



FOCUS DAY

Wednesday 15th February 2023

10.15 am - 1.00 pm

LUDF Update : Peter Hancox, Farm Manager

- Production results for the season to date.
- Cow Condition: current situation and management.
- Preliminary mating results.
- Plantain planting program update.
- Milking 10 in 7 from day one this season.
- Planning winter feed with grazier and meeting regulatory requirements.

Intensive Winter Grazing

- Animal welfare when grazing winter crops: Dawn Dalley (DairyNZ)
- Intensive winter grazing panel. Ask your questions and concerns about the new intensive winter grazing regulations recently brought in by the Government: Sarah Heddell (Environment Canterbury), Tony Coltman (Canlac Holdings), Kirsty Thomas (DFMS).

Team Culture on Farm

- How do we manage team culture on our farms: Terry Kilday (Camden Group) and Sarah Watson (PeopleMAD)

Venue: LUDF farm, Supply # 37581
Parking on Ellesmere Junction Road
Event followed by a light lunch.

Enquiries:

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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.

<p>People:</p> <ul style="list-style-type: none"> • Uninformed/ill-prepared visitors may be the greatest risk 	<p>Animals:</p> <ul style="list-style-type: none"> • You are in their space 	<p>Milking shed:</p> <ul style="list-style-type: none"> • Moving rotary platform • Confined animals • Chemicals
<p>Eyes / Ears:</p> <ul style="list-style-type: none"> • Water / oil / milk / chemical splashes • Welding flashes • Loud machinery 		<p>Touch:</p> <ul style="list-style-type: none"> • Hot/cold surfaces, hot water, chemical burns • Electric fences – treat them as high voltage power sources
<p>On-farm machinery and tools</p> <ul style="list-style-type: none"> • Chainsaws, hand tools etc. generate noise, fragments 	<p>Potential slips/trips:</p> <ul style="list-style-type: none"> • Uneven surfaces occur across the farm • Fences • Drains • Underpass • Effluent pond 	<p>Vehicles:</p> <ul style="list-style-type: none"> • 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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LUDF Farm System Overview

Strategic Objective

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 2022/23 Season:

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

Current farm system:

- 3.5 cows/ha (peak milked).
- Target up to 190kgN/ha synthetic fertiliser.
- 450kgDM/cow imported supplement.
- Winter cows off farm.
- FWE of less than \$1.235 million (\$5.00/kg MS).
- Target production 475 kgMS/cow (>100% liveweight in milk production less 5% with 10 in 7 milking).

Current research projects on the farm

Variable Milking Project

- 10 milkings in 7 days.
- Commenced from start of season, this is second season of the project.
- Predict 5% drop in MS production.
- Profitability should remain the same because of lower costs (drop a labour unit, less animal health and shed costs, better cow condition and higher mating results).
- Last year made a loss because of high pay out.

Plantain Grazing Project

- Aim to get 30% of farm in pure plantain stand over net 3 years.
- Cows fed a break of plantain every day in between milkings.
- Results in a decrease in N loss in OverseerFM from 35 kg N/ha/yr to 26 kg N/ha/yr.

Mating Benchmarking Project

- Previous seasons poor mating results (20% empty 2021/22 season) has resulted in setting up a benchmarking project top quartile local performing farmer, Liam Kelly to help determine what the issues are.

LUDF 2022/2023 Season Update

Stock Rec

Peak Milk 541 (11 cows less than last year due to calving issues)
 Currently milking 539

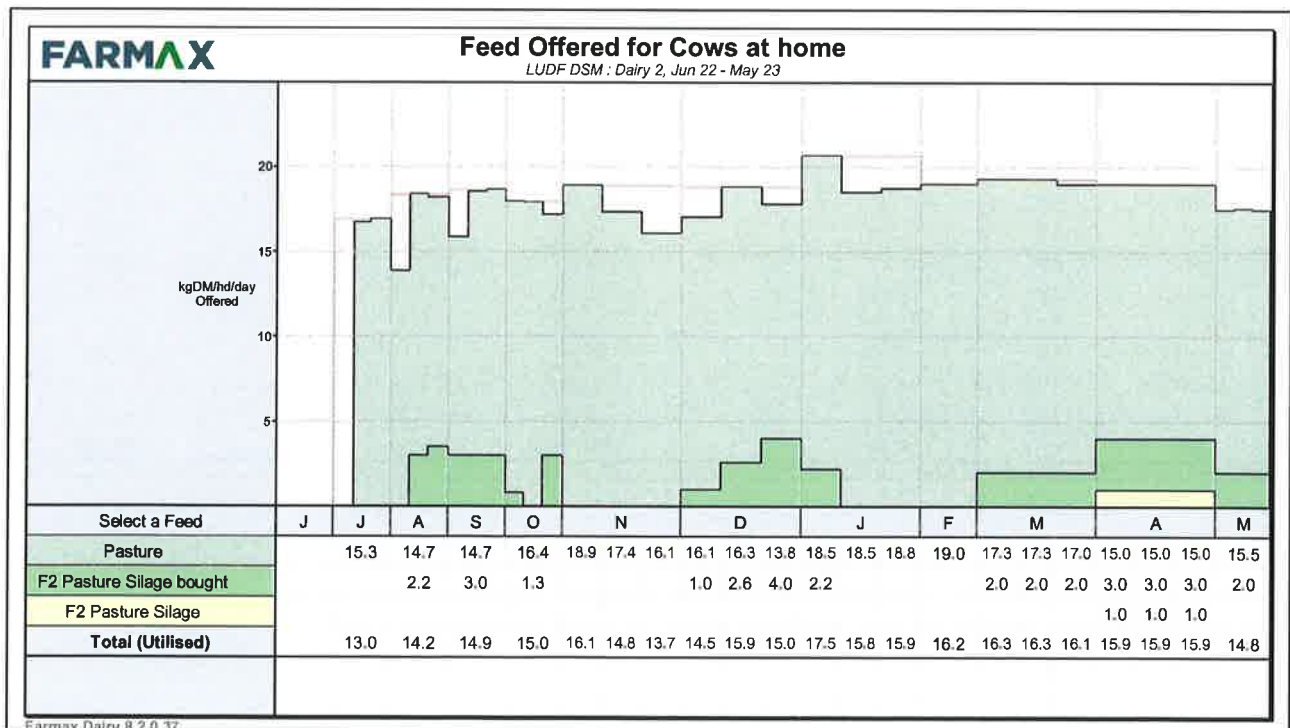
Young stock :
 R2 heifers 136
 R1 calves 141

Potential culls: 96

To milk 560 cows next season, we want to winter about 680. Thus ,we need to cull 96 cows.

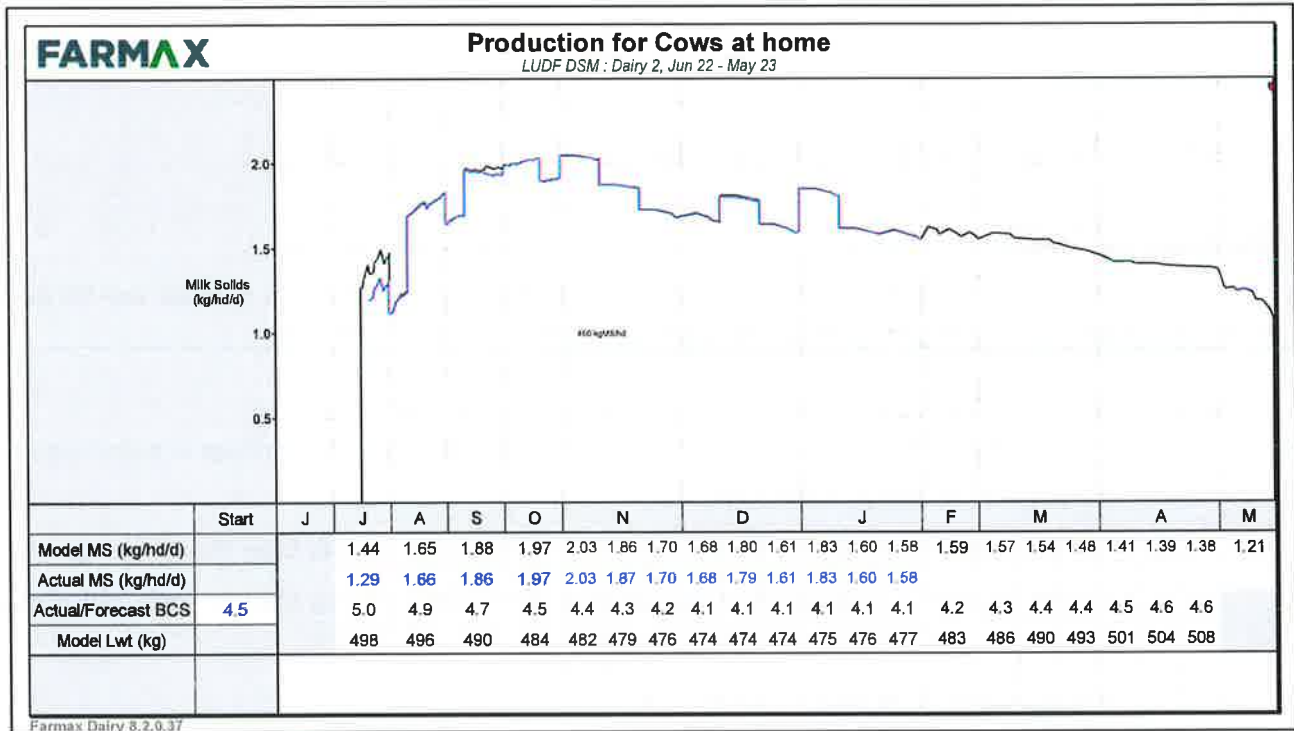
Pasture and feeding

- Round length got pretty tight (17 days on 20 Dec) from slow pasture growth rates so silage was fed out in December and January (up to 4 kg at the end of December).
- Slow pasture growth due to:
 - Cooler days (15.6 degrees 1 Nov – 27 Dec) and not very many sunny days (average of only 2 irrigation days/week in November and December).
 - Post graze mowing to get rid of seed head (in research studies it has been shown that pre-graze mowing has had a negative effect on pasture performance, reducing tiller numbers and pasture density.).
 - Area out of regrassing longer than planned.
 - Nitrogen fertiliser application rate too low in the spring.
- But quality of pasture is high because of mowing.



Milk solid Production

- Budget 266,000 kgMS. 560 cows @ 475 kgMS/cow
- If on twice a day, would be equivalent to 485 kg MS/cow/day. This is based on Dairy NZ Research that the farm will drop 5.7 % MS production going to 10 in 7.
- Revised production, 248,000 kgMS. 541 cows @ 460 kgMS/cow.
- 10 in 7, combined with variable tanker pickups makes monitoring per cow production a real challenge.



FARMAX **Milk Production for LUDF DSM**
Jun 22 - May 23

Month	Milkers	Milk Solids Model kg			Milk Solids Actual kg		
		Produced	Calves/Penicillin	to Factory	Produced	Calves/Penicillin	to Factory
Jun 22							
Jul 22	23	1,015		1,015	911		911
Aug 22	299	15,339		15,339	15,351		15,351
Sep 22	504	28,429		28,429	28,208		28,208
Oct 22	537	32,899		32,899	32,900		32,900
Nov 22	541	30,292		30,292	30,313		30,313
Dec 22	539	28,311		28,311	28,312		28,312
Jan 23	539	27,788		27,788	27,833		27,833
Feb 23	539	23,929		23,929	23,929		23,929
Mar 23	539	25,524		25,524	25,524		25,524
Apr 23	459	19,220		19,220	19,220		19,220
May 23	430	16,095		16,095	16,095		16,095
Total	541	248,840		248,840	248,596		248,596

Farmax Dairy 8.2.0.37

Summer feed budget and grazing rules

- 539 cows on 153 ha = 3.5 cows/ha
- @ 1.61 kgMS/cow. Demand = 17.2 kgDM/cow (Feed quality @ 12.2 MJME)
- Residual = 1,550 kgDM/ha
- Animal demand = 61 kgDM/ha
- Round length = (pre grazing – post grazing) / demand
- Longest round = 25 days ((25 x 60 = 1,500) + 1,550 residual = 3,050 pre grazing) If pre grazing is above 3,050 then consider making silage.
- Currently farm is sitting at the pre grazing limit and N has not been used for 2 weeks.
- Fastest round = 21 days ((21 x 60 = 1,260) + 1,550 residual = 2,810 pre grazing) If pre grazing is below 2,810 silage is used.
- No silage made on farm to date.

Pasture quality

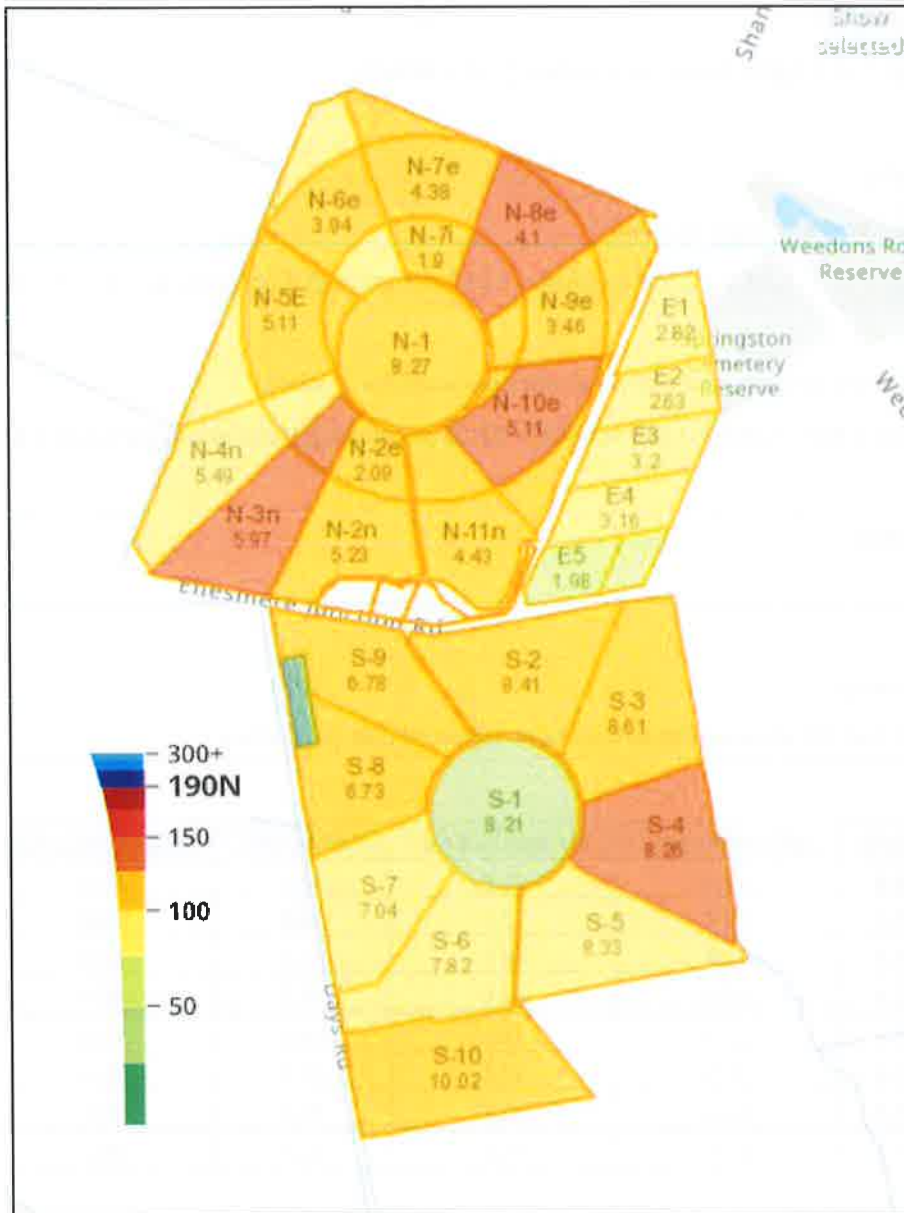
- Good quality pasture and baleage.
- Plantain quality not as good, fed 1/3 of cows diet so may have impacted milk production.

Species	Date Sampled	DM (%)	ME (MJ/kg DM)	Protein (% DM)	NDF (% DM)	Digestibility (%)
Pasture	Oct	16.8	12.2	18.8	31.7	82.9
	Nov	16.4	12.0	17.3	32.0	82.0
	Dec	15.9	11.8	19.7	34.7	80.3
	Jan	17.1	12.2	22.0	35.1	81.4
Plantain	Nov	11.1	11.3	18.2	18.1	77.4
	Dec	11.9	11.5	17.1	20.2	78.2
	Jan	14.3	11.2	15.7	24.7	74.6
Baleage	Dec	47.1	11.7	15.4	41.0	78.7

Fertiliser

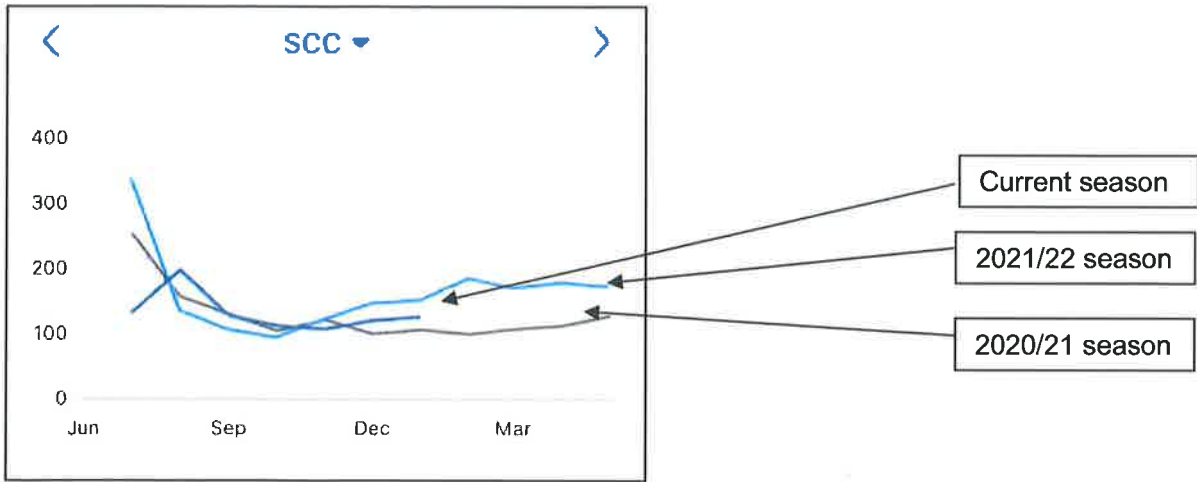
- Nitrogen spread season to date: 106 ha average
- Effluent and non effluent area treated the same
- On track to use 190 kg N/ha/yr
- Some parts of the farm currently up to 147 kg N/ha/yr so will monitor closely to avoid exceeding the limit in any given paddock.
- Effluent is spread over a bigger area this year to make the most of nitrogen from effluent (90 ha vs last season 28 ha).
- Super applied in spring. Rates depended on Olsen P results.

N190 Heat Map:



Animal health

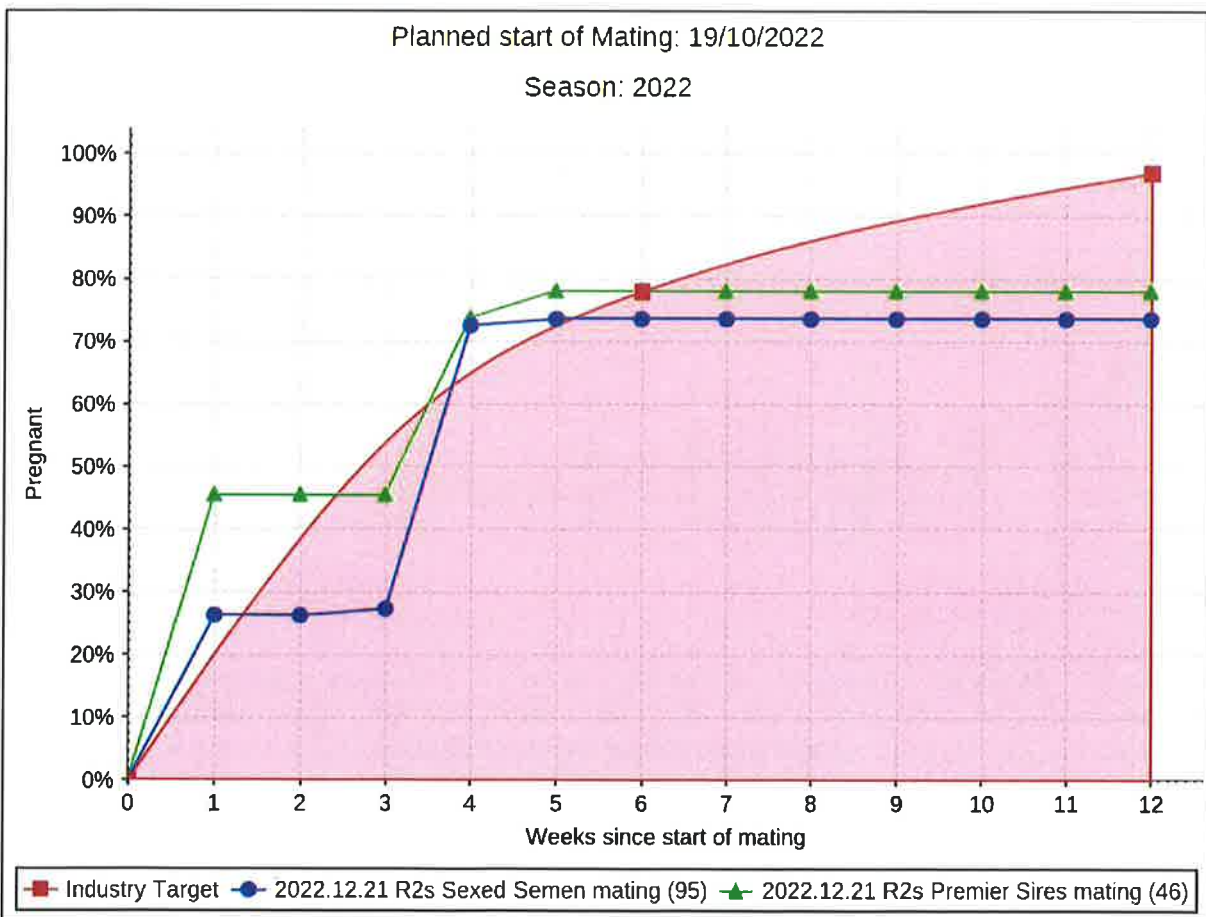
- Quite a few lame cows in early summer – mostly feet issues. These cows should have been culled last season, but poor mating resulted in less cows culled.
- Cell count low. Average since start of season is 134 thousand (target is below 150).
- Variable milking not impacting on SCC.
- Currently 11 cows lame and on once a day milking.



Mating

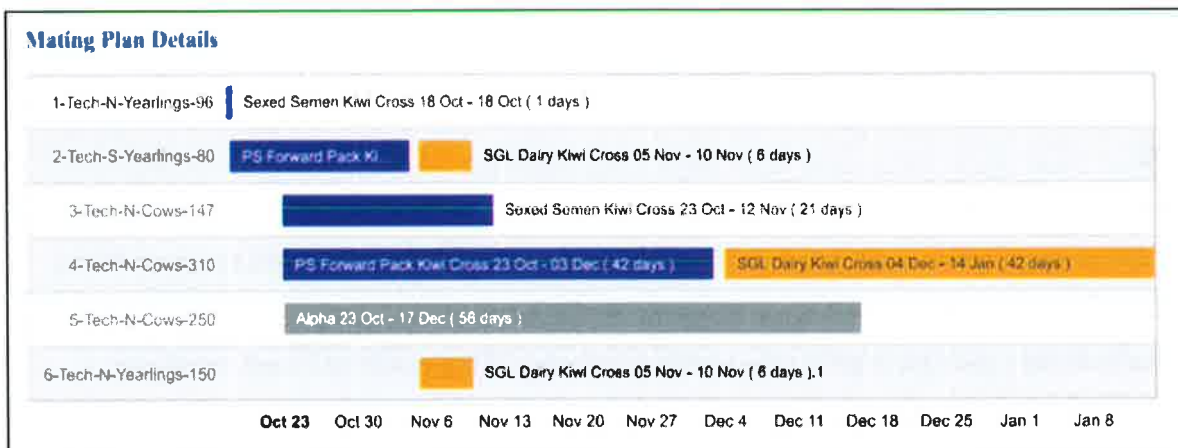
R2 heifers

- CIDR program. Issues highlighted to AB conception rates with artificial breeding as per graph below.
- 26% in calf Sexed semen, 46% in calf non sexed semen (prem sires).
- But bulls did a good job in getting the remainder pregnant: 74% pregnant at 5 week in calf rate.
- Preg tested 3/2/23: 95% in calf.
- This indicates that the differences in conception rates to AB was not a heifer fertility issue but a semen/sire issue.

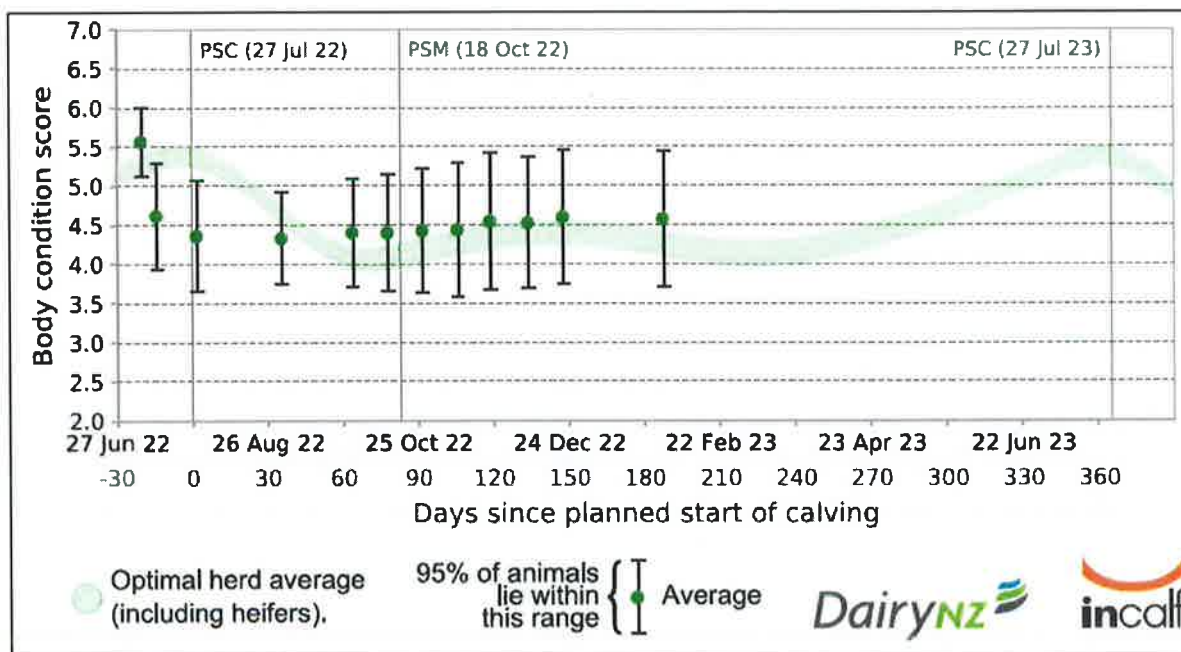


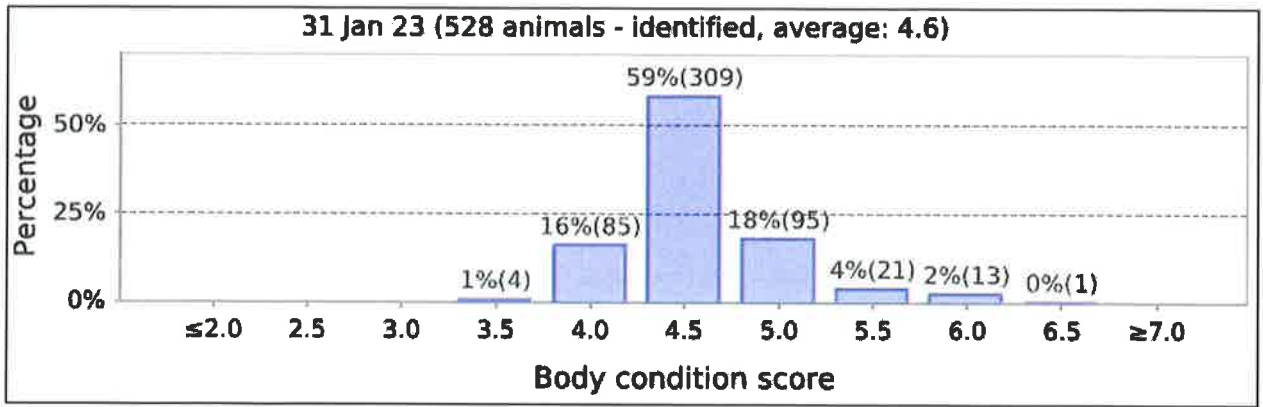
MA cows

- Previous seasons poor mating results (20% empty 2021/22 season). Therefore, LUDF have set up a benchmarking project with top quartile local performing farmer, Liam Kelly to help determine what the issues are. Mating program is the similar as Liam’s farm.
- Allflex collars on cows this season to line up with Liam. Allowed for longer mating period (finished mating on 20 Jan).
- Planed start of mating: 23rd October
- Mating period moved form 10.5 weeks to 12.5 weeks with short gestation semen at the end.

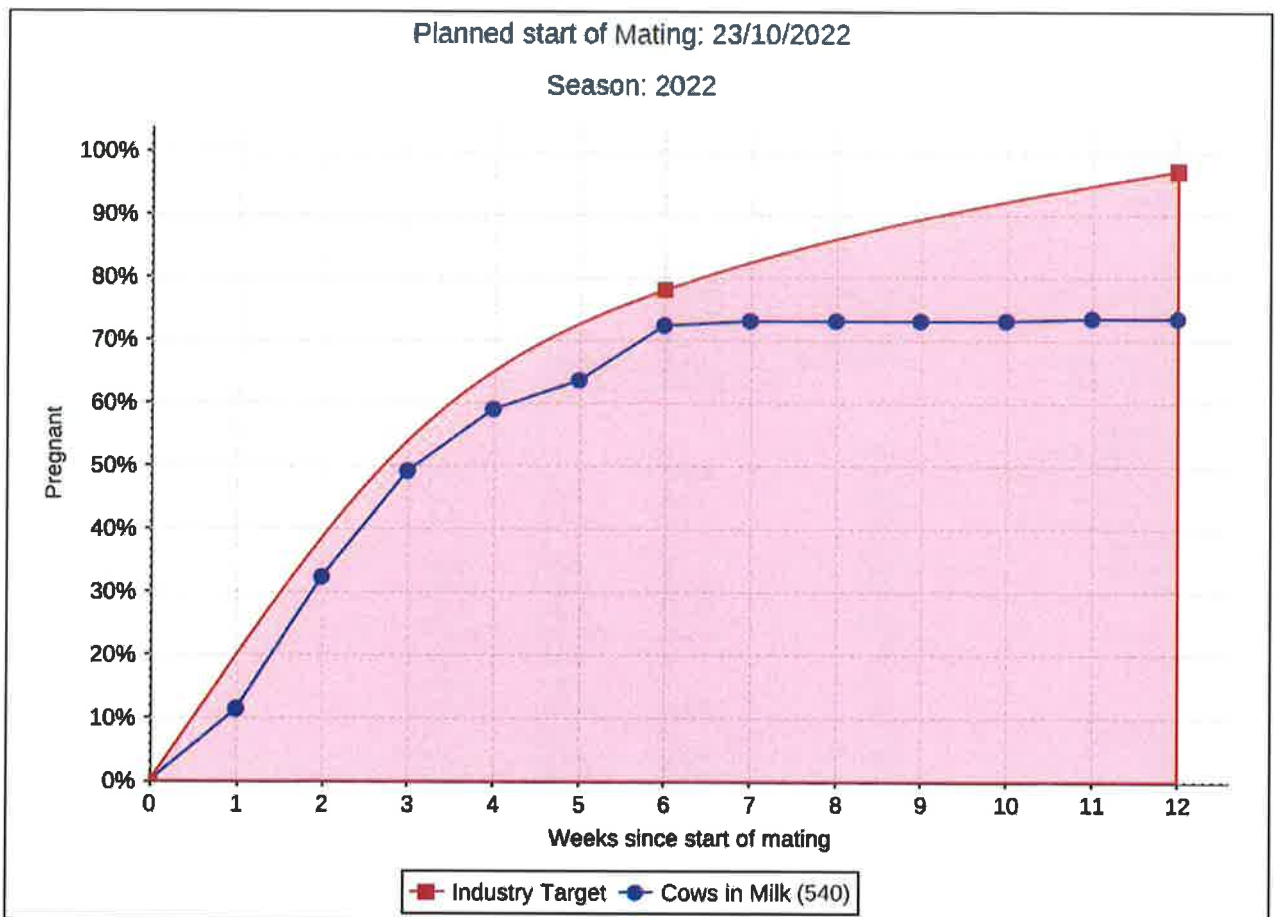


- 3 pregnancy scans have been completed by SRVS since start of mating. Each time this picked up approx. 10% phantoms. These were PG’d and mated.
- Hoping the 10 in 7 milking will help with body condition and increase mating results. This season, cows put on 0.2 BCS from calving to close of mating. This is quite a dramatic increase and likely because of 10 in 7 milking.
- Note, last season BCS dropped from 5 at calving to 4.5 during mating.





- Parliamentary mating results - 74% 6 week in calf rate. Looking positive.
- We will provide a full update as well as findings from the benchmarking project with Liam Kelly's farm in the next Focus Day .



Finances

- Budget was \$4.90 farm operating cost per kg MS.
- Current revised forecast is \$5.29 farm operating cost per kg MS.
- Animal health was high due to:

- Dry cow and more mastitis cows in the spring.
- Note, some of the animal health expenses may have included breeding and intervention because breeding and intervention was under budget (coding could have been wrong).
- Feed and grazing costs high due to:
 - Current over budget for feed by \$104,000. But anticipating to have approx. 130 t DM @ \$0.48/kg DM extra on the farm at the end of the season.
 - Therefore, farm more like \$40,000 over budget – due to feeding out in Dec/Jan.
- Farm already budgeted that fuel and fertiliser was going to be high this season.

LUDF Budget Revision

		2022/23		
Account	Code	Final Season YTD 2022/23 \$	Budget 22/23	Variation
REVENUE				
Dividend Income	1302	49,148	27,000	22,148
Sales - Bobby Calves	1821	47,288	15,400	(31,888)
Sales - R2 Heifers	1823	2,600	2,600	0
Sales - Cows	1825	141,890	85,199	(56,691)
Sales - Bulls	1831	4,800	4,800	0
Sales - Other Livestock	1822,1824,1826	0	0	0
Sales - Milk Solids Current Season	1911	1,412,130	1,445,061	32,931
Payments Milk Solids Prev Season	1912	455,131	462,016	6,885
Milk Levy	Manual adj.	10,396	11,199	803
Income - Rent	1971	0	0	0
Income - Other	Various	727	169	(558)
TOTAL REVENUE		2,124,109	2,053,444	(70,665)
EXPENSES				
<u>Salary Costs</u>				
Farm Salaries Perm & F/Term	2041-2043	195,778	190,000	(5,778)
Farm Casuals	2046	21,144	30,000	8,856
Allowances	2061	0	0	0
Superan,ACC,Incr Provison	2044,2062-2065	9,656	14,000	4,344
Total Farm Salary Costs		226,579	234,000	7,421
<u>Operating Expenses</u>				
Internal Sales; Grazing, Feed	1701	0	0	0
Internal Services; Fees, LU Rentals	1704	(6,241)	0	6,241
Appointment Expenses	2081	1,212	1,500	288
H&S/Prot Clothing/BioSecurity	2085	717	319	(398)
Staff Development	2095	0	0	0
Livestock Purchases	2111	0	8,400	8,400
Animal Health	2201	89,763	72,189	(17,574)
Breeding	2241	62,747	71,952	9,205
Feed & Grazing	2271	457,168	417,294	(39,874)
Crops/Pastures	2301	0	2,000	2,000
Seed	2311	0	8,167	8,167
Fertilisers	2331	180,817	173,023	(7,794)
Weed & Pest Control	2351	0	0	0
Contractors	2361	35,415	36,232	817
Electricity	2401	77,998	84,408	6,410
Freight	2411	14,538	12,627	(1,911)
Vehicle Expenses	2421	27,292	24,000	(3,292)
R&M (except Farm Houses)	2441	96,816	95,200	(1,616)
R & M (Farm Houses)	2442	0	0	0
Dairy Shed Operating Expenses	2461	4,091	8,306	4,215
Farm Demonstration Costs	2501	0	0	0
Administration	2601	12,879	22,540	9,661
Fixed Charges	2651	19,800	20,164	364
Livestock Decreases (Increases)	2911	0	0	0
Feed Decrease (Increase) Stock	2912	0	0	0
Milk Levy Deducted	Manual Adj.	10,396	11,199	803
Other Expenses	Various	0	0	0
Total Farm Operating Costs		1,311,987	1,303,521	(8,466)
CONTRIBUTION MARGIN PROFIT (LOSS)				
		585,544	515,924	(69,620)
Milk Production KgMs	M1911	5.29	4.90	0

Plantain Project

Background:

- Science has found plantain reduces N leaching losses on farms.
- LUDF has sown plantain as a pasture mix for the past 5 plus years. However, the ryegrass always outcompetes the plantain in the sward.
- Therefore, a different strategy has been proposed where 30% of the farm has been sown as a pure stand. The cows will be fed a break of the plantain every day after morning milking. They will stay on the paddock for around 6 hours. This equates to around 30% of their diet.

Pros so far

- Reduce N leaching on the farm from 35 kg N/ha/yr to 26 kg N/ha/yr if cows can achieve intakes of 30% or higher
- Same growth rates and protein levels as pasture and similar nitrogen response rates so it can easily fit into farm system
- The project aligns with SIDDCs approach to adopted a low foot print farm program approach

Cons so far

- Takes longer to establish which puts pressure on round length and meant silage had to be fed out. This is a cost to the farm profit.
- Appears to be more sensitive to compaction issues
- Subject to significant weed burden and limited sprays available
- Has been taken out by pests (grass grub)
- Expensive? - (currently doing a cost analysis on establishment and maintenance).
- Takes 3 years to establish 30% in pasture rotation.
- Palatability, cows don't like it (Peter hoping that once they graze it every day, they will enjoy it more – palatability improves).
- Lower in quality compared to pasture – lots more seed head over spring and summer period.

Species	Date Sampled	DM (%)	ME (MJ/kg DM)	Protein (% DM)	NDF (% DM)	Digestibility (%)
Pasture	Oct	16.8	12.2	18.8	31.7	82.9
	Nov	16.4	12.0	17.3	32.0	82.0
	Dec	15.9	11.8	19.7	34.7	80.3
	Jan	17.1	12.2	22.0	35.1	81.4
Plantain	Nov	11.1	11.3	18.2	18.1	77.4
	Dec	11.9	11.5	17.1	20.2	78.2
	Jan	14.3	11.2	15.7	24.7	74.6
Baleage	Dec	47.1	11.7	15.4	41.0	78.7

Plantain Paddock History:

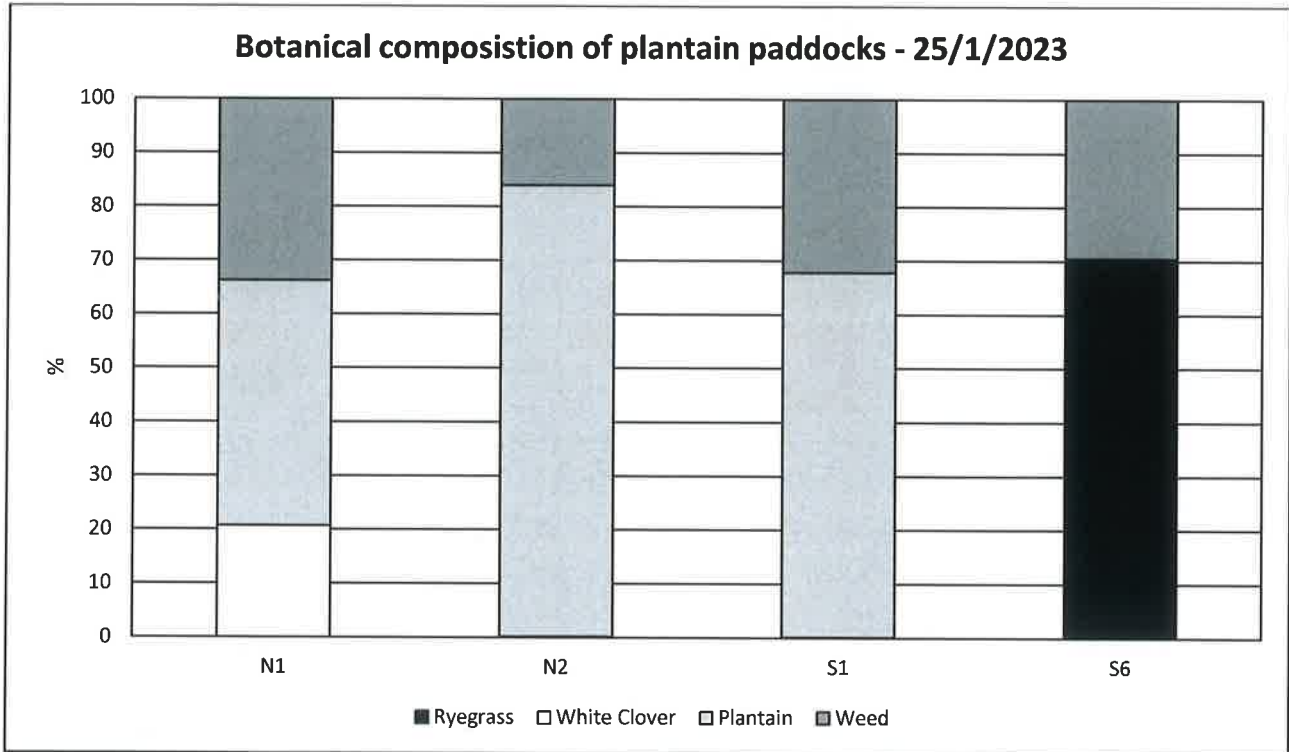
Paddock	Age	Establishment	Grazing	Performance
N1	<ul style="list-style-type: none"> 15 months 	<ul style="list-style-type: none"> Sprayed out and direct drilled in Nov 2021. 	<ul style="list-style-type: none"> Took 12 weeks to establish before 1st grazing. Long time between autumn and spring grazing (grazed in May then not grazed again until Sep). 	<ul style="list-style-type: none"> 15 months old – Underperforming. Currently lots of weeds (Poa, brown top) and pests (slugs and grubs).
N2	<ul style="list-style-type: none"> 10 months 	<ul style="list-style-type: none"> 1st attempt: Direct Drilled Feb 2022. Got grass grub. 2nd attempt: direct drilled in Apr 2022. 	<ul style="list-style-type: none"> Grazed in April but not much there. 	<ul style="list-style-type: none"> Ok production so far (less than 1 year old).
S1	<ul style="list-style-type: none"> 3 months 	<ul style="list-style-type: none"> Grass sprayed out in Oct 2021. Paddock direct drilled into annual grass. Paddock Ripped in Nov 2022 and sown in plantain (double spray reduces weeds). 	<ul style="list-style-type: none"> Took 10 weeks to establish. 1st grazing mid Jan. Could have been sown earlier but weed spray knocked plantain so grazing was delayed 10 days. 	<ul style="list-style-type: none"> Good production. Weed sprayed recently.
S6	<ul style="list-style-type: none"> Not sown yet 	<ul style="list-style-type: none"> Grass sprayed out in Jan 2023. Paddock direct drilled into annual grass and 4 kg plantain. Plan to spray out paddock in spring 2023 and sow in pure plantain (double spray reduces weeds). 		

Botanical results

- N1 (15 month old paddock):
 - Plantain is only 46% of the sward. Remainer is weeds and white clover.
 - Indicates the paddock is under performing due to high weed burden.
- N2 (10 month old paddock) and S1 (3 month old paddock):
 - Average 76% plantain.
 - Suggests that weeds could be a contributing factor in the future to an under performing paddock due them being less than 1 year old and already have 24% of the paddock in weeds.
 - S1 has recently been sprayed with herbicide however, this has not killed all the weeds and therefore,

highlights the problem with limited herbicide sprays available that doesn't kill plantain as well.

- S6 (paddock not sown in plantain yet):
 - High weed burden (30%).
 - A good option to double spray, put into annual and then in 6 months, put into plantain to get rid of dock and other weeds.



Fertility results

	June 2021	June 2022
N1		
N2 (non eff)		
N2 (eff)	Not available	
S1		
S6		

- Results show no soil fertility issues with the plantain paddocks except for low organic sulphur levels.
- However, pasture paddocks are also low in organic sulphur which suggests the farm is low in general.
- High potassium could be affecting palatability.

Plan moving forward:

- Test the compaction of the soil
- Plant population counts each year to see how much is decreasing every year.
- Previous paddock history (pasture production) to see if these paddocks were previously performing.
- Do a cost analysis on establishment and maintenance (budget vs actuals).
- From these results decide what to do next.

Milking 10 in 7 from day one this season

Current milking regime:

Monday	4:30am		2.30pm	9.5 hours
Tuesday		9.30am		18 hours
Wednesday	4.30am		2.30pm	21.5 hours
Thursday		9.30am		18 hours
Friday	4.30am		2.30pm	9.5 hours
Saturday			11.00am	21 hours
Sunday		8:00 am		21.5 hours

- Summer completed with 2 full-time staff, Peter & 2IC.
- Staff 5+2

Results so far

- Low staff turn over - currently no staff have moved on since 10 in 7 milking started.
- Drop in profit in 2021/22 season was \$39,000 @ \$9.30 pay out.
- There would have been no drop in profit at \$7.00 payout.
- The pay out drove the loss in profit with a drop in production.
- Decreased petrol and motorbike R&M.
- Decreased power consumption with less shed running time.
- Cost of cleaning shed and plant dropped.

Additional benefits that could be attributed to 10 in 7 roster - but haven't been proven yet

- Better cow condition – currently 4.6 BCS – higher than optimum herd average.
- 6 week in calf rate is better than previous seasons.
- Watch this space!

Assumed benefits that didn't occur this season

- Making silage on farm – haven't made any silage this season to date.

Young Stock Weights

- LUDF sends calves off farm on 1 May to an independent grazier block in Hororata.
- Heifers looked really good on 3/2/23. Average weight was 392 Kg.
- This was a weight gain on average since last weighing of 769 g per day.
- There is still a bit of a tail end as 18 heifers underweight.
- In calf rate 95% or 7 empty (5%) pretty happy with this considering the poor A.I result we had.

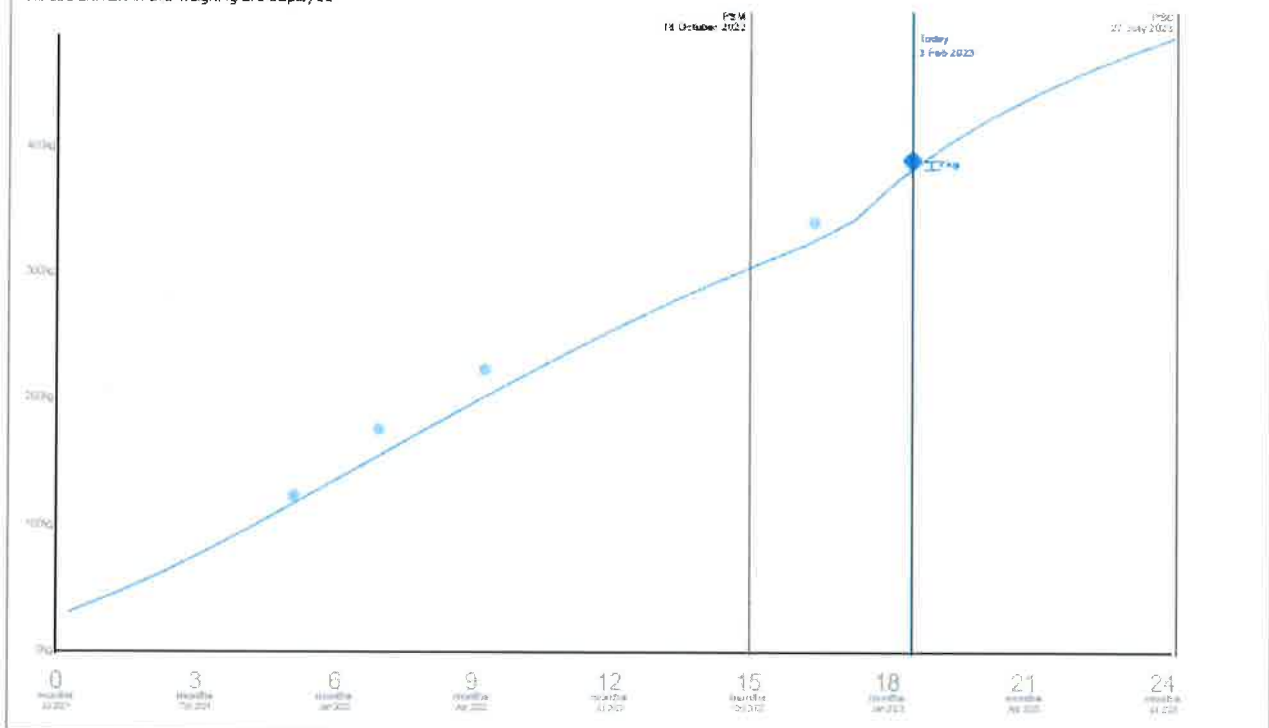
2021 Spring Born

3/02/2023

BQCY

Young stock trend

All 136 animals in this weighing are displayed



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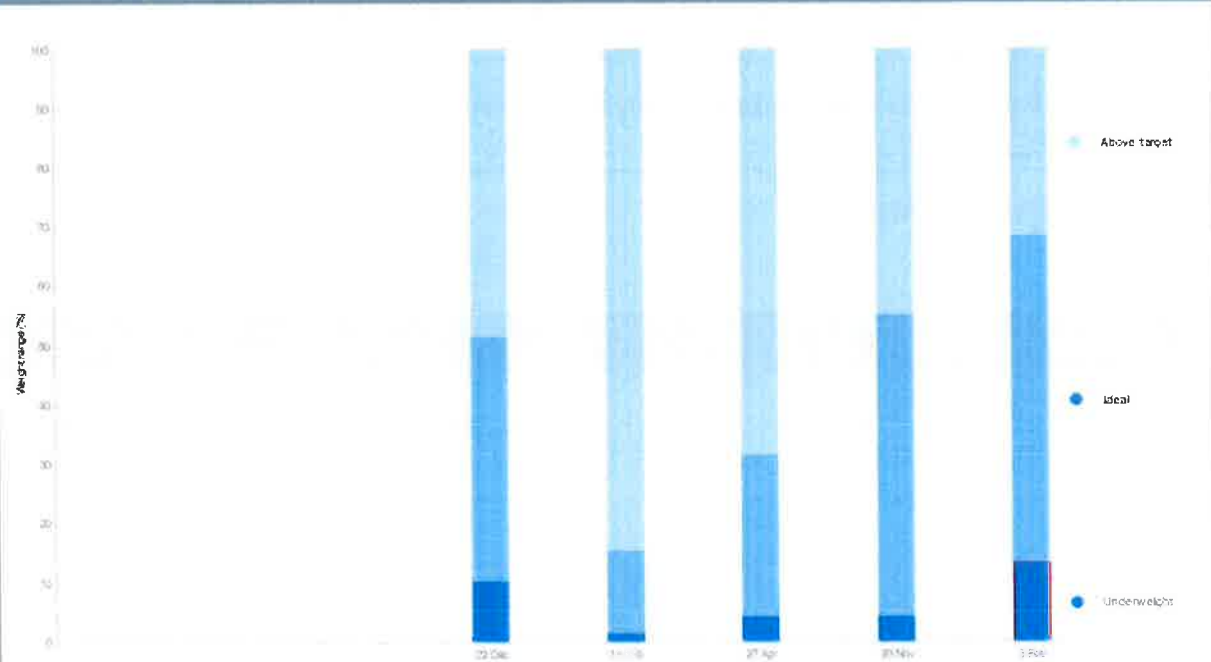
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2021 Spring Born

3/02/2023

BQCY

Weight ranges



Weigh date

More than 10% of animals were underweight at the last weighing

Range	December 2021		February 2022		April 2022		November 2022		February 2023	
	No.	%	No.	%	No.	%	No.	%	No.	%
Above target	66	48.5	115	84.6	93	68.4	61	44.9	43	31.6
Ideal	56	41.2	19	14	37	27.2	69	50.7	75	55.1
Underweight	14	10.3	2	1.5	6	4.4	6	4.4	18	13.2
Total Animals	136		136		136		136		136	



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Winter Grazing

- LUDF sends MA cows off farm on 28 May to an independent grazier block in Hororata. They all come back around 15th July.
- For 2022 winter cows did not gain the 0.5 condition score target. Issues with feed utilization with a wet winter.
- LUDF have met with the grazier to improve results.
- Options for this year:
 - Try and place silage and open up paddocks so less walking back to silage and water.
 - Or portable troughs – can move the fences etc. Back fence, keep cows off pugged areas.
 - Have the conversation – about feeding being prepared to waste more. Consequences is feed will run out faster.
 - Throw out wheat straw as bedding 3 pm for cows lying time.
 - Once a day Vs twice a day feeding to improve utilisation? Dairy farm to provide support – a better option than throwing more feed

Winter grazing regulations

- This support block has more than 50 ha of intensive winter grazing.
- Therefore, they require an intensive winter grazing consent under the National Environmental Standards.
- Even though the winter grazing block is not owned by LUDF, as a leading dairy farm in the industry, there is responsibility to comply with the government rules set out for the agricultural sector.
- This consent requires:
 - A winter grazing management plan
 - The area of intensive winter grazing in the reference period (1 Jul 2014- 30 Jun 19).
 - Relevant farm maps and photos to support the consent
 - Details of potential sensitive areas on the farm including waterways, wetlands, bores/wells, critical source areas, community drinking water supply zones, QEII covenant areas.

Maintaining good culture on farm

Things to think about in your farming business:

- Describe the CULTURE you want for your business?
- How close to having that culture are you?
- Why do think its important to create good culture?
- What can you do to create/maintain the culture you want?
- What do you think might derail a good culture ?
- What are the 3 things you are going to differently to help achieve good culture in your business ?

Notes:

Intensive winter grazing under the NES-F

Relevant definitions

- **Permitted Activity:** A permitted activity can be carried out without the need for a resource consent so long as it complies with any requirements, conditions and permissions specified in the LWRP regulations, and in any applicable plans or proposed plans.
- **NES-F:** National Environmental Standards for Freshwater - Government Policy.
- **Canterbury LWRP:** Canterbury Land and Water Regional Plan - Regional Council Rules (ECan).
- **Rules for winter grazing under Canterbury LWRP:** If you have an area of winter grazing* that exceeds the limits in the table below you require a Farming Land Use Consent under the Canterbury LWRP.

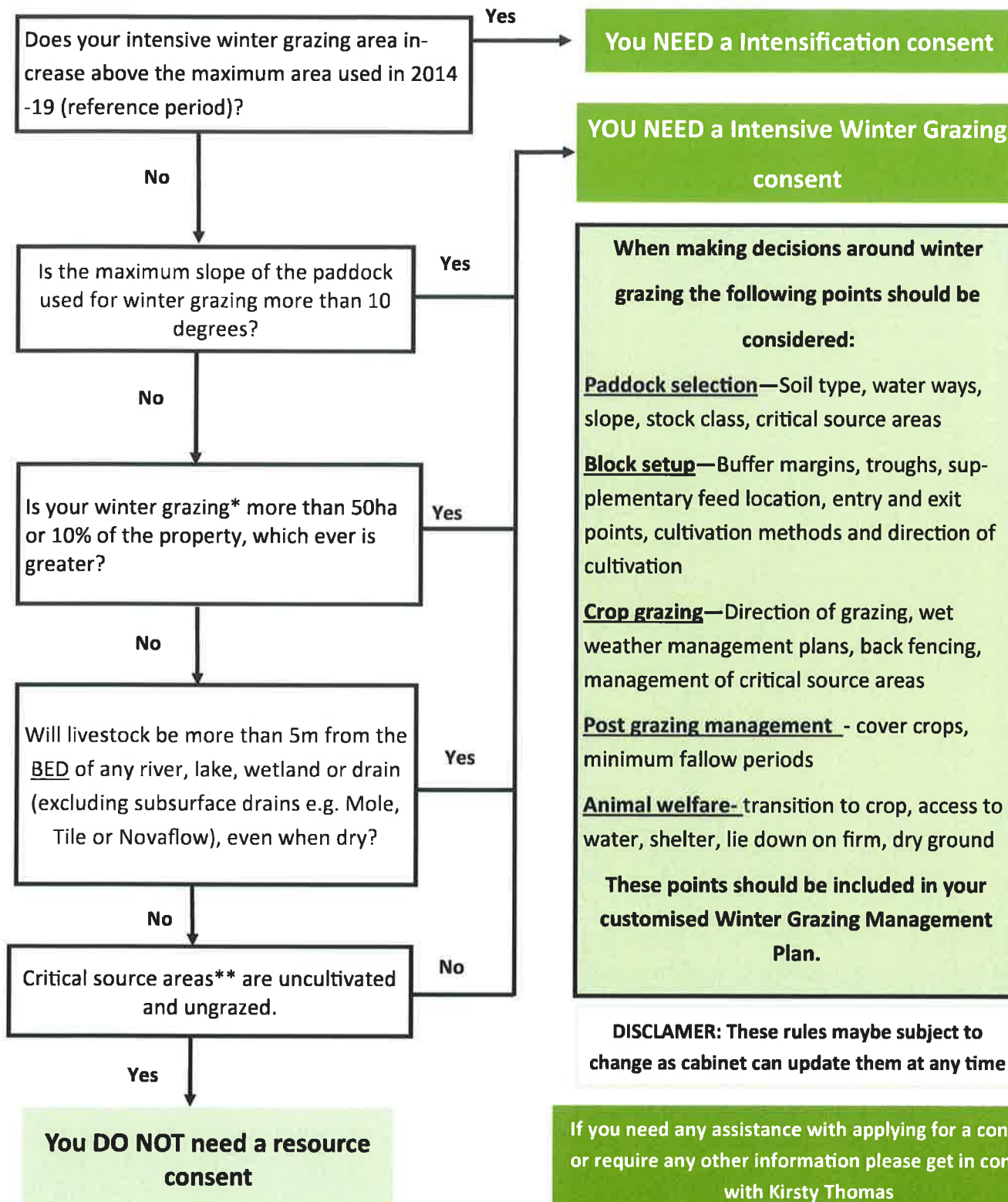
ON A PROPERTY	WINTER GRAZING
Less than 100 ha	10ha or more
Between 100 and 1000ha	10% of the property or more
More than a 1000ha	100ha or more

- **Intensive winter grazing within the NES-F:** Grazing any livestock on an annual forage crop at any time in the period that begins on 1st of May and ends with the close of 30th September of the same year.
- **Winter grazing within the LWRP:** The grazing of cattle within the period of 1 May to 30 September, where the cattle are contained for break-feeding of in-situ brassica and root vegetable forage crops or for consuming supplementary feed that has been brought onto the property.
- **Critical Source Area:** a landscape feature like a gully, swale or a depression that accumulates runoff from adjacent flats and slopes, and delivers it to surface waterways such as rivers and lakes, artificial waterways and field tiles.

Quick Winter Grazing Check List

Practice	Achieved	Could be improved on	Needs more planning and preparation
All stock excluded from waterways and a 5 m buffer is left.			
Critical source areas are protected by keeping stock away, temporary fencing wet areas and leaving a buffer zone.			
Paddocks are strategically grazed towards waterways, in the direction of water flow, grazing downwards on sloping land. Use back fencing and second gateways to prevent pugging.			
Supplementary feed and portable water troughs a placed away from waterways and critical source areas.			
Animal welfare requirements are met (transition to crop, access to water, shelter, lie down on firm ground).			
Feed budgets completed to ensure adequate feed available all winter including extra baleage if bad weather.			
Have a plan if bad weather occurs including an area for standing off/ sacrifice paddocks to ensure animal welfare and environment is protected.			
Paddocks sown into permanent pasture as soon as possible when the ground is dry enough to get a tractor onto the paddock.			
Document (photos, diary) your winter grazing season to show good management practices are being implemented and use this plan for next year (including things you could do better next season).			

Do I need a consent to intensive winter graze under the NES-F ?



If you need any assistance with applying for a consent or require any other information please get in contact with Kirsty Thomas



027 465 2803 kirsty@dfms.co.nz

*Winter grazing under the NES-F is any stock grazing on in situ crop that is not pasture between 1 May and 30 September in the same year.

**Guidance on how critical source areas will be identified and protected is currently being developed.

Creating a Winter Grazing Management Plan

Include the following information in a word document and add information tailored to your farm system

Paddock selection

- Try to select paddocks that do not have critical source areas (low lying parts of the farm such as gullies and swales where water congregates), waterways, other natural drainage or artificial drainage, or areas significantly vulnerable to pugging.
- Select paddocks with soil types that are suitable for winter crops.
- Select paddocks where the animals can lie at rest on firm dry ground.

Critical source areas and waterways

- If a critical source area is present within a crop paddock, leave a grass buffer strip of 5 – 10m
- Exclude stock from any waterways by fencing off, and leaving a grass buffer strip of 5 – 10m.
- Strategically graze areas near critical sources or waterways.

Grazing management

- Avoid wet areas as much as possible.
- Back fence to reduce animal movement that results in damage to soils.
- Have a catch/safety fence in front of the feeding face to minimise the impact of overfeeding if stock break out.
- Use narrow breaks with long fences that are moved frequently to improve feed utilisation.
- If possible, leave any critical source areas un-grazed with grass buffer. If you must graze the critical source area, do this strategically by grazing it last and quickly when it is drier.
- Have a stand-off area when paddock gets heavily pugged.

Crop establishment

- Direct drill where possible.
- Leave critical source areas uncultivated if practical.

Adverse weather

Have a contingency plan if bad weather occurs including an area for standing off/ sacrifice paddocks to ensure animal welfare and environment is protected.

Feed Allocation/Animal health

- Ensure that all the cows get the right amount of feed every day and constant access to water.
- If there is a sick cow, lame cow or cow that has slipped/ aborted she is moved to a sacrifice paddock.
- Make sure cows are transitioned on and off the crop correctly to avoid animal health issues.
- Where possible, plant crop in paddocks with good shelter. Alternatively, allow a feed buffer in your budget to account for feeding extra on cold, wet or windy days.
- During cold, wet and windy conditions, make sure cows don't become susceptible to cold stress.
- Make sure cows always have access to fresh water.

Post Grazing Management

- Ensure that paddocks are not left in fallow for a long period of time to reduce the risk of overland flow and leaching.
- Consider catch crops to take up any urinary nitrogen left from the winter grazing.

Plan ahead and document

- Document (photos, diary) your winter grazing season to show good management practices are being implemented
- Use this plan for next year (including things you could do better next season).

Map

Add to following to a winter grazing map

- ⇒ Any sacrifice paddocks/ gravel pit
- ⇒ The crop paddocks and type
- ⇒ Entry and exit points
- ⇒ Water troughs
- ⇒ Critical source areas (swales and gullies)
- ⇒ Waterways

If you need any help with creating a Winter Grazing Management Plan please to contact us:



PH 03 3665 665 www.dfms.co.nz

Wintering from an animal perspective

LUDF Focus Day
15th February 2023

Dawn Dalley, Senior Scientist, DairyNZ



DairyNZ

1

Increasing scrutiny of our wintering practices – Not just a Southland issue!

Wintering taskforce should have:

- Somewhere for animals to lie comfortably for as long as they want
- Ability to readily move animals to shelter/dry land in adverse weather
- Continuous convenient access to fresh, clean water
- Access to an adequately balanced diet

Wintering taskforce should not have:

- Animals giving birth on mud
- Avoidable deaths in adverse weather events
- Mass mortality events on winter grazing system

Dairy Cattle code of welfare proposed changes DairyNZ

2

Consistent feeding & access to water

- Winter feed budget (with 10% contingency) completed by farm staff to ensure cows do not go hungry
- Winter diets meet nutritional requirements, especially energy, protein and specific minerals
- Cows are carefully transitioned onto all forage crops
- Paddock plan completed to ensure all cows have equal access to crop/pasture and supplement
- Clean water available always - close to the feed face is best

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3

Prevailing/adverse weather considerations

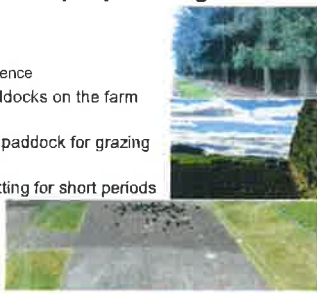
- Where possible, crops are planted in paddocks with good shelter
- Crop is grazed in a way that it provides shelter (tall kale) or protects the area closest to the feed face during periods of adverse weather
- Sheltered areas are 'saved' for use during adverse events
- Farm team understands the contingency plan and the triggers for implementing it

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What contingency plans are people using?

- Budgeting 10% extra feed
- Increasing area available
 - New break or behind the back fence
- Saving drier, lower risk crop paddocks on the farm with shelter
- Saving sheltered areas within a paddock for grazing later
- Yards/laneways with rubber matting for short periods
- Feed-pads/stand-off pads
- Tree blocks (safe!)
- Alternative grass paddocks
- Grass strips in crop paddocks



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5

Wet weather breakout zone considerations

- Identifying and not spraying out and cultivating
- Management prior to winter
 - Contactors to harvest pasture, spray crop etc
 - Animals during grazing
- Location in paddock
 - Avoid lower lying areas of the paddock or CSA's
 - Drier, more sheltered areas



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Southern Dairy Hub (SDH) triggers for implementing their contingency plan

Stand-off Area Decision Rules
Make an a paddock-by-paddock basis

Time of day	1	2	3
0-24 hours	Identify conditions - weather Can feed on the balerage Can spread 50 cm	Identify conditions - weather Can feed on the balerage Can spread 50 cm	Identify conditions - weather Can feed on the balerage Can spread 50 cm
24-48 hours	Stop paddocks Consider returning back to feed Can feed on the balerage Can spread 50 cm Close paddocks Can remove back fence or change to back fence Can feed on the balerage Can spread 50 cm	Stop paddocks Consider returning back to feed Can feed on the balerage Can spread 50 cm Close paddocks Can remove back fence or change to back fence Can feed on the balerage Can spread 50 cm	Stop paddocks Consider returning back to feed Can feed on the balerage Can spread 50 cm Close paddocks Can remove back fence or change to back fence Can feed on the balerage Can spread 50 cm
48-72 hours	Stop paddocks Can feed on the balerage Can spread 50 cm Close paddocks Can remove back fence or change to back fence Can feed on the balerage Can spread 50 cm	Stop paddocks Can feed on the balerage Can spread 50 cm Close paddocks Can remove back fence or change to back fence Can feed on the balerage Can spread 50 cm	Stop paddocks Can feed on the balerage Can spread 50 cm Close paddocks Can remove back fence or change to back fence Can feed on the balerage Can spread 50 cm

7

Preparing for calving – no cows calving on crop

- Cows are date scanned and mobbed up depending on their calving date
- Regular springer drafting of cows off crop
 - Twice per week
 - At least 14 days before calving

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**Assessing soil conditions for better welfare outcomes:
120 cows, 30 days, kale & fodder beet**

Soil conditions



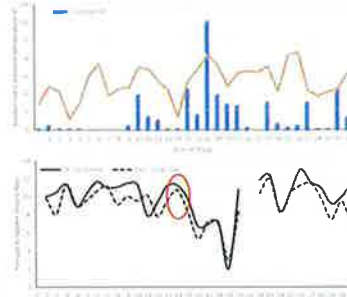
Animal welfare



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Soil conditions affect lying time



- Lying time decreased during and after rain
- Once soils are saturated it doesn't take much rain to change lying conditions and impact animal welfare

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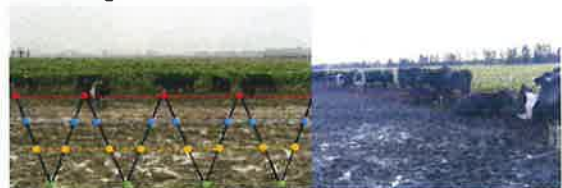
Not all cows achieved the minimum recommendation of 8 h/day lying



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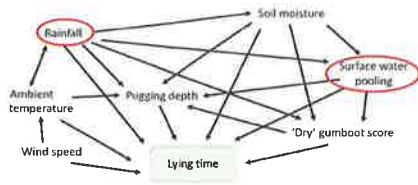
Area closest to the feed face remains driest: plan grazing direction to protect this area during weather events



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Many interacting factors affect lying but **surface water pooling** appears most useful and this is closely linked to **rainfall**



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Indicators for implementing contingency plans

- Amount and number of consecutive days of rain - > 2 days with sodden soils cows will be getting tired
- Proportion of the paddock with water pooling

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Updated gumboot scoring resource

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Call to Action

- Start preparing for winter 2024 – **involve all your team**
- Understand the national and local wintering regulations
 - Can you winter graze within the rules, or will you need a resource consent?
 - Do you have a written wintering plan?
- Support and planning templates available from DairyNZ, Federated Farmers, B+LNZ, MPI, regional councils and other industry bodies

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The gumboot scoring method for wintering paddocks

Suggested actions to ensure lying time and feed requirements are not compromised

	Paddock Characteristic	Wet and weather clearing	Wet and weather deteriorating
GUMBOOT SCORE 1	 <ul style="list-style-type: none"> No water pooling Soil is firm Cows can lie down Boot imprint dry and sides remain formed 	<ul style="list-style-type: none"> No actions required. Feed intake and lying time will not be restricted at gumboot score 1 	<ul style="list-style-type: none"> Consider feeding extra crop/supplement
GUMBOOT SCORE 2	 <ul style="list-style-type: none"> No water pooling Soil is sticky Boot imprint wet, may be sticky and less defined Cows may lie down 	<ul style="list-style-type: none"> No actions required 	<p>Crop Paddocks:</p> <ul style="list-style-type: none"> Consider giving access to drier areas behind the backfence Consider feeding extra crop/supplement Consider spreading straw for drier lying surface <p>Grass Paddocks:</p> <ul style="list-style-type: none"> Consider giving access to drier areas behind the backfence or increase the daily area allocation Consider feeding extra supplement Consider spreading straw for drier lying surface
GUMBOOT SCORE 3	 <ul style="list-style-type: none"> Water pooling Soil is liquified Boot imprint disappears Cows will not lie down 	<p>Crop Paddocks:</p> <ul style="list-style-type: none"> Consider giving access to drier areas behind the backfence Feed extra crop/supplement Spread straw for drier lying surface <p>Grass Paddocks:</p> <ul style="list-style-type: none"> Remove back fence or give double break size area (need to shift bales) Feed extra supplement Spread straw for drier lying surface 	<p>All paddocks:</p> <ul style="list-style-type: none"> Cows should be given access to in-paddock breakout areas or removed from the paddock to a grass paddock or standoff area/facility Feed additional supplement

