lower results in sexed semen in our heifers, we have decided to pause the sexed semen programme and AI to forward back only for 1 day and follow up with bulls for 9 weeks.

Early Scanning, Phantom Cows & Prostaglandin

Early scanning was and will be completed every 10-14 days through December to early January. Final herd scan to be 5 weeks after mating, early February. Our results have indicated that an additional 3.4% cows were in calf with combining the collar and short gestation technologies. LUDF adopts

The data from the collar technology was used to identify “Phantom Cows”. These are cows that have cycled, have been inseminated and failed to get in calf, and then failed to cycle again. These animals will show up on the collar information pages as in calf. These cows identified with the collar technology, are scanned by the vet to confirm if they are pregnant or not. Scanning takes place 28-35 days after the mating. Cows that are not pregnant are administered a PG dose and blanket inseminated 3 days later.

A total of 42 cows were given a PG based on identifying them as phantom cows with use of collar technology, 4 cows received 2 treatments after not responding to their first treatment. Cows were scanned every 10-14 days. 68% of these cows were determined as pregnant in the final scan. This intervention could also be achieved with tail paint or other heat detection such as Kamars. However, it would come with some difficulty and likely have a high risk of inaccuracy, i.e. it would require very good observation and record keeping.

See reproduction project for more information.

Our team

- Winter and Spring 2024 completed with 4 full-time staff.
- No Casual staff.
- Staff roster 5 days on, 2 days off all season.
- Peter 6 days on, 1 roster off over calving (in theory spring…), aim to move to 5 days on, 2 days off.

Farm Insight's Report

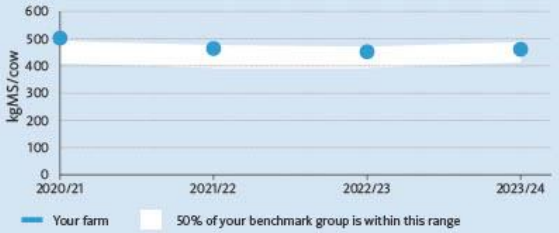
Your farm's big picture view

Success looks different to everyone. By looking at key trends over time, you can start to build a bigger picture of sustainability on your farm.

Production per cow

Your farm is benchmarked against other Canterbury System 4 farms.

Higher production per cow with the same inputs, like feed, can mean emissions produced are spread across extra milk solids. That's good for lowering emissions intensity.



Purchased Nitrogen Surplus

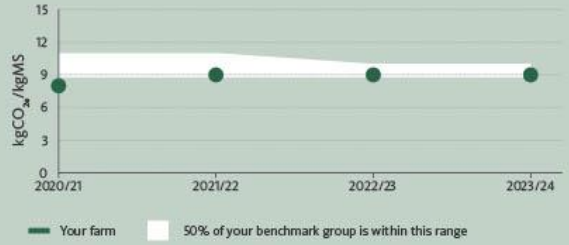
Your farm is benchmarked against farms in the Canterbury region with milk production between 1401-1700 kgMS/ha.

Surplus Nitrogen in your system is at risk of being lost to the environment. See more on page 10.

Greenhouse Gas Emissions per kgMS

Your farm is benchmarked against others in the Canterbury region.

You can find a more detailed breakdown of your emissions on page 9.



The farm efficiency opportunity

Operating an efficient farm is about getting the most out of everything you're putting into your system.

What are the options for your farm?

Every farm is different, depending on your system, goals, and unique way of farming. Based on your insights, here's a snapshot of how your farm compares to others.

	Further info (pg)	Benchmark group average	Your farm 23/24 season	High opportunity ›››››››› High performer
Nitrogen fertiliser efficiency (kgDM/kgN)	5	92	82	
Homegrown feed (tDM/ha)	5,6	14.4	15.0	
Feed converted to milk (%)	6	56	56	
Production per kg liveweight (%)	6	96	100	
6-week in-calf rate (%)	7	70	75	
Not in-calf rate (%)	7	14	7	
Somatic cell count (cells/ml)	8	139,532	134,832	
Mastitis (%)	8	12	20	
Lameness (%)	8	6	8	

** the benchmark group for Homegrown feed is the same as that used on page 5 of the report*

Nutrient optimisation

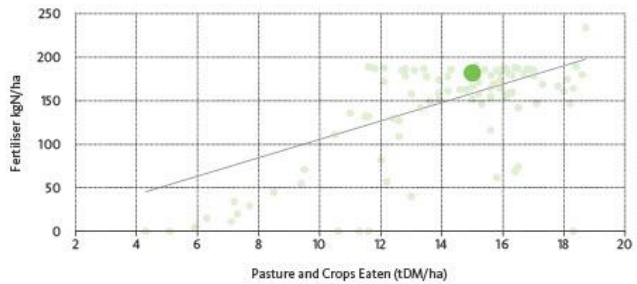
Are you getting the best growth response to the fertiliser you're using? Optimised use can save costs, and reduce loss and wastage.

Your farm's nitrogen fertiliser conversion efficiency

This data shows how efficiently the nitrogen you're applying is converted into feed.

How does your farm compare?

- Your farm (actual)
- Closest 100 farms to your location (radius 15km)
- Local average



Your farm's N-fertiliser efficiency

Your farm is eating	Your farm is applying	Your nitrogen fertiliser efficiency is
15.0 tDM/ha	182 kgN/ha	82 kgDM/kgN

Efficiency opportunity

The top 20% of farms in your region are achieving fertiliser efficiency of **116.0** kgDM/kgN

If you could increase your efficiency by 10%, you could harvest **16.5** tDM/ha

Opportunity: If you grew more feed from the same nitrogen fertiliser

By lifting homegrown feed by 0.5tDM/ha you could achieve the following::

- ↑ 18 kgMS/cow
- ↓ 2.2% $kgCO_2e$/kgMS
- ↑ $78,138

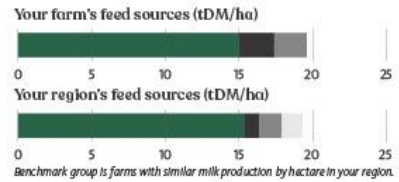
What's the next step?

- Consider factors like fertiliser management, effluent, pasture, cropping, soil and irrigation.
- Scan this QR code for DairyNZ's nitrogen resources to learn more.
- Consult your Sustainable Dairying Advisor, or a farm advisor, for personalised advice.

Feed efficiency

How are you maximising yield and quality of homegrown feed, and using supplementary feed? With the right balance you can manage costs and ensure feed is converted efficiently into milk.

Your feed sources



Benchmark group is farms with similar milk production by hectare in your region.

Feed sources	Your farm	Your region
Pasture and crops (grown on farm)	15.0 (77%)	15.4 (80%)
Pasture and crops (imported to farm)	2.4 (12%)	1.0 (5%)
Grazing off (incl. wintering)	2.2 (11%)	1.5 (8%)
All other feeds	0.0 (0%)	1.4 (7%)

How much of your feed eaten is converted into milk?

Benchmark group is farm system by region. Your farm's average herd liveweight is assumed as 460kg based on your breed mix.

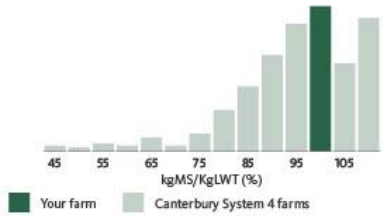
From your records, we estimate that the proportion of feed eaten and converted into milk on your farm is:

56%

Benchmark average **56%**

Benchmark top 20% **59%**

Your farm's milk production per kilogram of liveweight



Opportunity: If more of the feed eaten on your farm was converted to milk

Based on a 1% increase in the proportion of feed converted to milk, you could achieve:

- ↑ 7 kgMS/cow
- ↓ 1% $kgCO_2e$/kgMS
- ↑ $33,098

What's the next step?

- Consider factors like cow health and quality (page 7 and 8 of this report), or feed type and quality.
- Scan this QR code for DairyNZ's feed utilisation resources.
- Consult your Technical Sales Rep, farm consultant, or nutritionist for personalised advice.

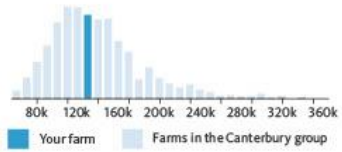
Animal efficiency

Your herd's health and condition are key to the overall efficiency picture on your farm. Factors like infection and lameness can cost time, money and cow productivity.

Somatic cell count

Bulk somatic cell counts (SCC) over 100,000 cells/ml indicate some cases of sub-clinical infection are present in the herd. Animal energy is then diverted from milk production to fight off the infection – research has shown there's a 2.1% loss in production for every doubling of somatic cell count over 100,000 cells/ml.

Your farm's annual average somatic cell count 2023/2024



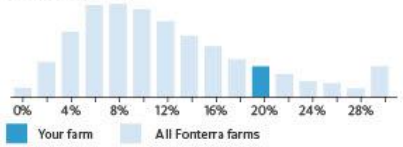
Opportunity: If you reach 100,000 cells per ml

- ↑ 4 kgMS/cow
- ↓ 0.5% $kgCO_2e$/kgMS
- ↑ $18,500

Mastitis & lameness

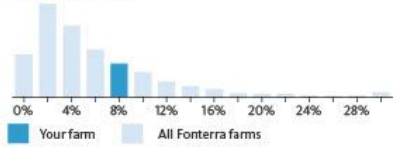
Mastitis and lameness are both painful for affected cows, and can impact production and performance.

Your farm's mastitis cases as % of peak cows 2023/2024



Estimated cost of mastitis for your farm ($150/case)
$17,400

Your farm's lameness cases as % of peak cows 2023/2024



Estimated cost of lameness for your farm ($250/case)
$11,750

What's the next step?

- Consider working with a vet to investigate lameness or mastitis issues.
- Refer to the SmartSAMM guidelines on the DairyNZ website for more information on managing mastitis.
- Scan this QR code to book a Fonterra Milk Quality Improvement visit for advice.

Animal efficiency

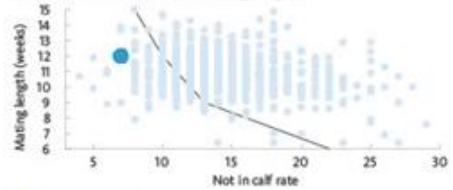
Reproductive performance is key in a seasonal calving system. Cows that cycle earlier will have more opportunities to conceive, and more days in milk the following season.

LIC

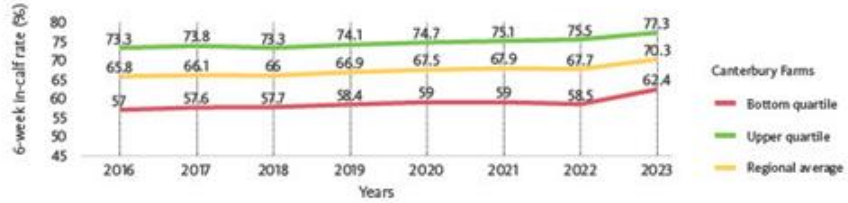
Reproductive performance

Your 6-week in-calf rate: 75%

Your not in-calf rate, and mating length



Reproductive performance over time



If your in-calf rate reached 78%

For a herd your size with your 6-week in-calf rate, reaching the industry goal of 78% could mean the following:

- ↑ 2 kgMS/cow
- ↓ 0.3% $kgCO2/kgMS$
- ↑ $10,482

What's the next step?

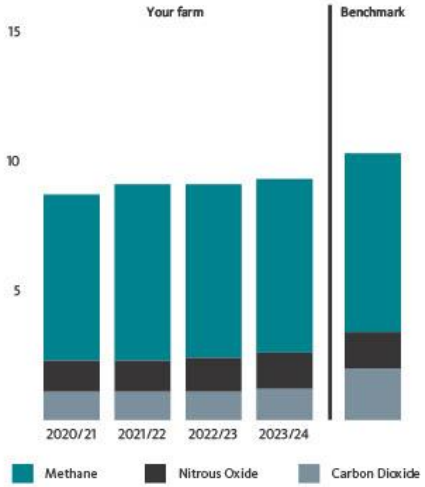
- Consider early/dated pregnancy testing which is needed to properly assess your farm's reproductive performance.
- Scan this QR code for DairyNZ's InCalf resource.
- Consult your breeding company or vet for personalised advice.

Emissions

Even the smallest on-farm efficiency gains can boost profitability and productivity. But they're also good for reducing emissions per kgMS. Each farm has a unique opportunity - it's up to you and your focus.

Your on-farm emissions

Your farm is benchmarked against Canterbury farms



This data shows the emissions that are created from your farming activities. There are also other things that influence your farm's footprint - things like peat soil, land-use change and carbon removals. These aren't captured in the data below.

	Your Farm	Benchmark
Emissions ($kgCO_2e$)/ kgMs	9.3	10.30
Methane (biological)		
Dairy herd	5.40	5.50
Replacements	0.80	0.90
Effluent	0.50	0.50
Nitrous Oxide (biological)		
Livestock	0.90	0.90
Fertiliser	0.40	0.40
Manure and soil	0.10	0.10
Carbon Dioxide (non-biological)		
Imported feed	0.10	0.80
Fertiliser	0.40	0.40
Other	0.70	0.80

Where can I find more information?

Methane
- Animals, pages 7-8 of this report
- Emissions booklet, pages 20-26

Nitrous Oxide
- Nutrients, page 5 of this report
- Emissions booklet, pages 27-34

Carbon Dioxide
- Nutrients, page 5 of this report
- Feed, page 6 of this report
- Emissions booklet, pages 35-40

We've shifted to a more accurate GHG model

Your emissions are now calculated using a model from AgResearch called the Agricultural Lifecycle Assessment (Ag:LCA). This is based on more detailed information about your farm from your Farm Dairy Records. You can find out more about this switch by scanning this QR code:

What's the next step?

- Scan this QR code for the emissions booklet to read more.
- Consider exploring the reading outlined under each gas type to understand where there are opportunities for your farm.
- Consult your Sustainable Dairying Advisor for more personalised advice.

Water quality

Potential water quality risks are well-known by the dairy farming community in New Zealand. Farmers have taken several actions from fencing off waterways to carrying out riparian planting to help manage water quality.

Your farm's Nitrogen Risk Scorecard

This data summarises risks for nitrogen loss on your farm. Your farm's full Nitrogen Risk Scorecard can be found online using the QR code here:

Stock Management	VERY HIGH	Cropping & Cultivation	VERY LOW
Nitrogen Fertiliser	VERY LOW	Effluent Management	VERY LOW
Imported Feed	VERY LOW	Irrigation	LOW

Purchased Nitrogen Surplus

23/24 season

Nitrogen Fertiliser		Imported Feed		Exported Product		Purchased Nitrogen Surplus
182 kgN/ha	+	46 kgN/ha	−	114 kgN/ha	=	114 kgN/ha

Refer to page 3 for your PNS trend over time.

What's the next step?

A Fonterra **Farm Environment Plan** is tailored to the risks and practices on your farm. You can review or complete actions in your Digital Dairy Diary or contact your Sustainable Dairying Advisor for more support.

Biosecurity

New Zealand is naturally free of many pests and diseases that exist in other parts of the world. But that means new and invasive species could threaten our unique biodiversity - just take mycoplasma bovis and fall armyworm for example.

Good disease management on-farm is essential for protecting your herd. Flow-on benefits can include reduced treatment inputs, maximised genetic investment, better milk production and lower feed inputs.

Biosecurity measures that protect against Bovine ViaralDiarrhea (BVD) can also protect your herd against other harmful diseases.

BVD management opportunity

The estimated cost of BVD in a negative herd: $22.22 x peak cow numbers/year.

The cost of BVD in a positive herd is much higher with negative impacts on conception as well as reduced production.

$12,621

What's the next step?

Consult your local vet about disease management, include BVD in your Animal Wellbeing Plan, and scan this QR code to read more about biosecurity on our website.

Your farm's key information

	Units	21/22	22/23	23/24
Dairy farm effective area	Ha	160	160	160
Peak cows (maximum numbers)	Cows	558	547	568
Stocking rate (dairy cows)	Cows/ha	3.5	3.4	3.6
Production	kgMS	258,851	247,291	261,894
Production per ha	kgMS/ha	1,618	1,546	1,637
Average somatic cell count	Cells/ml	142,485	140,252	134,832
Nitrogen fertiliser applied per ha	kgN/ha	144	158	182
Nitrogen fertiliser conversion efficiency	kgDM/kgN	109	95	82
Pasture & crop eaten (homegrown feed)	tDM/ha	15.7	15.0	15.0
Feed converted to milk	%	57	57	56
Production per kg liveweight	%	100	98	100
Imported feed fed	tDM	418	321	455
Imported supplement per cow	tDM/cow	0.7	0.6	0.8
Production per cow	kgMS/cow	464	452	461
Purchased Nitrogen Surplus	KgN/ha	73	82	114
Greenhouse Gas Emissions per kgMS	$kgCO_2e$/kgMS	9.1	9.1	9.3
Mastitis cases	Cows	88	57	116
Lameness cases	Cows	147	65	47
6-week in-calf rate	%	-	-	75
Not in-calf rate	%	-	-	7
Mating length	Weeks	-	-	12
Total biological methane	kg/ha	430	416	436
Total biological nitrous oxide	kg/ha	7	7	8

LUDF Finances

The 2023/24 season continued to have a high on farm inflation.

Key Points:

- 23/24 season LUDF had increased costs primarily with Feed and R&M.
- Total operating costs was $1.532 million.
- Total operating costs was $5.85/kg MS, budget was $5.53 /kg MS.
- Able to increase voluntary culls due to improved reproductive results.
- Per cow production very close to our target for 10-in-7 – 6.2% drop from TAD.
- Calf sales have diversified income stream and reduced non replacement calves.
- Will continue with calves sales this season, we have an increase in surplus heifer replacement (sexed semen) and beef sales this season.
- Grazing to reduce due to less heifers reared, both as R1's and R2's.
- Feed made and purchased – expect to be back to budget this season.
- Animal health – change in dry cow strategy due to Staph aureus in herd and BVD vaccination for all stock, including youngstock and sale stock.
- R&M to be monitored with a capex plan in place, however our infrastructure is ageing.

23/24 Actual Finances

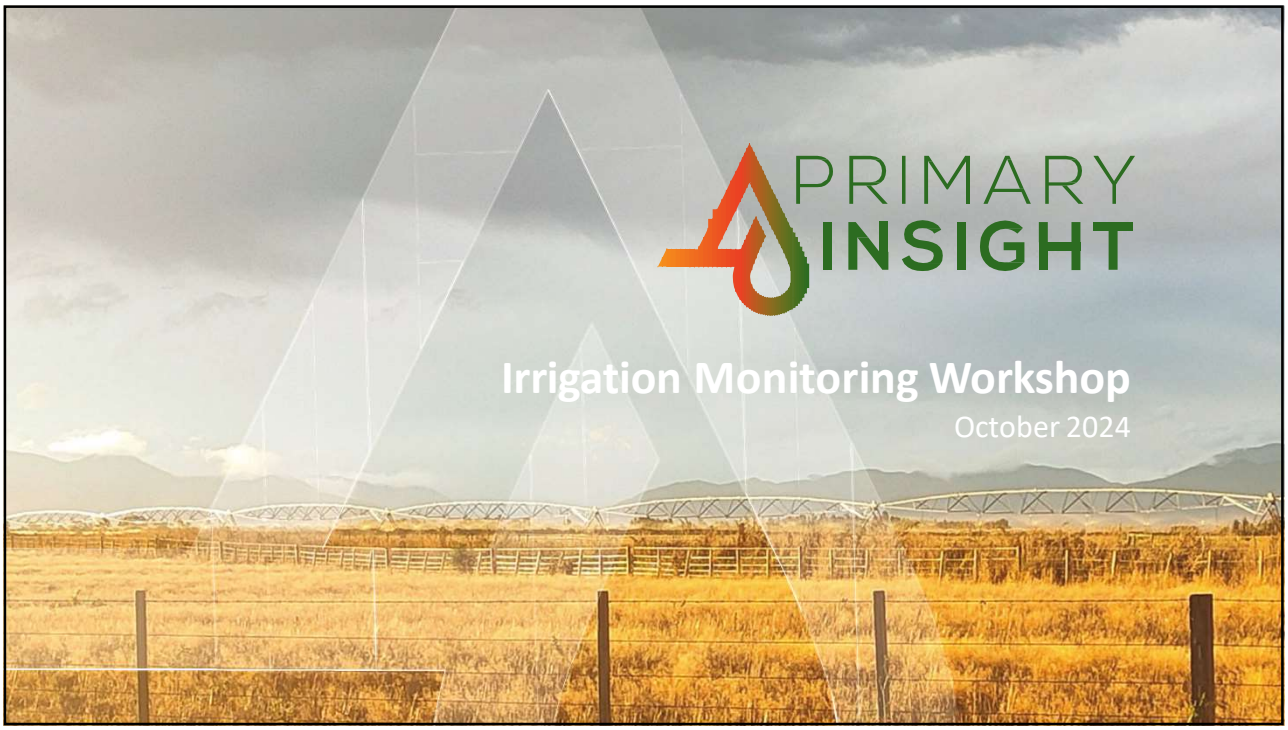
Peak Cows	560 cows	
Total	261,894	
Per cow	467.6 kg MS/cow	
Per Ha	1,637 kg MS/ha	
Milk Price	$7.83 / kg MS	
Farm Operating Expenditure		$5.85 / kg MS
Total Operating Expenditure		$1,531,967
EBIT	$644,961	($4,031 / ha)

24/25 Budget Finances

Peak Cows	560	
Total	266,000	
Per cow	475 kg MS	
Per Ha	1,663 kg MS	
Milk Price	$9.00 / kg MS	
Farm Operating Expenditure		$5.50 / kg MS
Total Operating Expenditure		$1,464,257
EBIT	$1,099,183	($6,870 / ha)

LUDF Finances

LUDF 2023/24 Actuals				LUDF 2024/25 Budget					
560 $/cow	160 $/ha	261,894 $/kgMS	2023/24 $	Description	2024/25 $	266,000 $/kg MS	160 $/ha	560 $/cow	Notes
				Income					
$16.65	$58.26	$0.04	9,321	Sales - Bobby Calves	7,827	$0.03	$48.92	$13.98	270
$9.99	$34.97	$0.02	5,595	Sales - R2 Heifers	7,000	$0.03	$43.75	$12.50	
$0.00	$0.00	$0.00		Sales - Bulls		$0.00	$0.00	$0.00	
$121.56	$425.46	$0.26	68,074	Sales - Cows	65,546	$0.25	$409.66	$117.05	101
$0.00	$0.00	$0.00		Sales - Surplus heifer calves	67,568	$0.25	$422.30	$120.66	123
$77.33	$270.66	$0.17	43,306	Sales - Beef calf Sales	21,500	$0.08	$134.38	$38.39	43
$225.53	**$789.35**	**$0.48**	**126,296**	**Total Stock Sales**	**169,441**	**$0.64**	**$1,059.00**	**$302.57**	
$3,661.84	$12,816.45	$7.83	2,050,632	Sales - Milk Solids Current Season	2,394,000	$9.00	$14,962.50	$4,275.00	
$0.00	$0.00	$0.00		Sales - Co-operartive Difference		$0.00	$0.00	$0.00	
$0.00	$0.00	$0.00		Sales - Feed, Silage, Other Crops		$0.00	$0.00	$0.00	
$0.00	$0.00	$0.00		Income - Other		$0.00	$0.00	$0.00	
$3,887.37	**$13,605.80**	**$8.31**	**2,176,928**	**TOTAL REVENUE**	**2,563,441**	**$9.64**	**$16,021.50**	**$4,577.57**	
				Expenses					
$497.16	$1,740.1	$1.06	278,412	Labour - Perm & Fixed Term	301,000	$1.13	$1,881.25	$537.50	
$15.49	$54.2	$0.03	8,674	Other labour: ACC, Super, H&S, Clothing	10,000	$0.04	$62.50	$17.86	
$512.65	**$1,794.3**	**$1.10**	**287,086**	**Total Labour Expenses**	**311,000**	**$1.17**	**$1,943.75**	**$555.36**	
$131.08	$458.8	$0.28	73,404	Animal Health	81,498	$0.31	$509.37	$145.53	DNA Calves
$130.16	$455.6	$0.28	72,891	Breeding	73,297	$0.28	$458.11	$130.89	
$20.26	$70.9	$0.04	11,345	Dairy Shed Operating Expenses	11,767	$0.04	$73.55	$21.01	
$39.41	$137.9	$0.08	22,071	Electricity - Other	22,000	$0.08	$137.50	$39.29	
$116.55	$407.9	$0.25	65,268	Electricity - Irrigation	66,000	$0.25	$412.50	$117.86	
$437.90	$1,532.7	$0.94	245,225	Feed Made/Purchased	147,122	$0.55	$919.52	$262.72	Purchased feed
$306.42	$1,072.5	$0.66	171,593	Grazing - Winter	170,892	$0.64	$1,068.08	$305.16	Less stock
$36.24	$126.9	$0.08	20,297	Freight - Livestock	17,998	$0.07	$112.49	$32.14	Less stock
$196.40	$687.4	$0.42	109,985	Youngstock Grazing	86,589	$0.33	$541.18	$154.62	Less stock
$85.42	$299.0	$0.18	47,834	Calf Rearing	63,250	$0.24	$395.31	$112.95	More reared
$128.27	$448.9	$0.27	71,832	Fertiliser -Nitrogen	73,186	$0.28	$457.41	$130.69	
$54.82	$191.9	$0.12	30,700	Fertiliser - Other	36,741	$0.14	$229.63	$65.61	
$33.55	$117.4	$0.07	18,788	Fertiliser - Spreading	19,547	$0.07	$122.17	$34.91	
$21.33	$74.7	$0.05	11,946	Seed	10,800	$0.04	$67.50	$19.29	
$39.39	$137.9	$0.08	22,057	Contractors - Regrassing	22,125	$0.08	$138.28	$39.51	
$1.25	$4.4	$0.00	697	Weed & Pest Control	1,500	$0.01	$9.38	$2.68	
$32.87	$115.1	$0.07	18,409	Vehicle Expenses	18,160	$0.07	$113.50	$32.43	
$30.09	$105.3	$0.06	16,851	Vehicle - Fuel	15,000	$0.06	$93.75	$26.79	
$51.26	$179.4	$0.11	28,704	R&M - Land & Buildings	23,500	$0.09	$146.88	$41.96	
$46.09	$161.3	$0.10	25,811	R & M - Irrigation	25,000	$0.09	$156.25	$44.64	
$115.36	$403.8	$0.25	64,603	R & M - Plant, Machinery, Other	50,000	$0.19	$312.50	$89.29	
$15.20	$53.2	$0.03	8,515	R & M - Farm Houses	1,500	$0.01	$9.38	$2.68	
$1.03	$3.6	$0.00	579	Freight	500	$0.00	$3.13	$0.89	
$8.93	$31.3	$0.02	5,000	EcoPond	10,000	$0.04	$62.50	$17.86	
$11.79	$41.3	$0.03	6,600	Administration	13,000	$0.05	$81.25	$23.21	
$10.71	$37.5	$0.02	6,000	Consultant	12,000	$0.05	$75.00	$21.43	
$18.31	$64.1	$0.04	10,252	Fixed Charges - Rates	12,800	$0.05	$80.00	$22.86	
$17.14	$60.0	$0.04	9,599	Fixed Charges - Land Rent	9,600	$0.04	$60.00	$17.14	
$18.07	$63.3	$0.04	10,120	Lease - Techonology (Collars)	24,983	$0.09	$156.14	$44.61	
$32.69	$114.4	$0.07	18,306	DairyNZ Levy	13,300	$0.05	$83.13	$23.75	
$2,700.66	**$9,452.3**	**$5.77**	**1,512,367**	**TOTAL FARM WORKING EXPENSES**	**1,444,657**	**$5.43**	**$9,029.11**	**$2,579.75**	
$1,186.72	**$4,153.51**	**$2.54**	**664,561**	**CONTRIBUTION PROFIT**	**1,118,783**	**$4.21**	**$6,992.39**	**$1,997.83**	
$35.00	$122.50	$0.07	19,600	*less* East Block Adjustment - Support block	19,600	$0.07	$122.50	$35.00	
$2,735.66	**$9,574.79**	**$5.85**	**1,531,967**	**Total Operating Expeneses inc East Block**	**1,464,257**	**$5.50**	**$9,151.61**	**$2,614.75**	
				Financial Ratios					
$3,661.84	$12,816.45	$7.83	$2,050,632	Milk Gross income	$2,394,000	$9.00	$14,962.50	$4,275.00	
$225.53	$789.35	$0.48	$126,296	Stock Gross income	$169,441	$0.64	$1,059.00	$302.57	
$3,887.37	$13,605.80	$8.31	$2,176,928	Total Gross income	$2,563,441	$9.64	$16,021.50	$4,577.57	
$2,735.66	$9,574.79	$5.85	$1,531,967	*Less* Farm Operating Expenditure	$1,464,257	$5.50	$9,151.61	$2,614.75	
$1,151.72	**$4,031.01**	**$2.46**	**$644,961**	**EBIT**	**$1,099,183**	**$4.13**	**$6,869.89**	**$1,962.83**	



1

Benefits – Reduced Operating Costs

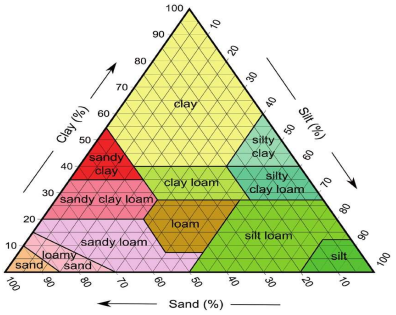
Take Type	Head (m)	Irrigation cost (m3)	Irrigated area (ha)	Annual water use (mm/ ha)	Reduced water use through monitoring	Total Savings
Surface take	40	$ 0.08	200	450	10%	**$ 7,261**
>40 m bore	70	$ 0.14	200	450	10%	**$ 12,706**
>100 m bore	100	$ 0.20	200	450	10%	**$ 18,152**

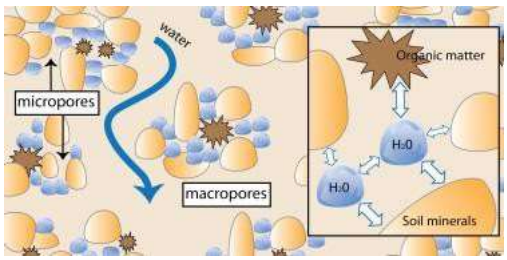
2

Benefits – Increased Production

Crop	Irrigated area (ha)	Yield (tonne/ha)	Income (ha/ tonne)	Increased yield from monitoring	Monitoring Benefit
Dairy	200	12	$ 9,107	1%	**$ 18,214**
Beef finishing	200	10	$ 6,400	1%	**$ 12,800**
Lamb finishing	200	10	$ 5,250	1%	**$ 10,500**
Forage crop	20	20	$ 400	1%	**$ 1,600**
Clover seed	20	0.9	$ 5,000	1%	**$ 900**
Ryegrass seed	20	1.8	$ 3,000	1%	**$ 1,080**
Carrot seed	20	0.2	$ 50,000	1%	**$ 2,000**
Potato	20	50	$ 700	1%	**$ 7,000**
Barley	20	8	$ 450	1%	**$ 720**
Wheat	20	11	$ 450	1%	**$ 990**
Maize grain	20	13	$ 450	1%	**$ 1,170**
Baleage	20	12	$ 400	1%	**$ 960**
Maize silage	20	21	$ 300	1%	**$ 1,260**

3





Soil

Solids

- Sand, Silt, Clay and Organic Matter
- Defines soil characteristics

Holes

- Macro-pores = drains and airways
- Micro-pores = store water

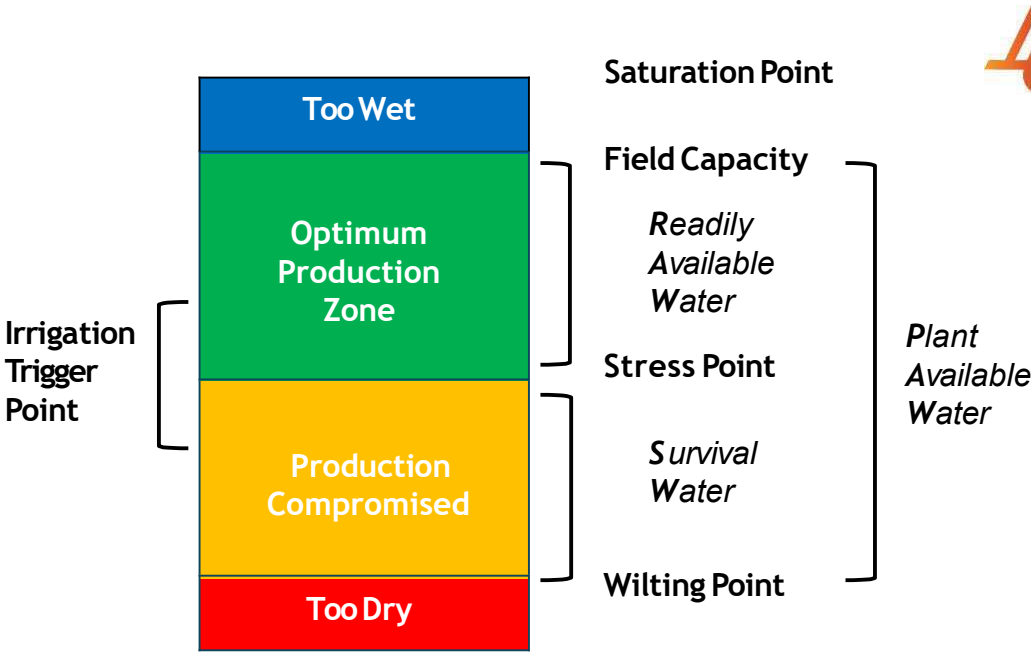
Soil management is key

Poor cultivation, compaction and pugging greatly impact soil water availability

Dairy = Consider timing of irrigation and grazing to avoid risk of compaction

Avoid grazing within 24- 36 hours of irrigation on shoulders

4



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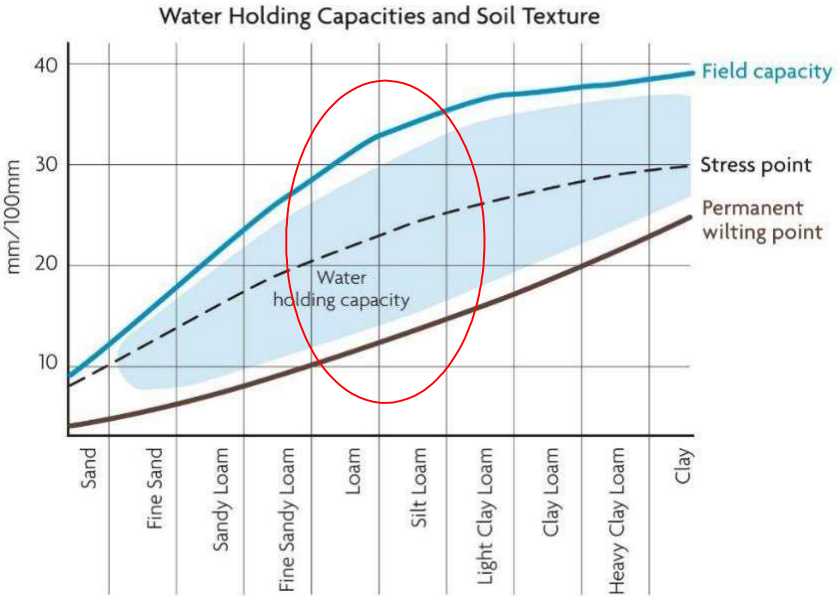
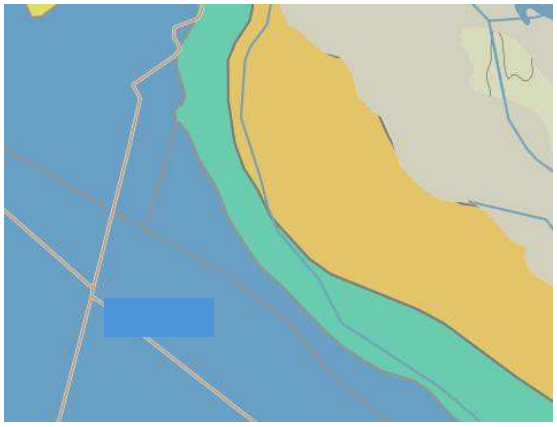


Canterbury typically a silt loam with stones

Proportion of stones defines water holding

30% Soil Moisture = 30mm/100mm

6



Templeton – stones @ 60-80 cm (dark blue)
Eyre – stones @ 20-40cm (light blue)

PRIMARY INSIGHT
MEASURE. MANAGE. ACHIEVE.

Pasture
Fodder beet transition crop

Probe Placement

Full circle pivot
5-part circle pivots
Small area long lateral sprinklers

7

Method	Benefits	Considerations
Manual water budget	Low capital cost (if no weather station required) Easy solution if set up correctly Climate data can be used elsewhere	Daily records required Crop factor adjustment can be challenging Access to climate data (PET)
Automated water budget	Automated data entry (climate + irrigation) Whole of farm scheduling Automated reports Great solution if set up correctly	Moderate to high cost Set-up and annual fee ($800 + $2,900pa)
Scheduling service	Fit for purpose solution guaranteed On-going professional advice provided Flexibility to vary sites from year to year	Moderate cost ($1,000 per site pa) Typically, only one reading per week One point on farm
Manual download probes	Real time (15 minutes) Lower cost ($1,200 – $1,800 + $200 pa) Easy to read	Cost-effective option for cropping One point on farm Need to download data
Telemetered probes	Real-time (15minutes) Options to connect into existing telemetry Easy to read	Moderate to high cost ($3,000 + $300 pa) One point on farm Telemetry needs to be setup and maintained

8

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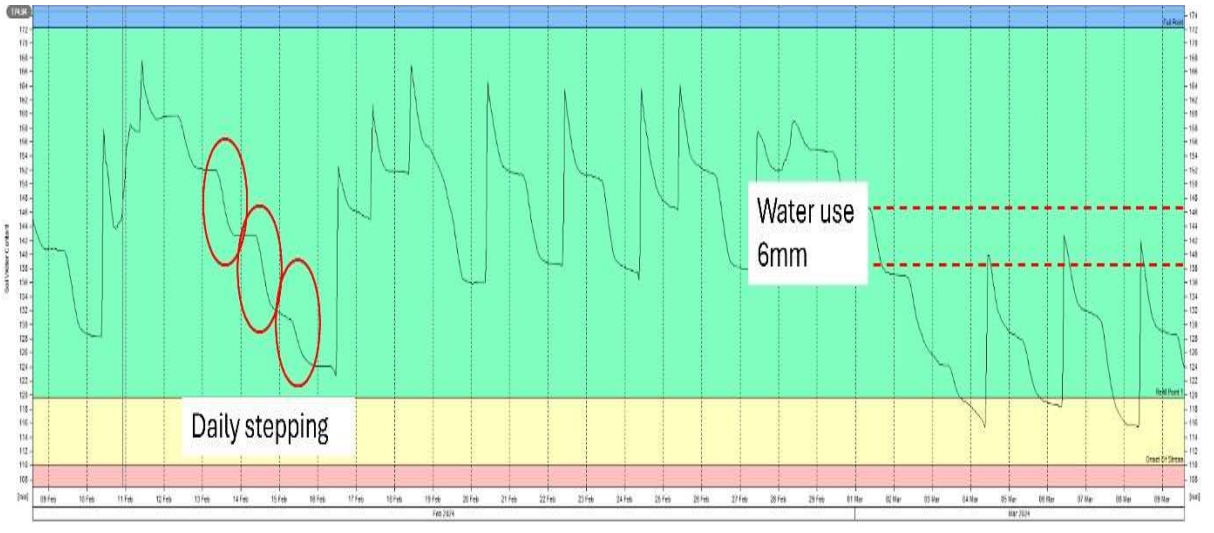
Moisture Trace - Plant Daily Water Use



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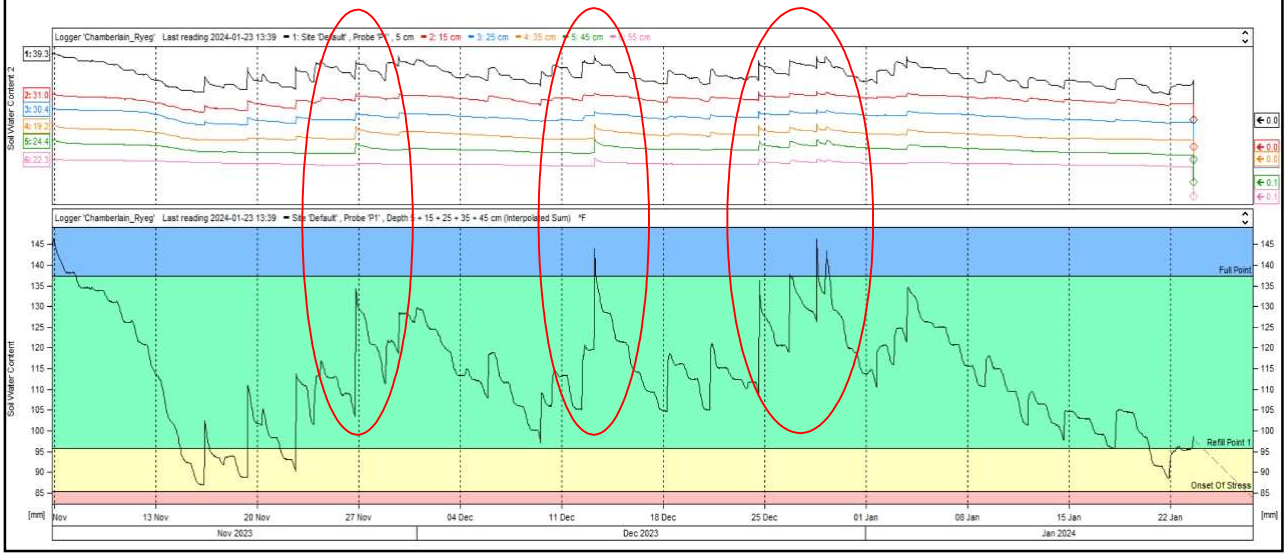
Moisture Trace - Full Point



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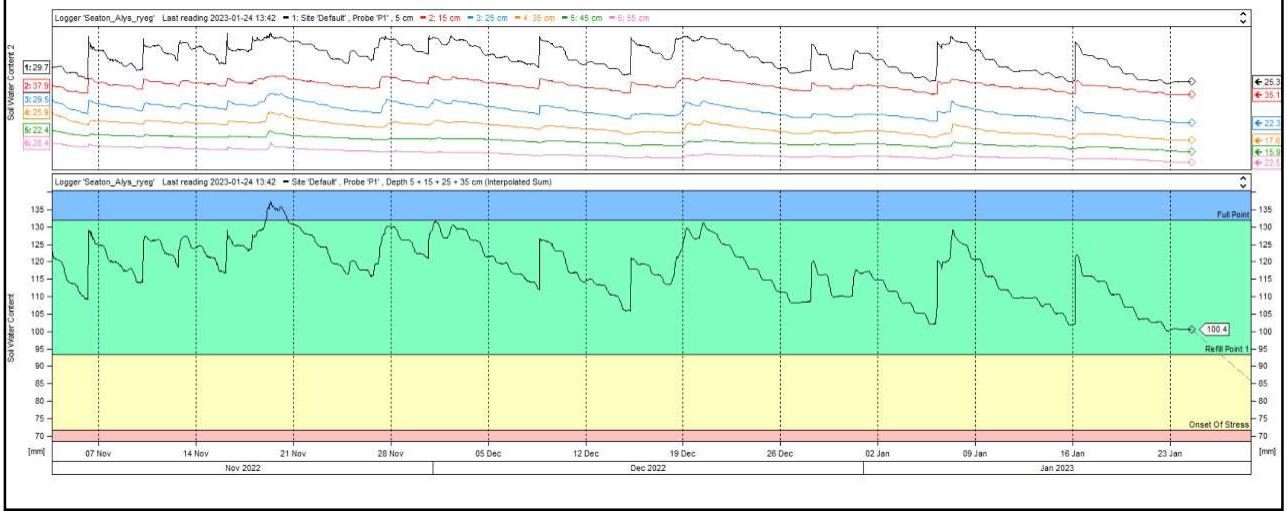
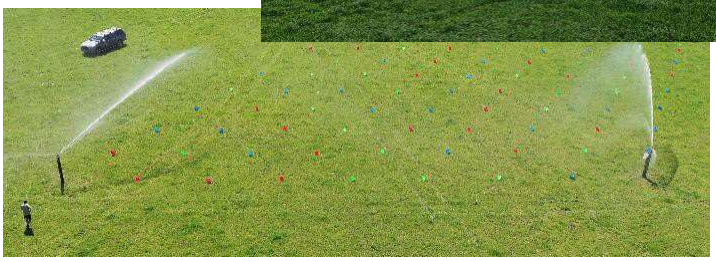
Good Practice Example



12

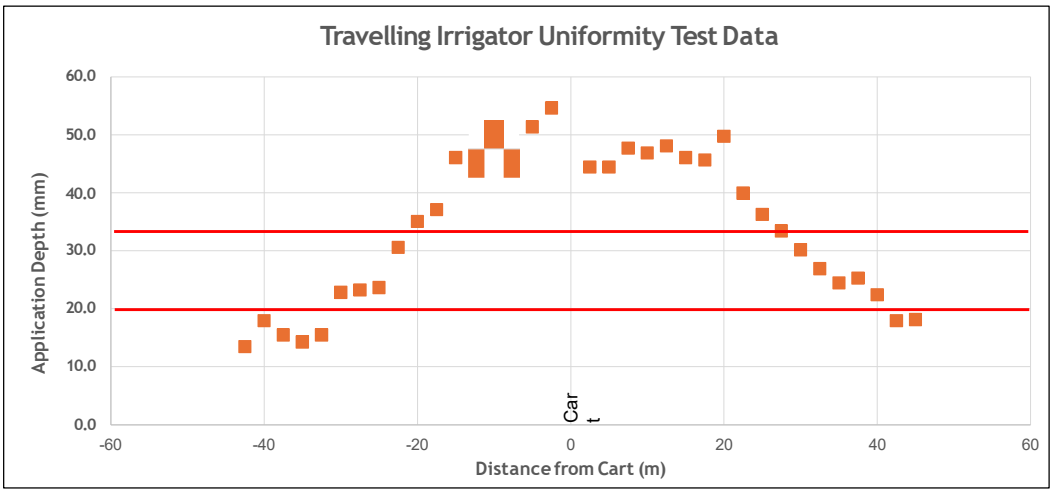
Bucket Test vs. Full Assessment

- Bucket Test – quick and easy but does not allow identification of actual issues
- Assessment – takes more time as includes pressure, flow, application depth & uniformity – allows actual issues to be identified
- Assessment is more cost effective for older irrigators as enables trouble-shooting if issues found



13

Uniformity Explained – 0.68

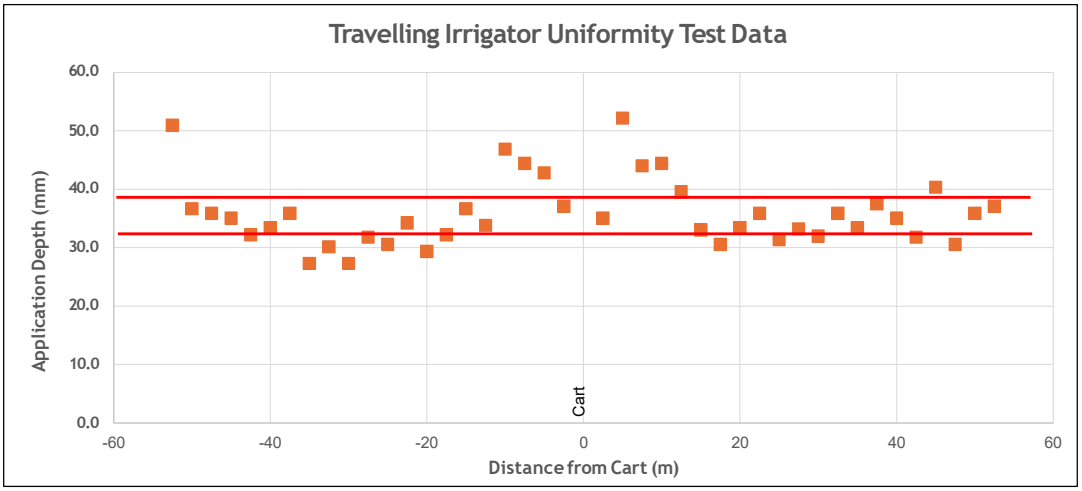


Average

Lower quartile average

14

Uniformity Explained – 0.83



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Sprinkler Pack Condition Key

- 10% capital cost but 70% of the performance
- Typical life of sprinkler pack = 10,000 hours

- Broken/ blocked regulators
- Broken/ blocked sprinklers
- Replace like with like

- Sediment an issue in some areas
- Corrosion now an issue as pivots age
- Solution = manual (used regularly) or automatic flushing valves

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Irrigation Development

Dan McLaughlin

Design Engineer at WaterForce Christchurch
INZ Accredited System Designer
INZ Accredited System Performance Assessor

dmclaughlin@waterforce.co.nz

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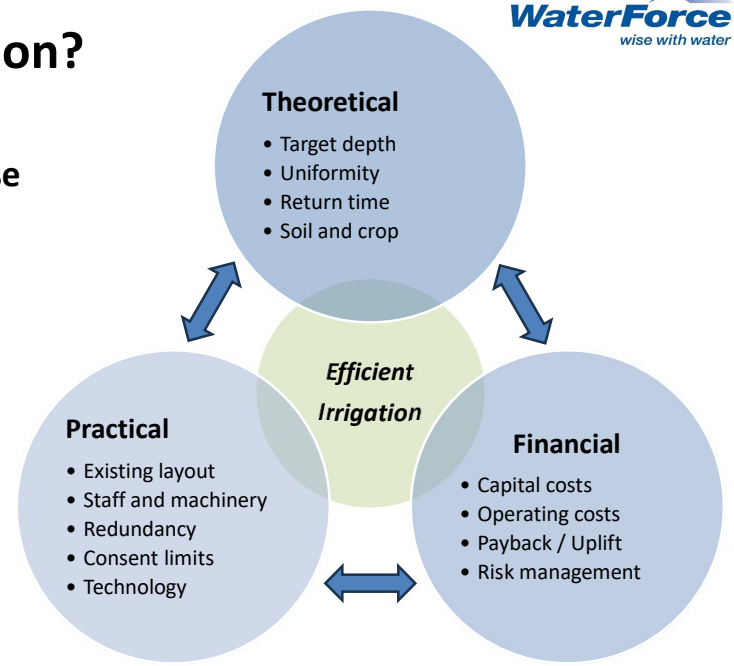
What is Efficient Irrigation?

Efficient irrigation is a compromise

Efficient irrigation is dynamic



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Irrigation & Effluent Design

Development work is undertaken to improve one or more of the following:

Applied Depth

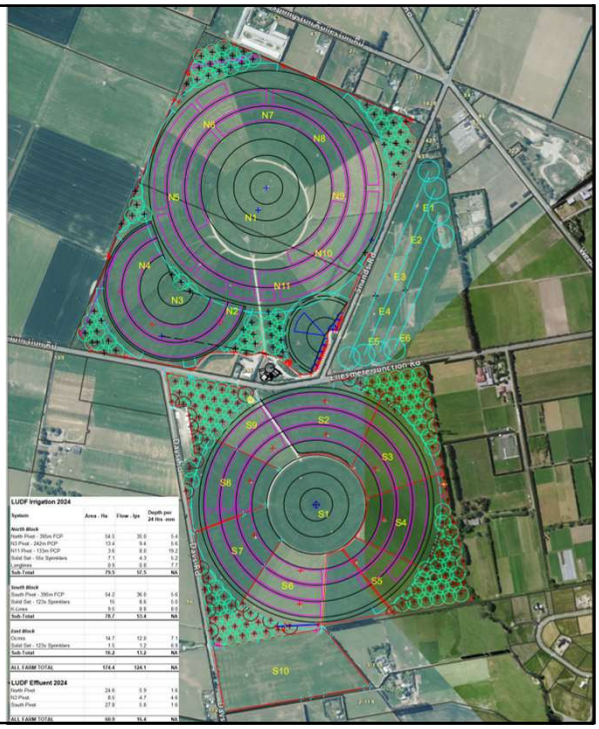
- How much water is applied?
- How uniformly is water applied?
- Is this adjustable?

Application Intensity

- How fast is water applied?
- Is this adjustable?

Return Time

- How often is water applied?
- Is this adjustable?



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Maximising System Performance

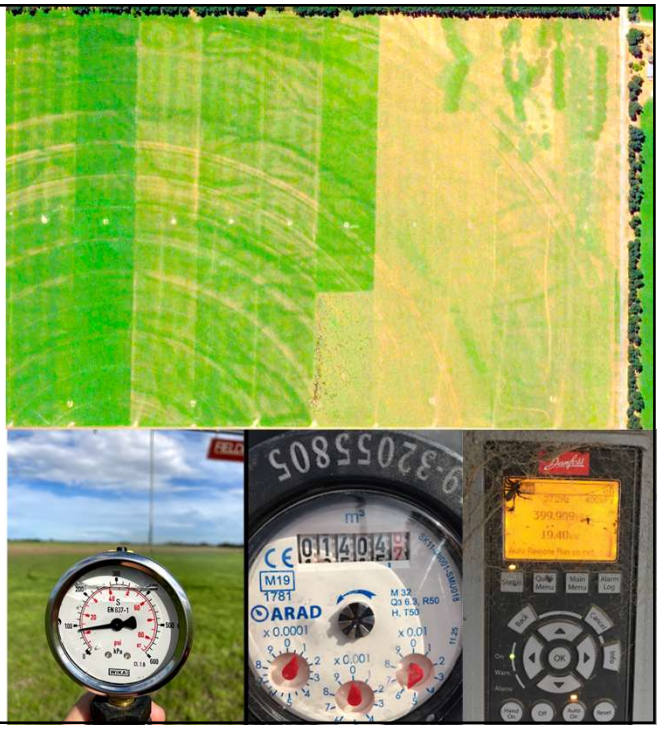
What is your biggest cost or setback with irrigation?

- Power or scheme costs
- Staff capability
- Reliability or maintenance
- System flexibility or complexity

Where are the physical losses?

- Identify Key Performance Indicators (KPIs)
- Test against KPI's
- What changes will deliver the maximum benefit for every $ spent?

Use system evaluation to measure current performance vs optimum performance



20

Maximising System Performance

Examples for existing irrigators:

- Adjusting pump or machine settings
- Changes in operating procedure or training
- Re-nozzling or re-packing machines
- Planned assessments, service and maintenance
- Automation and safeties

Identify, Implement, Reevaluate and Repeat

System evaluation is a tool to identify these opportunities for improvement

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LUDF Recent Development Timeline

Between 2017 and 2024:

Irrigation

- 2 x Valley Pivots to replace original Zimmatic corner arm and sprinklers
- 2x Original pivot sprinkler packs replaced
- 22 Ha of long lines replaced with 182x solid set sprinklers 93% of Platform under automated spray irrigation
- 85% of Total farm area under automated spray irrigation
- Minimum return time for all irrigation ≤24 hours

Effluent

- Effluent area increased from 30 Ha to 61 Ha across 3x pivots
- Raw effluent screened with solids >1.5mm removed and stored
- Main effluent pump size reduced from 22kW to 15kW
- Applied depths reduced from ~8.0mm to 1.5mm
- Storage increased from 300m^3 to 1,000m^3

2017
- North pivot corner arm failure

2018
- N3 Pivot (4 Span) commissioned
- North pivot reconfigured and panel upgraded

2019
- N11 Pivot (2 Span) commissioned
- North pivot underslung span control automated

2020
- North Block solid set (58x Sprinklers) installed

2022
- South Block solid set Stage 1 (47x Sprinklers)
- Underslung systems installed on N3 and South Pivots

2023
- New effluent pond constructed
- Solids separator and effluent pumping upgrade

2024
- South Block solid set Stage 2 (78 Sprinklers) completed

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Future Development

Current projects in design:

Irrigation
- Centre pivot to replace East Block hard-hose gun
- Centre pivot to replace S10 K-lines

Effluent
- EcoPond treatment for storage pond
- Next generation treatment

Future Technology Upgrades:

- Effluent proof of placement and diagnostics
- Remote machine diagnostics
- Machine learning and optimisation
- Original irrigation equipment – end of life?
- Solar energy conversion?
- Data integration across platforms?

23

LUDF Presentation

- **Financial Markets**
  - **High level summary**
- **Save Money**
  - **Chasing production over costs**
  - **Being Efficient**
- **Make Money**
  - **How you spend your surplus**
- **Manage Money**
  - **Control the Controllables**
  - **Manage the Risks**
- **Governance**
  - **Banks perspective**
  - **Borrowers Perspective**

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1

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2

What's happening in the Financial Markets

- **OCR reviews at 2pm today**
- **Markets try to second guess RBNZ**
  - OCR reviews every 56 days (longer over Xmas)
  - 90BB reprice every 90 days – out of step for 40 days
- **Wholesale rates attempt to interpret interest rate direction**
- **Margin between OCR & 90D BB normally 20 points (0.20%), or higher**
- **Currently 90D BB is below OCR**

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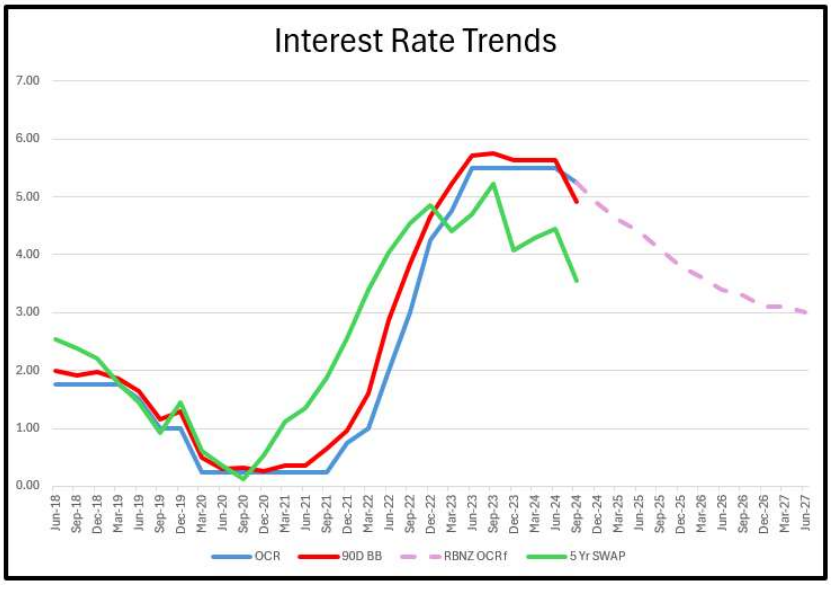
3

Current Market



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4

Save Money - Efficiency

Focus on production levels that achieve efficient production
Know your KPI's & Benchmark them
Income – milk production per cow - genetics
Expense - Feed utilisation, fertiliser use, animal health status

Recent Example

Per Cow Income	$4,000/cow	Group Average	$4600/cow
Opex/cow	$2100/cow	Group Average	$3100/cow
EBIT/cow	$1900/cow	Group Average	$1500/cow

Key difference in cost – feed inputs

5

Make Money – Managing Surplus

Opportunity Cost – highest and best return
Payout has risen steadily, and costs slowed
Revise the Budget – live document
Compare actuals to forecast - variance
What to do with the surplus?
Average Dairy Debt $19/kg x 7.5% = $1.43/kg
Every $1/kg of debt repaid = $0.08/kg saved
Or
Alternate investment, say cup removers $100,000
Labour saving say ½ unit = $40k/ 200000kgs = $0.20/kg

6

Manage Money – Manage Risk





Understand your breakeven point

How vulnerable is your business

Tools to Use

Mitigate upside risk

Key aspects

- Income
- Opex
- Interest

7

Breakeven Point – derived from budget

Cash Surplus		Payout per kg 6	6.5	$7	7.5	8
Costs per kg	4.5	8000	52000	98000	156000	200000
	5	-20000	2000	22000	85000	148000
	5.5	-61000	-18000	4000	55000	155000
	6	-88000	-56000	-5000	14000	50000
	6.5	-120000	-98000	-55000	5000	80000
	7	-200000	-141000	-110000	-50000	5000

8

Manage Money – Control the Controllables

What variables can you manage?

- **Income**
  - **Milk Price – futures trading**
- **Expenses**
  - **Feed or Grazing - contracts**
  - **Wages – Contract milker**
- **Interest**
  - **Fixed Rates**

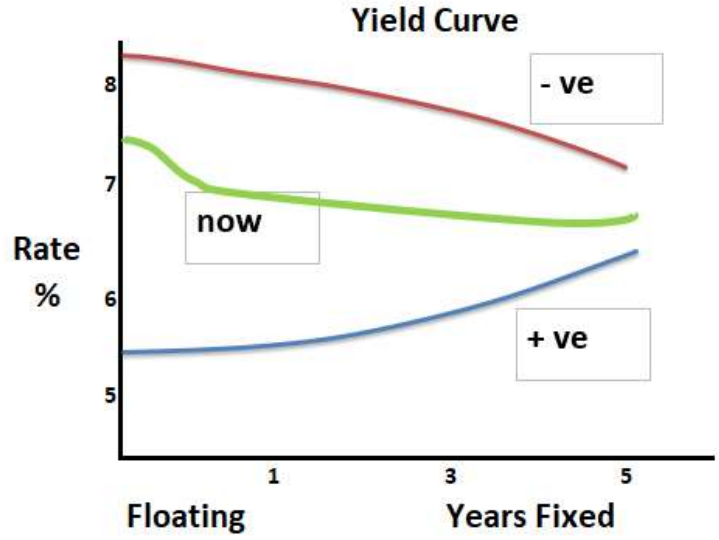
9

Manage Money – Milk Futures

	23/08/24		30/08/24	25/09/24	
	Fonterra		**Futures**	**Fonterra**	
Sep-25	**$8.50**	forecast	**$8.80**	**$9.00**	forecast
Hedge	**100,000**	kgs	**$8.80**	**$880,000**	
	100,000	kgs	**$9.00**	**$900,000**	
	200,000	kgs	**$8.90**	**$1,780,000**	

10

Manage Money - Yield Curve



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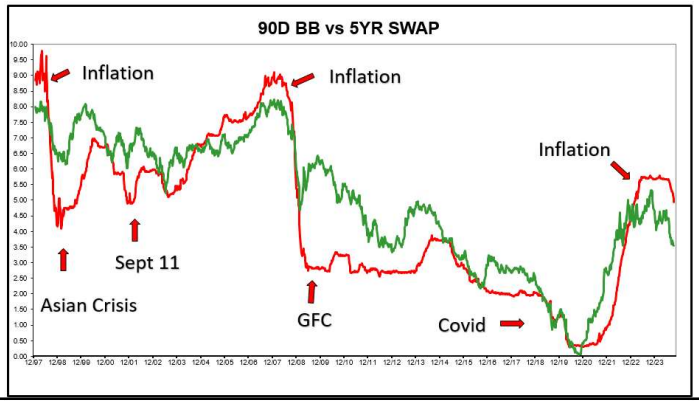
Manage Money – Interest Risk

- Single biggest cost - probably
- Creating certainty – markets don't stay the same – ever changing
- Unexpected "events" unsettle markets and have created swings
- Fixing rates – to remove upside risk
- Do reduce downside gains
- Maintains steady cashflow



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Manage Money – Manage Risk

- Long period at low rates – complacency set in
- Steep sharp rate rise – fixing not attractive
- Moving to lower rate environment – opportunity to rethink
- Having a loan "strategy" – rather than impulsive decision
- Hedging – enables surety of cashflow – known annual cost
- Averages the "cost of borrowing"

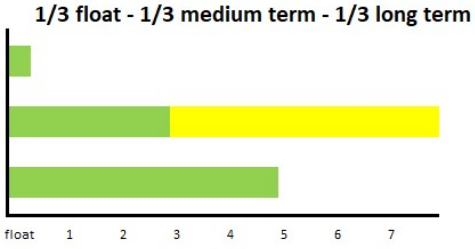
Tools

- Multiple fixed terms – split debt maturities
- Forward Fixing – lock future rate

13

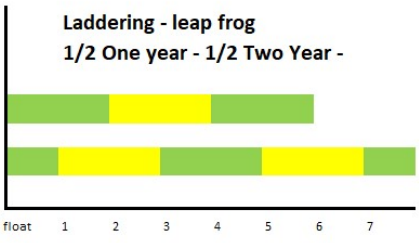
Manage Money – Manage Risk

Laddering - multiple terms
1/3 float - 1/3 medium term - 1/3 long term



Float	$3,000,000	7.50%	$225,000
			$225,000
Float	$1,000,000	7.50%	$75,000
Fix 3 yr	$1,000,000	6.00%	$60,000
Fix 5 Yr	$1,000,000	6.10%	$61,000
	$3,000,000	6.53%	$196,000

Laddering - leap frog
1/2 One year - 1/2 Two Year -



Float	$3,000,000	7.50%	$225,000
			$225,000
Fix 1 yr	$1,500,000	6.30%	$94,500
Fix 2 Yr	$1,500,000	5.90%	$88,500
	$3,000,000	6.10%	$183,000

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Summary

- Cost of borrowing is trending down
- Biggest saving – Efficiency . Track key KPI
- At $9 should have a surplus – spend wisely
- Manage Money – risk measures
  - Income – Milk Futures
  - Expenses - Contracts
- Interest
  - Fixed Rates – have a strategy

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15

Governance – Banks Point of View

<u>Important factors;</u>

- The background/experience of the individual partners
- How has the partnership been created
- What does the shareholder agreement cover
- Goals - Are the Key expectation of the partners, are they aligned
- Time horizons – initial term of the investment/commitment – need 5yrs min
- How robust are the numbers – budgets/returns/security/equity
- Level of indebtedness - with more equity – stronger position to pay dividends
- Dividend policy/expectation

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Governance – Borrowers Point of View

Things to consider – Glenn to talk to his experience

In order of consideration

- **Identify potential partners**
- **Assess individual goals and aspirations – do they align**
- **Key expectation of returns – all shareholders**
- **What level of equity and gearing required to achieve that return**
- **Level of equity dictates the scale of farm (from cash available)**
- **Key farm attributes; size, water cost/reliability, structural imps**
- **Cashflows and budgets to support the return- steady state**

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Governance – Borrowers

What are your expectations;

- **ROI**
- **Dividend stream**
- **Level of Equity**
- **Strategy/vision/focus**
- **Core farm attributes; location/ improvements/irrigation/ environmental**

Shareholder Agreement to protect all parties

- **Sunset clause**
- **Locked in clause**
- **Decision Process – Governance in action**
  - Dividend agreement
  - Capital reinvestment

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Governance - Borrowers

Pitch to Partners

Pitch to Bank

Know your position; equity/ indebtedness / cashflow

Ongoing Governance

- **Governance training**
- **Governance in action**
  - Engaged
  - Open to differing views
  - Diverse background

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