

Marlborough Monitor Farm

Final Field Day



Jason and Amber Templeman

Mahakipawa Farms Ltd

Thursday 5th May 2016



Marlborough Monitor Farm Project

Committee:

Chairman: Euan Wilson

Current members: Mark Zillwood, Sharon Parks, Kevin Payton, Jason Templeman, Anne-Marie Wratt

Former members: Andy Reid, Maria Carlson, Tony Sorensen, Andrew Butler, Kenny Kyle,

Background to the Focus Farm:

1. Provide a forum that generated more interest than the local Discussion Group and provide a forum to focus on wider farm management benchmarking and decisions.
2. Provide weekly farm data and benchmarking against other farms.
3. Provide local farm data to demonstrate the possibilities and options to drive improvement in farms in the region.

Vision:

- For the monitor farm to return a level of profit that is 10% higher than the area average in year 1 (2012/13) and a lift in profit by 10% per year for the remaining 2 years of the project. The ultimate aim was to be in the top 20% for the area by the end of the 3rd season (2014/15).
- For dairy farmers in the area to increase their profit by 10% at a \$6.25/kgMS payout by the end of the 3rd season

Objectives:

- To provide regular, real time data on growth rates, soil temperatures, soil moisture deficits
- To provide individual paddock performance data and discuss on farm pasture and fertiliser improvement programmes
- Identify and achieve targets for heifer liveweight, condition score and reproductive performance
- Benchmark using Dairybase to compare both locally and with other regions
- To lift local farmers financial awareness and performance relative to the wider TOPSI region

Background to the farm

- Jason's family farm
- Jason and Amber met at Telford 2002
- Jason and Amber came back to run the farm in 2003 milking 145cows achieving 40,000kgMS
- Went on to 25% LOSM in 2005/06
- Farm ownership in 2010/11, purchasing 60ha milking platform off Sandy and Robin, and leasing 60ha of milking platform from the Jones family

Goals/Targets at the start of the project:

- To achieve top 10% profitability for the Marlborough/Nelson area
- To have all paddocks on the farm in the optimum range for soil fertility
- To reduce the reliance on supplements by growing and harvesting more home grown feed
- To focus on cost control and decrease cost/kgMS

Why we became a monitor farm:

- To learn and understand more about our business
- Wanted to know if we were doing a good job and if there were opportunities to do things better
- Wanted to use it as a chance to help staff understand our business
- Enabled us the opportunity to provide information to the local community

Key benefits:

- It has provided diverse information and knowledge from a wide range of expertise
- It has challenged our thinking and best practice management
- It has given us the knowledge and confidence to make our own decisions
- Opened up a wider network and opportunities within the industry
- ***From when we started, we now know more about our business, our understanding and ability to act on information has increased***

Principles:

- Know where you are so you can make more accurate and informed decisions
- Pasture management and feed quality are critical!! Regular farm walks have helped ensure cows are efficiently fed throughout the season
- Stockmanship and Animal health are big focus with an emphasis on prevention rather than cure; take pride in all our livestock stock
- Cost control and profit is critical to manage high debt
- Flexible and adaptable to the environment around – knowledge to make decisions
- Achieve a work:life balance and be able to enjoy time with family

Key Changes to the System for 2015/16 – low milk price strategy:

- Limited amount of supplement imported – 0.68T/ha down from an average of 2T/ha (3.2cow/ha) ; 210kgDM/cow vs 600kgDM/cow (12/13 13/14 seasons)
- Decreased cow numbers - driving individual cow performance further
- Labour – kept similar to allow our work:life budget
- Zero new capital
- Dug into every cost! – Tendered all costs

Biggest achievements:

Pasture Performance

- Increased pasture growth
- Far less supplement and same production
- Knowing paddock performance and targeting the worst paddocks

Business

- Better understanding of the key performance indicators for our business
- Regular budgets: monitor – actual vs target

Cows

- Great herd – BW and PW
- Still battling on the repro – but no inductions and have reduced breeding to 10.5 weeks from 12-13 weeks

****Simplified system, made a more robust/resilient farm business****

Farm Business Overview: 2014/15 season

** Predominant breed now XB and peak cows was down to 375 this season*

Farm name	Mahakipawa Farms Ltd
Season	2014-15
Business type	1- Owner operator
% Milk cheque received	100%
Balance month	May

Land (ha)	
Total Dairying area	123.0
Less un-grazable area	6.0
Effective Dairying area	117.0
Dairy support effective area	150.0
Non-dairy effective area	0.0

Stock	
Predominant breed	Friesian
Peak cows milked	390
Stocking rate (Cows/ha)	3.3

District, Region	Marlborough, Marlborough-Canterbury
Milking interval	Twice a day
Calving season	Spring only
Production system	3 Feed imported to extend lactation 10-20%
Winter milk, Organic	No, No
% farm irrigated	More than 30%

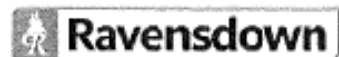
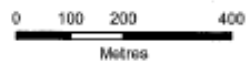
Labour	
FTE paid labour	1.6
FTE unpaid labour	1.0
FTE unpaid management	1.0
Total FTEs	3.6

Production (financial year)	
2014-15	164,353
2013-14	164,344
2012-13	161,215



60847359 Mahakipawa Farms Ltd

Date: 02/07/2015



Physical Farm Overview:

	2016/17 target	2015/16 est
Farm Details		
	Farm	Farm
Effective Dairying Area (ha)	117	117
Dairy run-off effective area (ha)	100	125
Milksolids (kg)	164,000	160,000
Peak cows milked	380	375
Stocking rate (cows/ha)	3.2	3.2
Planned start of calving (PSC) spring	29-Jul	29-Jul
Nitrogen applied for year (kgN/ha)	190	190
Physical KPI's		
Milksolids per ha (kg)	1,402	1,368
Milksolids per cow (kg)	432	427
Milksolids per cow as % of Lwt	96%	95%
Pasture and crop eaten (t DM/ha)	14.4	14.1
Imported supplements (t DM/ha)	0.650	0.58
Grazing off dry cows (t DM/ha)	1.373	1.37
Total feed eaten/ha (t DM/ha)	16.39	16.00
Cow liveweight	450	450

		2014-15		2013-14	2012-13
Physical Description	Units	Farm	Benchmark	Farm	Farm
Milking area	ha	117.0	221.5	115.0	115.0
Support block effective area	ha	150.0	58.7	150.0	150.0
Percent of farm at different height to dairy		50%	11%	50%	50%
Peak cows milked		390	696	395	405
Stocking rate	cows/ha	3.3	3.1	3.4	3.5
Cow breed		Friesian	Crossbred	Friesian	Friesian
Cow liveweight	kg	450	470	455	460
Liveweight/ha	kg/ha	1,500	1,475	1,563	1,620
BW/reliability		149 / 62 LIC		117 / 45 LIC	
PW/reliability		120 / 45 LIC		164 / 63 LIC	
Season's rainfall	mm	1500	991	1500	1500
NIWA 10 Year average rainfall	mm	710	1,031	740	720
Production system		3		4	4
Calving season		Spring only	Spring only	Spring only	Spring only
Nitrogen applied for year	kg/ha	180	196	200	200
Milksolids (MS) Production to factory - (Seasonal year)					
Milksolids/ha	kg/ha	1,406	1,328	1,429	1,402
Milksolids/cow	kg/cow	422	423	416	398
MS/ha to 31st Dec	kg/ha		734	801	803
MS as % of liveweight		94%	90%	91%	87%
10 day peak per cow	kg/day	2.15	2.02	1.90	1.92
Average Milksolids/cow/day	kg/day	1.6	1.7	1.5	1.6
Monthly production drop: Peak to 31Dec		41.7%	8.4%	9.7%	11.6%
Days in Milk per cow		270	254	270	256
Feed Eaten					
feed KPIs based on 11.0 ME Pasture.					
Pasture & Crop eaten	MJME/ha	166,406	137,884	163,339	170,746
Pasture & Crop eaten	t DM/ha	15.1	12.5	14.8	15.5
Imported supplements eaten	t DM/ha	1.3	2.0	2.6	2.1
Grazing off dry cows eaten	t DM/ha	1.5	2.0	1.2	1.9
Total feed eaten	t DM/ha	17.9	16.4	18.7	19.5
Feed exported	t DM/ha	0.0	0.1	0.0	0.0
Imported supplements eaten	kg DM/cow	401	622	752	587
Imported supplements & grazing eaten	kg DM/cow	839	1266	1112	1115
Average utilisation imported supplement		79%	82%	79%	79%
Average ME imported supplements	MJ/kgDM	10.5	10.5	10.6	10.4
Crops Grazed & Harvested					
Farm area in grazed winter crop	ha	0.0	3.7	0.0	0.0
Farm area in grazed summer crop	ha	8.0	2.4	8.0	10.0
Farm area in harvest crop	ha	0.0	0.9	0.0	0.0
Percent of farm harvested for hay & silage		0%	12%	0%	0%
People					
Cows/Labour unit	cows/FTE	108	162	123	116
Milksolids/Labour unit	kg/FTE	45,694	68,436	51,358	46,061

*Benchmark: South Island

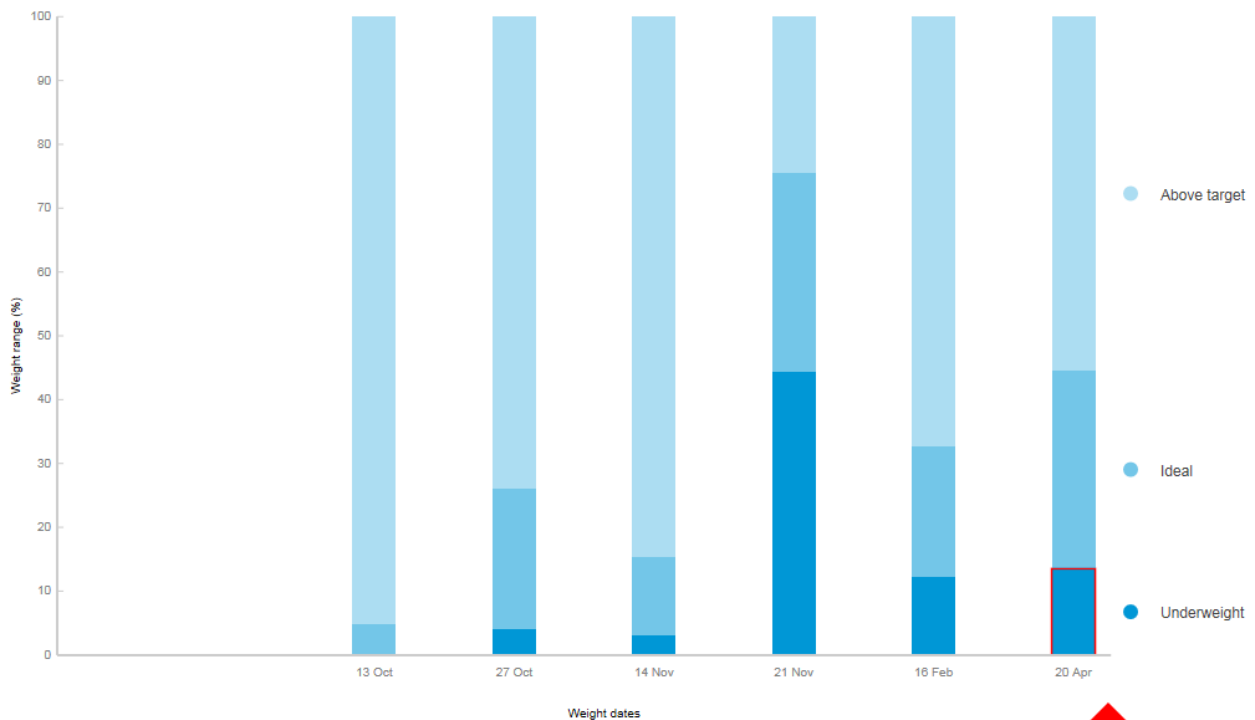
Herd performance

Goals:

- Ensure condition score targets were always met
- Best practice with repro performance – 78% 6week incalf rate ; 6% MT after 12 weeks
- Get the herd into top 10% for BW and PW
- Identify the actual breed of cow that suits this farm

Youngstock Weights:

- Youngstock management and monitoring has been a strong focus
- Regularly weigh calves and input into MindaWeights to allow accurate decisions to be made to ensure that target liveweights are achieved



Weight dates

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

Range	October 2015		October 2015		November 2015		November 2015		February 2016		April 2016	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Above target	60	95.2	54	74	83	84.7	11	24.4	99	67.3	82	55.4
Ideal	3	4.8	16	21.9	12	12.2	14	31.1	30	20.4	46	31.1
Underweight	0	0	3	4.1	3	3.1	20	44.4	18	12.2	20	13.5
Total Animals	63		73		98		45		147		148	

BW and PW performance:

Ptpt	Name	BW	National BW
BVMV	Mahakipawa Farms Limited	123	106

Year Born	Number of Cows	Average BW	National BW
2015	147	169	141
2014	134	153	131
2013	107	146	122
2012	86	141	112
2011	85	121	103
2010	73	106	95
2009	39	103	90
2008	13	91	81
2007	9	73	74
2006	12	78	67
2005	1	83	61
2004	1	60	46





Animal evaluation averages as at 13/02/2016 ☞

	No. of herds	Top 5% PW (\$)	PW (\$)	Top 5% BW (\$)	BW (\$)
National	11715	165/70	111/51	141/48	97/39
Nelson/Marlborough	246	162/71	113/49	142/48	99/39
For this herd			154/64		122/45

Indices evaluated by LIC using genomic information where applicable.

Reproductive Performance

In-calf rate

	3 Weeks	6 Weeks	9 Weeks	9+ Weeks	Not In-Calf Rate
Spring 2015	63%	83%	89%	91%	9% 
Spring 2014	68%	83%	87%	90%	10% 
Spring 2013	72%	85%	92%	94%	6% 
Spring 2012	62%	78%	87%	89%	11% 

Include Animals that were Pregnancy Tested Between: 01/06/2015 And 22/04/2016

Current as at: 02/02/2016

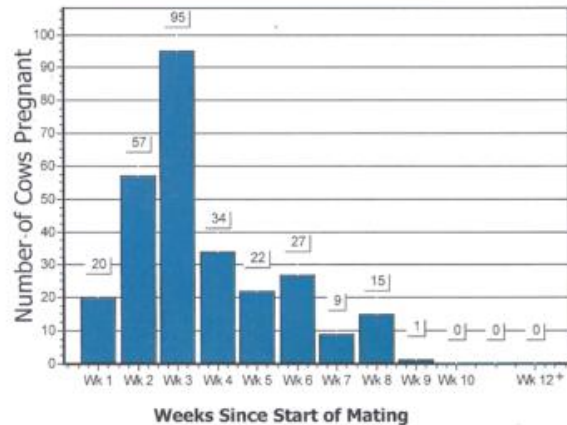
Pregnancy Testing Results

	Number in Group	Conceived to First Service	In Calf 3wks (from start of mating)	In Calf 6wks (from start of mating)	In Calf 9wks (from start of mating)	Empty
All Cows	376					
Number		198	172	255	280	0
Percentage		53%	46%	68%	74%	0%
2014 Born Animals	0					
Number		0	0	0	0	0
Percentage		0%	0%	0%	0%	0%
2013 Born Animals	94					
Number		39	35	49	62	0
Percentage		41%	37%	52%	66%	0%
2012 Born Animals	71					
Number		44	41	58	61	0
Percentage		62%	58%	82%	86%	0%
2011-2007 Born	194					
Number		107	88	136	144	0
Percentage		55%	45%	70%	74%	0%
2006 Born (or prior)	17					
Number		8	8	12	13	0
Percentage		47%	47%	71%	76%	0%

Start Of Mating Date: 15/10/2015

Cows Calved less than 30 days prior to Start of Mating: 45
Cows Confirmed Pregnant to Artificial Breeding: 260
Cows Confirmed Pregnant to Natural Matings: 0
Cows Confirmed Pregnant to Unrecorded Matings: 20

Cows Confirmed Pregnant



This report is based on Pregnancy Diagnosis records only.

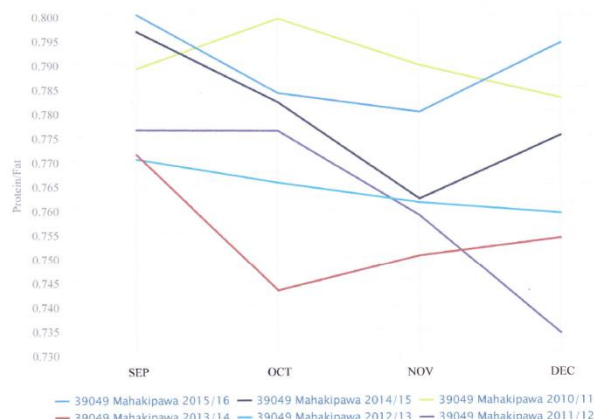
Cows that were not Pregnancy Tested in this period have been excluded from this report.

MINDApro

* Analysis care of Nick Hansby – Vets on Alabama

- Calving patterns for first calvers and the herd were very good
- BCS was almost at target at calving
- The 3 week submission rate looks OK at 86% but if you look at submission rate report broken down (see below) into early calving vs late calving you will see that the early calvers / mid calvers were slow to cycle. If broken down into age groups you can see that the 2013 born cows performed poorly in the first 2 weeks with only 18 out of 93 mated at 2 weeks. By 3 weeks 61 % were mated, I suspect with the help of CIDR's
- The incalf rates show the 2013 born to be 52% at 6 weeks compared to the 2012 born at 82% and the older cows at 70 %
- I think we should have collected more data pre-mating and investigated why the poor performance of this age group and early cyclers. The earlier use of CIDR's would have given us more inseminations. However they are a cost that the farm was trying to avoid
- We need to investigate what happened during early mating to determine why the 2013 born animals performed so badly. It might be stress related, nutrition or exposure to a disease process like theileria or BVD

Protein/Fat : 1 September - 31 December





Submission Rate Report by Days Since Calving

Date : 22/04/2016

1113 Queen Charlotte Drive
RD 1
Picton 7281

Submissions to First Matings
Herd Averages as at 23/01/2016
Ancestry: 93% BW: 132/45
PW: 160/61

Report Starts: 15/10/2015
Ends: 10/12/2015
PTPT Code: BVMV
Herd Code: 6/40

Animals Included: 424

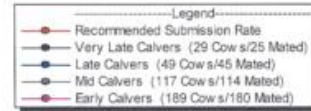
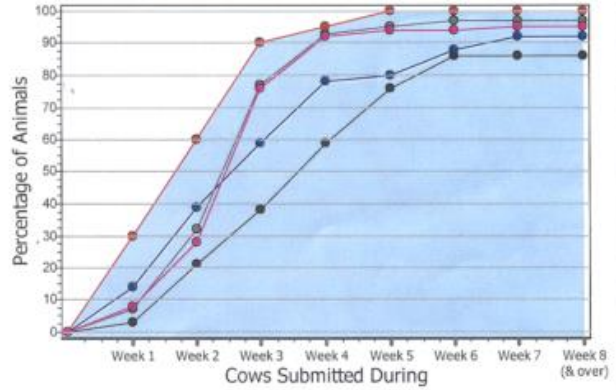
Group: Whole Herd

Current as at: 02/02/2016

Submission Rates by Days Since Calving

	Cows Submitted During Week							
	1	2	3	4	5	6	7	8+
Very Late Calvers (29) (0 - 3 weeks)								
Actual	1	5	5	6	5	3	0	0
Accumulated No.	1	6	11	17	22	25	25	25
Accumulated %	3	21	38	59	76	86	86	86
Late Calvers (49) (3 - 6 weeks)								
Actual	7	12	10	9	1	4	2	0
Accumulated No.	7	19	29	38	39	43	45	45
Accumulated %	14	39	59	78	80	88	92	92
Mid Calvers (117) (6 - 9 weeks)								
Actual	8	30	52	19	2	3	0	0
Accumulated No.	8	38	90	109	111	114	114	114
Accumulated %	7	32	77	93	95	97	97	97
Early Calvers (189) (>9 weeks before PSM)								
Actual	16	36	91	30	4	1	1	1
Accumulated No.	16	52	143	173	177	178	179	180
Accumulated %	8	28	76	92	94	94	95	95

Submission Rates Graph



Indices evaluated by LIC using genomic information where applicable

Number of cows without a calving in the past 150 days: **40**
 %age of Cows Calved within 30 days of Start of Mating: **10.8 %** (Target < 2%)
 %age of Cows with a Pre-mating Heat Recorded: **0.0 %** (Target > 70%)
 %age of Cows treated with a Non-cycling treatment: **8.3 %** (Target < 20%)



Submission Rate Report

Date : 22/04/2016

1113 Queen Charlotte Drive
RD 1
Picton 7281

Submissions to First Matings
Herd Averages as at 23/01/2016
Ancestry: 93% BW: 132/45
PW: 160/61

Report Starts: 15/10/2015
Ends: 10/12/2015
PTPT Code: BVMV
Herd Code: 6/40

Animals Included: 719

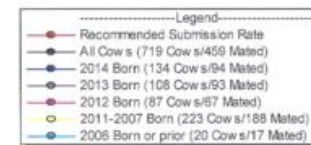
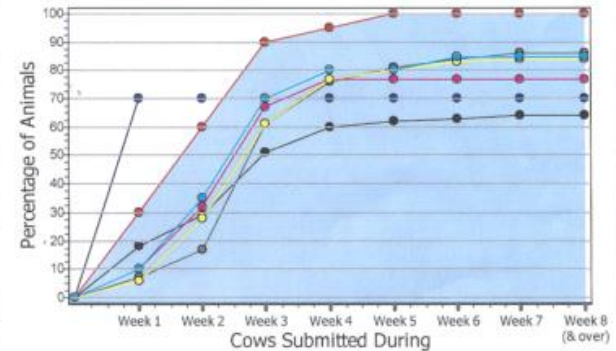
Group: Whole Herd

Current as at: 02/02/2016

Submission Rates by Age Group

	Cows Submitted During Week							
	1	2	3	4	5	6	7	8+
All Cows								
Actual	126	83	158	64	12	12	3	1
Accumulated No.	126	209	367	431	443	455	458	459
Accumulated %	18	29	51	60	62	63	64	64
2014 Born								
Actual	94	0	0	0	0	0	0	0
Accumulated No.	94	94	94	94	94	94	94	94
Accumulated %	70	70	70	70	70	70	70	70
2013 Born								
Actual	8	10	48	16	6	3	2	0
Accumulated No.	8	18	66	82	88	91	93	93
Accumulated %	7	17	61	76	81	84	86	86
2012 Born								
Actual	9	19	30	9	0	0	0	0
Accumulated No.	9	28	58	67	67	67	67	67
Accumulated %	10	32	67	77	77	77	77	77
2011-2007 Born								
Actual	13	49	73	37	6	8	1	1
Accumulated No.	13	62	135	172	178	186	187	188
Accumulated %	6	28	61	77	80	83	84	84
2006 Born or prior								
Actual	2	5	7	2	0	1	0	0
Accumulated No.	2	7	14	16	16	17	17	17
Accumulated %	10	35	70	80	80	85	85	85

Submission Rates Graph



Indices evaluated by LIC using genomic information where applicable

%age of Cows Calved within 30 days of Start of Mating: **6.4 %** (Target < 2%)
 %age of Cows with a Pre-mating Heat Recorded: **0.0 %** (Target > 70%)
 %age of Cows treated with a Non-cycling treatment: **4.9 %** (Target < 20%)



Fertility Focus 2015: Seasonal

Mahakipawa Farms Limited
Jason Neil Templeman

Report date: 22/04/16
 PTPT: BVMV
 Herd Code: 6/40
 No of cows included: 382
 These cows calved between: 12/06/15 and 18/12/15
 Mating start & end date:
(based on AB or pregnancy test data)
 20/10/15 - 08/01/16
 Next planned start of calving: 28/07/16
 Duration of mating: 81 days
 Duration of AB period: 47 days



1 Overall herd reproductive performance

6-week in-calf rate
Percentage of cows pregnant in the first 6 weeks of mating

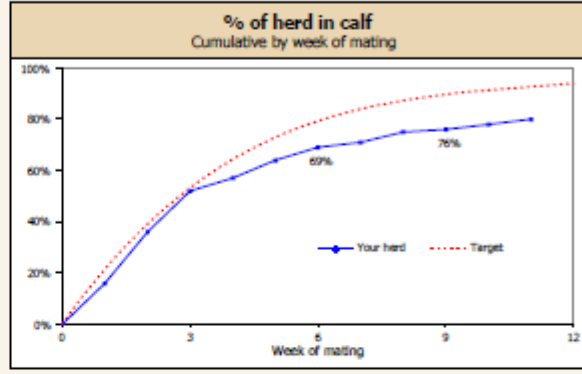
Your herd ☆☆☆

Aim above

Not-in-calf rate
Percentage of cows not pregnant after 81 days of mating

Your herd ☆

Aim for



2 Drivers of the 6-week in-calf rate

3-week submission rate
% of cows that were inseminated in the first 3 weeks of mating

Your herd ☆☆☆

Aim above

Non-return rate
% of inseminations that were not followed by a return to heat

Your herd ☆☆☆

Aim above

Conception rate
% of inseminations that resulted in a confirmed pregnancy

Your herd ☆

Aim above

3 Key indicators to areas for improvement

Calving pattern of first calvers
Well managed heifers get in calf quickly and calve early.

Calved by	<input type="text" value="Week 3"/>	<input type="text" value="Week 6"/>
Your herd	<input type="text" value="72%"/>	<input type="text" value="89%"/>
Aim above	<input type="text" value="75%"/>	<input type="text" value="92%"/>
	☆☆☆☆☆	☆☆☆☆☆

Calving pattern of whole herd
Did late calvers reduce in-calf rates?

Calved by	<input type="text" value="Week 3"/>	<input type="text" value="Week 6"/>	<input type="text" value="Week 9"/>
Your herd	<input type="text" value="63%"/>	<input type="text" value="83%"/>	<input type="text" value="96%"/>
Aim above	<input type="text" value="60%"/>	<input type="text" value="87%"/>	<input type="text" value="98%"/>
	☆☆☆☆☆	☆☆☆☆☆	☆☆☆☆☆

Pre-mating heats
A high % of well managed cows will cycle before the start of mating.

Your herd ☆

Aim above

3-week submission rate of first calvers
Well managed heifers cycle early

Your herd ☆☆☆

Aim above

Heat detection
A high % of early-calved mature cows should be inseminated in the first 3 weeks of mating.

Your herd ☆☆☆☆☆

Aim above

Non-cycling cows
Treated non-cyclers get in calf earlier.

Treated	<input type="text" value="By MSD"/>	<input type="text" value="Wks 1-3"/>	<input type="text" value="Wks 4-6"/>
Your herd	<input type="text" value="0%"/>	<input type="text" value="9%"/>	<input type="text" value="0%"/>

Rating	What does it tell me?	What should I do?
☆☆☆☆☆	Top result	Ideal - keep up the good work!
☆☆☆☆	Above average	Getting there - focus on getting the details right.
☆☆	Below average	Plenty of room to improve - seek professional advice.
☆	No result	Not enough information provided - seek help with records.

Performance after week 6
Expected not-in-calf rate helps assess management affecting performance after week 6 (including bull management and herd nutrition).

Not-in-calf rate

Your herd Seek advice

Expected

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 No warranty of accuracy or reliability of the information provided by InCalf Fertility Focus is given, and no responsibility for loss arising in any way from or in connection with its use is accepted by DairyNZ Ltd, or the provider of this report. Users should obtain professional advice for their specific circumstances.

Behind Your Detailed Fertility Focus Report

Report period: Cows calved between 12/06/15 and 18/12/15.
This was the most recent period with sufficient herd records that enabled an analysis to be completed.

Calving system: Seasonal
Your herd has been classified as seasonal calving because most calvings occurred in a single batch lasting less than 21 weeks.

Level of analysis: Detailed.
Your good record keeping means a detailed analysis was possible for your herd.

Report date: 22/04/16

PTPT: BVMV

Herd Code: 6/40

Calvings up to this date requested for analysis: 21/04/16

No of cows included: 382

These cows calved between: 12/06/15 and 18/12/15

Mating start & end date: 20/10/15 - 08/01/16
(based on AB or pregnancy test data)



Part A) Herd records cross check

Check that the herd records in the table are complete and correct.

2015/16	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Total
No. of calvings	2	65	232	70	17								386
No. of AB matings					204	288	29						521
No. of preg tests								376	94				470
No. of non-aged/late aged positive preg tests													0
No. of cows culled or died	5		1	1	2		1		4				14

Part B) Notes on the calculations

Use the following notes to see how your results were calculated.

1 Overall herd reproductive performance

6-week in-calf rate

Your report has been based on the mating and pregnancy test results you supplied. The ACTUAL 6 week in-calf rate is shown for your herd.

Records available for not-in-calf rate

Recorded pregnant	312
Recorded empty	61
Doubtful/recheck*	3
Culled without pregnancy test	1
No record of cull or pregnancy test	5
Cows analysed	382

*Includes cows whose most recent empty diagnosis was less than 35 days after mating end date.

2 Drivers of the 6-week in-calf rate

3-week submission rate

378 cows had calving dates in the required range and were not culled before day 21 of mating and 86% of these were submitted during the first 21 days of mating.

Non-return rate

Non-return rate is not calculated when pregnancy test results provide an accurate estimate of conception rate.

Conception rate

The conception rate was calculated for 512 AB inseminations on and between 20.10.15 and 05.12.15.

3 Key indicators to areas for improvement

Calving pattern of first calvers

96 cows with eligible calving dates were recorded as calving at less than 34 months of age. The calving pattern of first calvers was calculated from their records.

Calving pattern of whole herd

386 cows had calving dates that were eligible for this report.

Pre-mating heats

378 cows had calving dates in the required range and were not culled before day 21 of mating and 0 of these had a pre-mating heat recorded.

3-week submission rate of first calvers

92 first calvers had calving dates in the required range and were not culled before day 21 of mating and 83% of these were submitted during the first 21 days of mating.

Heat detection

143 cows at least 4 years old at calving had calved at least 8 weeks before mating start date and were not culled before day 21 of mating and 94% of these were submitted during the first 21 days of mating.

Non-cycling cows

378 cows had calving dates in the required range and were not culled before day 21 of mating and 34 of these were identified as being treated for non-cycling.

Performance after week 6

Your herd's not-in-calf rate and 6-week in-calf rate were used to determine the success of your herd's mating program after the first six weeks. If bulls were used after week 6 of mating, this gives an assessment of how well they got cows in calf.

Induced cows

No cows were identified as having induced calvings. If cows were induced, ensure all inductions are recorded.

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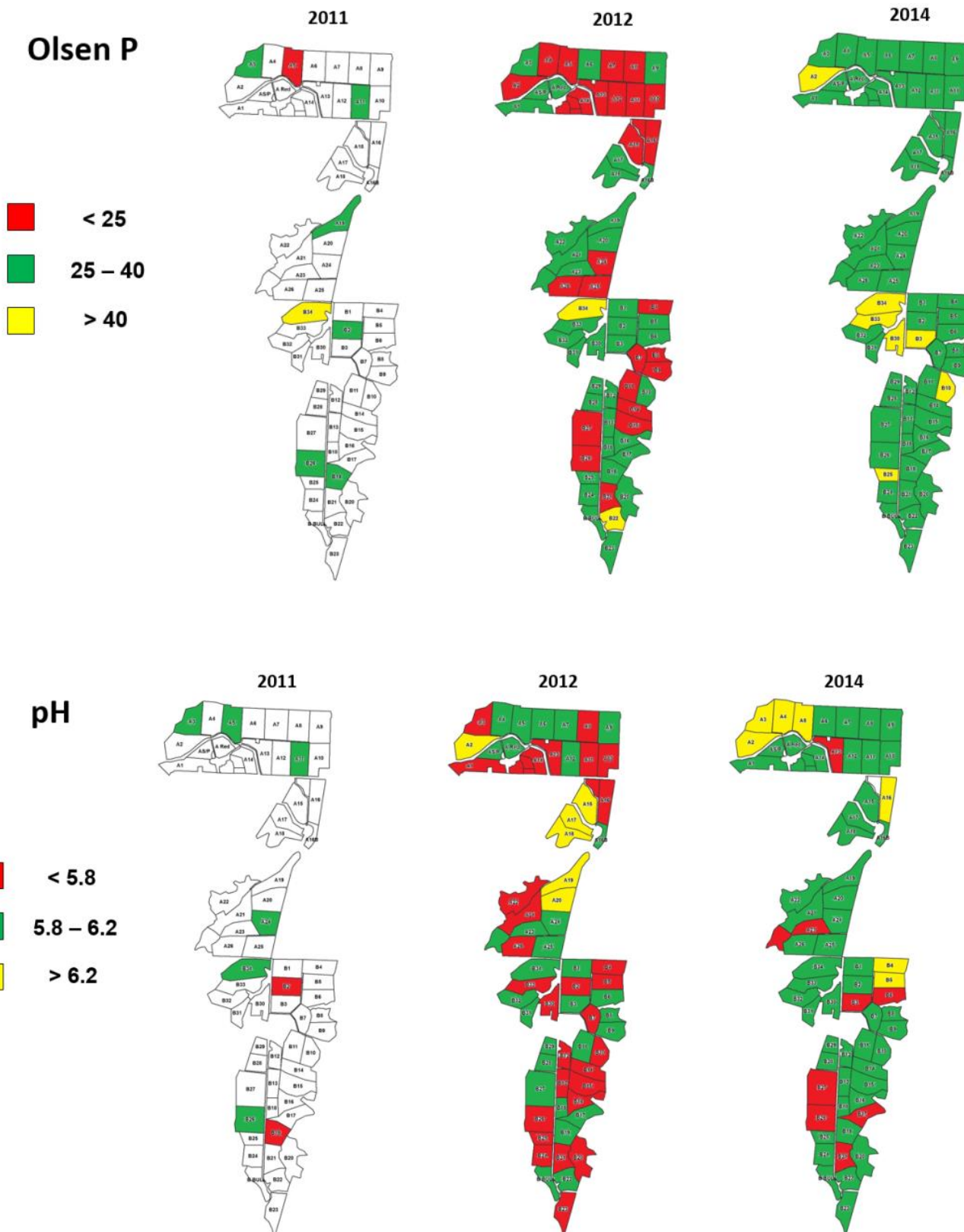
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Users should obtain professional advice for their specific circumstances.

Fertiliser and Environment

- Minimise leaching and losses
- Ensure that every paddock is at its optimum to produce
- Creek crossings and all fencing of waterways done
- Effluent area increased from 12ha to 54ha with the use of a solid separator system

* Maps care of Ravensdown



2013 / 14 superphosphate applications (kg P / ha)

2013/14	Above + Effluent	optimum	Below		
1 st - maintenance	23	31	31	31	31
2 nd - capital	-	-	18	27	46
total	23	31	49	58	76

Soil test history average values

Year	pH	Olsen P
2011 (8)	5.9	31
2009 (4)	5.9	37
2008 (3)	5.7	39
2007 (4)	5.8	32
2006 (3)	5.7	37
2005 (4)	5.9	34

Pasture Management

- Residuals – target 1500kgDM/ha although this has increased to 16-1650kgDM/ha
- Strong focus on increasing pasture grown and eaten
- Target covers during the season are critical – start of calving, mating, drying off
- Regrassing to continue with 10-15% through a crop rotation
- Better management of new pastures to ensure longevity

Growth Report

Farm Name: MAHAKIPAWA FARM

Season: 2010-2011

Year	Month	DM Growth/Ha	Total DM/Month
2010	Oct	22	682
2011	Jan	28	868
2011	Feb	58	1624
2011	Mar	51	1581
Total kg DM/Ha:			4755

Season: 2011-2012

Year	Month	DM Growth/Ha	Total DM/Month
2011	Aug	8	248
2011	Sep	41	1230
2011	Oct	65	2015
2011	Nov	83	2490
2011	Dec	40	1240
2012	Jan	66	2046
2012	Feb	56	1624
Total kg DM/Ha:			10893

Season: 2012-2013

Year	Month	DM Growth/Ha	Total DM/Month
2012	Aug	16	496
2012	Sep	37	1110
2012	Oct	52	1612
2012	Nov	53	1590
2012	Dec	46	1426
2013	Jan	55	1705
2013	Feb	36	1008
2013	Mar	35	1085
2013	Apr	42	1260
2013	May	23	713
Total kg DM/Ha:			12005

Season: 2013-2014

Year	Month	DM Growth/Ha	Total DM/Month
2013	Jul	16	496
2013	Aug	33	1023
2013	Sep	51	1530
2013	Oct	58	1798
2013	Nov	71	2130
2013	Dec	54	1674
2014	Jan	54	1674

Season: 2013-2014

Year	Month	DM Growth/Ha	Total DM/Month
2014	Mar	43	1333
2014	Apr	60	1800
2014	May	28	868
Total kg DM/Ha:			14326

Year	Month	DM Growth/Ha	Total DM/Month
2014	Jul	24	744
2014	Aug	22	682
2014	Sep	58	1740
2014	Oct	68	2108
2014	Nov	58	1740
2014	Dec	53	1643
2015	Jan	60	1860
2015	Feb	49	1372
2015	Mar	59	1829
2015	Apr	52	1560
2015	May	43	1333
Total kg DM/Ha:			16611

Season: 2015-2016

Year	Month	DM Growth/Ha	Total DM/Month
2015	Jul	14	434
2015	Aug	24	744
2015	Sep	53	1590
2015	Oct	70	2170
2015	Nov	72	2160
2015	Dec	56	1736
2016	Jan	67	2077
2016	Feb	49	1421
2016	Mar	49	1519
2016	Apr	44	1320
Total kg DM/Ha:			15171

Reviewing pasture performance (& further potential)

* Analysis care of Graham Kerr - Agriseeds

Jason and Amber have run a targeted, objective pasture renewal programme over the last 4 years which has greatly raised, and evened, the pasture performance across the farm.

So where to now? What do the economics for pasture renewal investment look like at a \$4/kgMS payout? And what potential exists for further investment for this property?

Understand the economic value of renewal

If you can identify underperforming pasture, and if the solution is spraying off and resowing,

Pasture renewal provides three benefits:

1. **Higher DM yield** – see example below
2. **Higher ME** – science says 0.6 - 0.9 ME increase is typical (assumed +0.6 in this example)
3. **Greater utilisation** from better ME & palatability (assumed +5% in this example).

Typical returns based on \$4/kg MS - NEW PASTURE LASTS 4 YEARS

Extra grown (t DM/ha/year)		Do nothing	1 t	3 t	5 t
1. DM yield	Extra growth	0	+4 t DM/ha	+12 t DM/ha	+20 t DM/ha
	DM lost during renewal	0	-1.5 t	-1.5 t	-1.5 t
	Net increase	0	2.5 t DM/ha	10.5 t DM/ha	18.5 t DM/ha
	Extra kgMS ¹	0	173	725	1278
2. ME	Extra kgMS ²	0	184	213	242
3. Utilisation	Extra kgMS ³	0	218	253	287
Total extra kg MS		0	574 kgMS	1191 kgMS	1807 kgMS
Income extra MS @ \$4/kg		0	\$2,300	\$4,760	\$7,230
Marginal cost extra MS @\$2/kg		0	\$1,150	\$2,380	\$3,665
Net increase income			\$1,150	\$2,380	\$3,615
Cost of renewal ⁴		0	-\$750/ha	-\$750/ha	-\$750/ha
Return on investment		0	13% p.a.	43% p.a.	96% p.a.

Assumptions: 1. Conversion of 132MJ ME/kg MS. 2. 0.6 MJ ME/kg DM improvement. 3. Base 80% pasture utilisation. 4. Cost of renewal per hectare ex-turnips includes pre-cultivation herbicide, direct drilling, seed, broadleaf herbicide.

Reducing costs/kgMS can be attacked in three directions: Reducing costs, increasing efficiency or investing in the right things. **Good analysis gives the confidence as to the right level of pasture renewal for you to invest in for your business.**

Paddock growth (tDM/ha) for Mahakipawa Farms Ltd 2015-16

“Total DM” grown in these tables is from Farm Walk data mid-April to mid-April.

Jason has divided the farm into 3 areas based on *productive potential*. Then within each:

- The actual t DM/ha yield for the paddock for 2015/16 is “Total Growth”
- The “Potential Yield” is assumed as the best paddock (e.g. A2 in irrigated paddocks) less 2 tDM/ha (to be conservative).
- “Difference” is the potential for extra yield (difference between actual & potential)

Wet, rolling paddocks.

Paddock	Total Growth	Potential (B8 - 2t)	Difference	Pdk ha	Total t DM
B8	18.4	16.4	0	1	0
A18	18.1	16.4	0	2.2	0
A20	16.9	16.4	0	2.6	0
B33	15.5	16.4	0.9	2	0
B31	15.4	16.4	1	1.1	1.1
B34	15.4	16.4	1	2.9	2.9
A24	15.1	16.4	1.3	2.3	3.0
Average	16.4		0	Total:	7.0

Dry, rolling paddocks.

Paddock	Total Growth	Potential (A22 - 2t)	Difference	Pdk ha	Total t DM
A22	14.9	12.9	0	3.1	0
B32	14.6	12.9	0	2	0
B20	14.2	12.9	0	2.6	0
B7	14	12.9	0	1.5	0
A21	13.5	12.9	0	2.6	0
B22	13.5	12.9	0	1.7	0
Average	14		0	Total:	0

Paddocks to consider for renewal

This technique identifies which paddocks will give the greatest returns from renewal. These are marked in red, and are only in the flat irrigated area.

The next step is looking to identify reasons for their underperformance (e.g. poor species, poor soil fertility, compaction, drainage, weeds) so a more detailed cost:benefit can be considered regarding action.

Farm potential

This analysis also gives some thoughts about what the farm could produce over a medium term investment. There is a potential to grow another 193 t DM, mainly from the irrigated area. If (say) half could be achieved, 93 t DM, this is equivalent to around 9000kgMS.

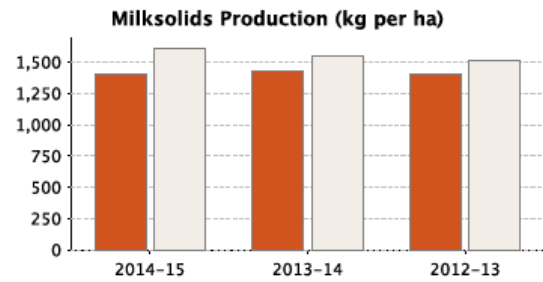
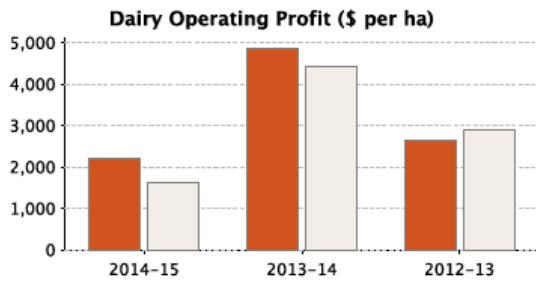
Flat, irrigated paddocks. Green = new pasture. A pdks = home farm. B pdks = lease block

Paddock	Total DM	Potential A2 - 2t	Difference	ha	Total t DM
A2	22.1	20.1	0	2.7	0.0
A8	22	20.1	0	2.6	0.0
A4	21.8	20.1	0	2.5	0.0
B30	21.1	20.1	0	1.7	0.0
A7	19.9	20.1	0.2	2.6	0.5
B3	19.5	20.1	0.6	1.8	1.1
B16	19.5	20.1	0.6	1.8	1.1
A1	19.4	20.1	0.7	2.4	1.7
A3	19.3	20.1	0.8	2.3	1.8
A16b	19.3	20.1	0.8	2.2	1.8
B13	18.8	20.1	1.3	1.2	1.6
A25	18.7	20.1	1.4	2.3	3.2
A5	18.5	20.1	1.6	2.5	4.0
B2	18.5	20.1	1.6	2	3.2
A15	18.4	20.1	1.7	2.3	3.9
B12	18.4	20.1	1.7	1.1	1.9
B17	18	20.1	2.1	1.8	3.8
B24	17.9	20.1	2.2	1.6	3.5
B1	17.8	20.1	2.3	2.1	4.8
A23	17.7	20.1	2.4	2.9	7.0
A11	17.7	20.1	2.4	2.4	5.8
A13	17.5	20.1	2.6	2.1	5.5
B14	17.3	20.1	2.8	1.8	5.0
B19	17.3	20.1	2.8	1.8	5.0
A9	17.2	20.1	2.9	2.5	7.3
A16	16.9	20.1	3.2	2.2	7.0
A6	16.9	20.1	3.2	2.6	8.3
A17	16.6	20.1	3.5	1.8	6.3
B4	16.2	20.1	3.9	1.8	7.0
B6	16	20.1	4.1	1.9	7.8
B5	15.8	20.1	4.3	1.7	7.3
B15	15.8	20.1	4.3	2.4	10.3
B21	15.7	20.1	4.4	1.7	7.5
A12	15.6	20.1	4.5	2.4	10.8
B28	15.5	20.1	4.6	1.3	6.0
B11	15.4	20.1	4.7	2	9.4
A10	15.3	20.1	4.8	2.2	10.6
B26	15.1	20.1	5	2.8	14.0
Average	17.9 t		2.4	Total:	186
Average new pasture	20.3 t		0		

This analysis also gives feedback as to what new pastures (shaded green) are achieving compared to the average.

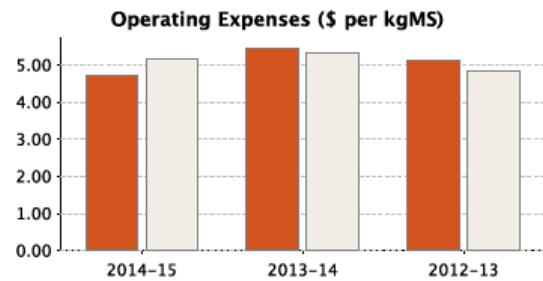
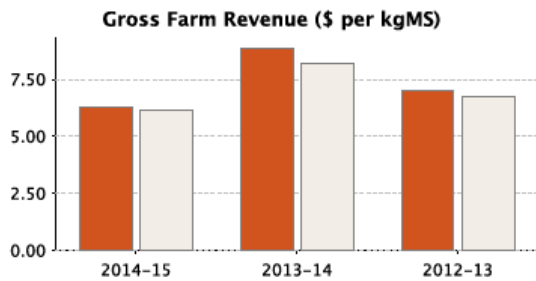
Financials

* Analysis care of Kathryn George – Dairybase ; Ben Wouts & Robbie Reynolds – Thompson Daly



Your Operating Profit for the 2014-15 season was \$2,197 per hectare. This compares to \$1,634 for the benchmark.

Operating Profit is made up of Gross Farm Revenue \$6.28 per kgMS less Operating Expenses \$4.71, multiplied by the production per hectare of 1,405kg (Benchmark GFR:\$6.16 Opex:\$5.15 MS/Ha: 1,616kg)

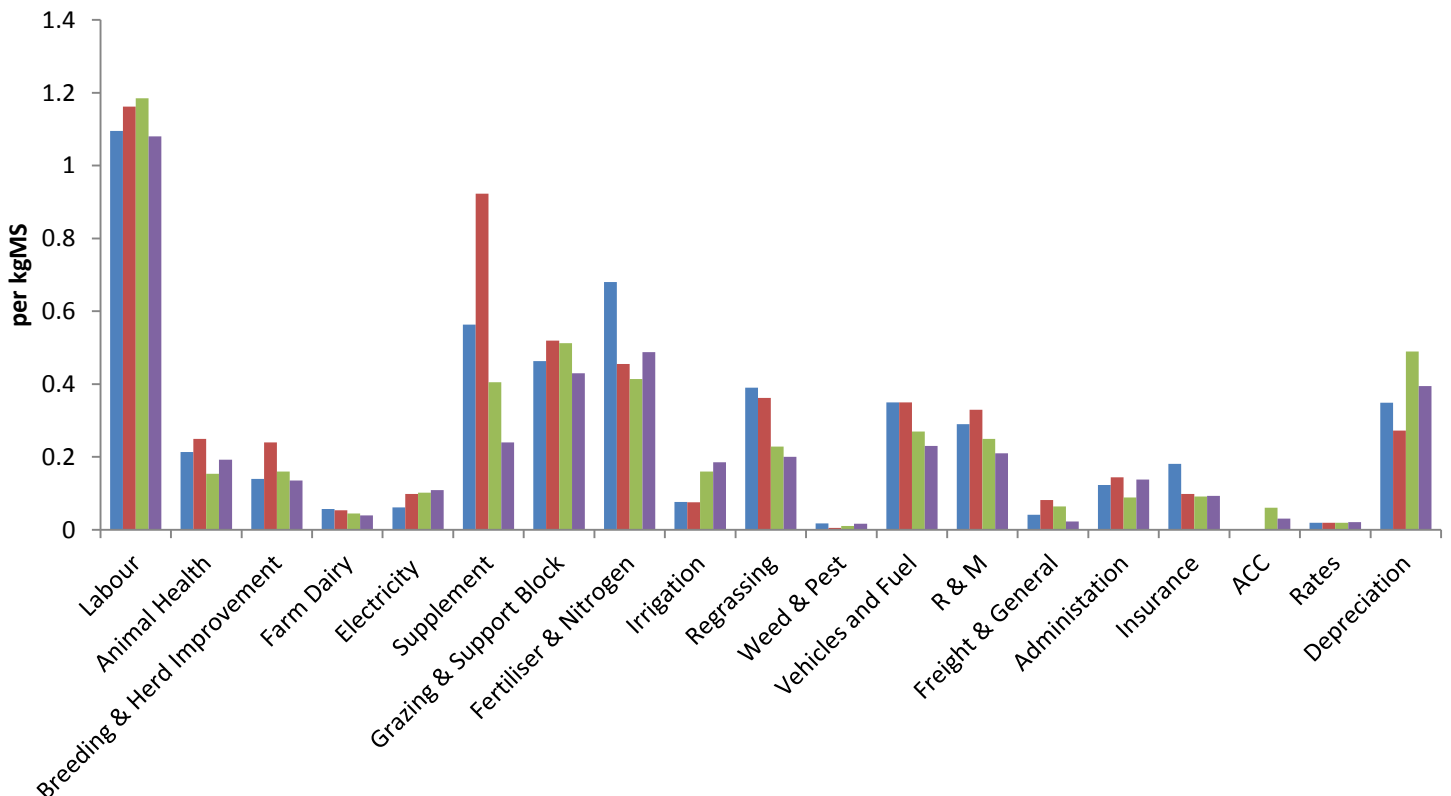


Benchmark: Marlborough-Canterbury Owner operator

Number of farms in benchmark: 70 (2014-15) 92 (2013-14) 88 (2012-13)

Operating Expenses 2013-2016

■ 2013 ■ 2014 ■ 2015 ■ 2016



Mahakipawa Farms Ltd

Season	2012-2013	2013-2014	2014-2015	2015-2016* est
Peak Cows	405	395	390	375
Effective Ha	115	115	117	117
Production kgMS	161,215	164,344	164,353	159,563

	Total \$		Total \$		Total \$		Total \$	
GROSS FARM REVENUE (GFR)	Farm	% of GFR	Farm	% of GFR	Farm	% of GFR	Farm	% of GFR
Net Milk Sales	1,022,102	90.4%	1,278,920	87.8%	960,185	93.1%	630,561	80.0%
Net Dairy Livestock Sales	31,706	2.8%	57,829	4.0%	320,336	31.1%	85,912	10.9%
Value of Change in Dairy Livestock	71,351	6.3%	108,289	7.4%	-254,949	-24.7%	67,090	8.5%
Other Dairy Revenue	6,000	0.5%	11,750	0.8%	5,850	0.6%	4,760	0.6%
Dairy Gross Farm Revenue	1,131,159	100.0%	1,456,788	100.0%	1,031,422	100.0%	788,323	100.0%
Non-Dairy Cash Income	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Value of Change in Non-dairy Livestock	0	0.0%	0	0.0%	0	0.0%	0	0.0%
TOTAL GROSS FARM REVENUE	1,131,159	100.0%	1,456,788	100.0%	1,031,422	100.0%	788,323	100.0%

OPERATING EXPENSES								
Labour Expenses								
Wages	87,181	7.7%	100,856	6.9%	96,839	9.4%	105,084	13.3%
Labour Adjustment - Unpaid	28,031	2.5%	28,400	1.9%	36,500	3.5%	36,500	4.6%
Labour Adjustment - Management	61,325	5.4%	61,675	4.2%	61,350	5.9%	61,350	7.8%
Total Labour Expenses	176,537	15.6%	190,931	13.1%	194,689	18.9%	202,934	25.7%
Stock Expenses								
Animal Health	34,396	3.0%	41,022	2.8%	25,322	2.5%	30,754	3.9%
Breeding & Herd Improvement	22,544	2.0%	39,470	2.7%	26,217	2.5%	21,553	2.7%
Farm Dairy	9,147	0.8%	8,747	0.6%	7,382	0.7%	6,280	0.8%
Electricity (Farm Dairy, Water Supply)	9,910	0.9%	16,127	1.1%	16,686	1.6%	17,319	2.2%
Total Stock Expenses	75,997	6.7%	105,366	7.2%	75,607	7.3%	75,906	9.6%
Feed Expenses								
Supplement Expenses.								
Net Made, Purchased, Cropped	85,659	7.6%	136,203	9.3%	100,591	9.8%	35,442	4.5%
Less Feed Inventory Adjustment	0	0.0%	0	0.0%	40,300	3.9%	0	0.0%
Calf Feed	5,211	0.5%	15,529	1.1%	6,269	0.6%	3,888	0.5%
Total Supplement Expenses	90,870	8.0%	151,732	10.4%	66,560	6.5%	39,330	5.0%
Grazing & Support block Expenses.								
Young & Dry Stock Grazing	0	0.0%	11,326	0.8%	10,223	1.0%	6,412	0.8%
Winter Cow Grazing	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Support block Lease	74,674	6.6%	74,000	5.1%	74,000	7.2%	61,667	7.8%
Owned Support block Adjustment	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total Grazing & Support block Expenses	74,674	6.6%	85,326	5.9%	84,223	8.2%	68,079	8.6%
Total Feed Expenses	165,544	14.6%	237,058	16.3%	150,783	14.6%	107,409	13.6%
Other Working Expenses								
Fertiliser	69,208	6.1%	74,845	5.1%	68,013	6.6%	77,893	9.9%
Nitrogen	40,946	3.6%	0	0.0%	0	0.0%	0	0.0%
Irrigation	12,331	1.1%	12,440	0.9%	26,231	2.5%	29,624	3.8%
Regrassing	62,897	5.6%	59,559	4.1%	37,504	3.6%	31,905	4.0%
Weed & Pest	2,782	0.2%	885	0.1%	1,658	0.2%	2,707	0.3%
Vehicles	19,933	1.8%	21,582	1.5%	25,309	2.5%	19,186	2.4%
Fuel	37,632	3.3%	36,795	2.5%	20,359	2.0%	16,918	2.1%
R & M - land & buildings	29,352	2.6%	17,952	1.2%	26,232	2.5%	9,180	1.2%
R & M - plant and equipment	18,177	1.6%	36,762	2.5%	14,084	1.4%	23,306	3.0%
Freight and General	6,593	0.6%	13,424	0.9%	10,596	1.0%	3,621	0.5%
Total Other Working Expenses	299,851	26.5%	274,244	18.8%	229,986	22.3%	214,340	27.2%
Overheads								
Administration	19,795	1.7%	23,719	1.6%	14,519	1.4%	21,997	2.8%
Insurance	29,252	2.6%	16,175	1.1%	15,059	1.5%	14,843	1.9%
ACC	0	0.0%	0	0.0%	10,005	1.0%	4,870	0.6%
Rates	3,163	0.3%	3,201	0.2%	3,193	0.3%	3,356	0.4%
Depreciation	56,302	5.0%	44,844	3.1%	80,516	7.8%	63,013	8.0%
Total Overheads	108,512	9.6%	87,939	6.0%	123,292	12.0%	108,079	13.7%
Total Dairy Operating Expenses	826,441	73.1%	895,538	61.5%	774,357	75.1%	708,668	89.9%
Non-Dairy Operating Expenses	0	0.0%	0	0.0%	0	0.0%	0	0.0%
TOTAL OPERATING EXPENSES	826,441	73.1%	895,538	61.5%	774,357	75.1%	708,668	89.9%
OPERATING PROFIT								
	304,718	26.9%	561,250	38.5%	257,065	24.9%	79,655	10.1%
DAIRY OPERATING PROFIT	304,718	26.9%	561,250	38.5%	257,065	24.9%	79,655	10.1%
Non-Dairy Operating Profit	0	0.0%	0	0.0%	0	0.0%	0	0.0%
TOTAL OPERATING PROFIT	304,718	26.9%	561,250	38.5%	257,065	24.9%	79,655	10.1%

Comparison for the last 4 seasons:

GROSS FARM REVENUE (GFR)	per kgMS				per ha				per cow			
	2012-13	2013-14	2014-15	2015-16	2012-13	2013-14	2014-15	2015-16	2012-13	2013-14	2014-15	2015-16
Net Milk Sales	6.34	7.78	5.84	3.95	8,888	11,121	8,207	5389	2524	3238	2462	1681
Net Dairy Livestock Sales	0.20	0.35	1.95	0.54	276	503	2,738	734	78	146	821	229
Value of Change in Dairy Livestock	0.44	0.66	-1.55	0.42	620	942	-2,179	573	176	274	-654	179
Other Dairy Revenue	0.04	0.07	0.04	0.03	52	102	50	41	15	30	15	13
Dairy Gross Farm Revenue	7.02	8.86	6.28	4.94	9,836	12,668	8,816	6738	2793	3688	2645	2102
Non-Dairy Cash Income	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Value of Change in Non-dairy Livestock	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL GROSS FARM REVENUE	7.02	8.86	6.28	4.94	9,836	12,668	8,816	6738	2793	3688	2645	2102
OPERATING EXPENSES												
Labour Expenses												
Wages	0.54	0.61	0.59	0.66	758	877	828	898	215	255	248	280
Labour Adjustment - Unpaid	0.17	0.17	0.22	0.23	244	247	312	312	69	72	94	97
Labour Adjustment - Management	0.38	0.38	0.37	0.38	533	536	524	524	151	156	157	164
Total Labour Expenses	1.10	1.16	1.18	1.27	1,535	1,660	1,664	1734	436	483	499	541
Stock Expenses												
Animal Health	0.21	0.25	0.15	0.19	299	357	216	263	85	104	65	82
Breeding & Herd Improvement	0.14	0.24	0.16	0.14	196	343	224	184	56	100	67	57
Farm Dairy	0.06	0.05	0.04	0.04	80	76	63	54	23	22	19	17
Electricity (Farm Dairy, Water Supply)	0.06	0.10	0.10	0.11	86	140	143	148	24	41	43	46
Total Stock Expenses	0.47	0.64	0.46	0.48	661	916	646	649	188	267	194	202
Feed Expenses												
Supplement Expenses.												
Net Made, Purchased, Cropped	0.53	0.83	0.61	0.22	745	1,184	860	303	212	345	258	95
Less Feed Inventory Adjustment	0.00	0.00	0.25	0.00	0.00	0.00	344	0.00	0.00	0.00	103	0.00
Calf Feed	0.03	0.09	0.04	0.02	45	135	54	33	13	39	16	10
Total Supplement Expenses	0.56	0.92	0.40	0.25	790	1,319	569	336	224	384	171	105
Grazing & Support block Expenses.												
Young & Dry Stock Grazing	0.00	0.07	0.06	0.04	0.00	98	87	55	0.00	29	26	17
Winter Cow Grazing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0
Support block Lease	0.46	0.45	0.45	0.39	649	643	632	527	184	187	190	164
Owned Support block Adjustment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0
Total Grazing & Support block Expenses	0.46	0.52	0.51	0.43	649	742	720	582	184	216	216	182
Total Feed Expenses	1.03	1.44	0.92	0.67	1,440	2,061	1,289	918	409	600	387	286
Other Working Expenses												
Fertiliser	0.43	0.46	0.41	0.49	602	651	581	666	171	189	174	208
Nitrogen	0.25	0.00	0.00	0.00	356	0.00	0.00	0.00	101	0.00	0.00	0.00
Irrigation	0.08	0.08	0.16	0.19	107	108	224	253	30	31	67	79
Regrassing	0.39	0.36	0.23	0.20	547	518	321	273	155	151	96	85
Weed & Pest	0.02	0.01	0.01	0.02	24	8	14	23	7	2	4	7
Vehicles	0.12	0.13	0.15	0.12	173	188	216	164	49	55	65	51
Fuel	0.23	0.22	0.12	0.11	327	320	174	145	93	93	52	45
R & M - land & buildings	0.18	0.11	0.16	0.06	255	156	224	78	72	45	67	24
R & M - plant and equipment	0.11	0.22	0.09	0.15	158	320	120	199	45	93	36	62
Freight and General	0.04	0.08	0.06	0.02	57	117	91	31	16	34	27	10
Total Other Working Expenses	1.86	1.67	1.40	1.34	2,607	2,385	1,966	1832	740	694	590	572
Overheads												
Administration	0.12	0.14	0.09	0.14	172	206	124	188	49	60	37	59
Insurance	0.18	0.10	0.09	0.09	254	141	129	127	72	41	39	40
ACC	0.00	0.00	0.06	0.03	0.00	0.00	86	42	0.00	0.00	26	13
Rates	0.02	0.02	0.02	0.02	28	28	27	29	8	8	8	9
Depreciation	0.35	0.27	0.49	0.39	490	390	688	539	139	114	206	168
Total Overheads	0.67	0.54	0.75	0.68	944	765	1,054	924	268	223	316	288
Total Dairy Operating Expenses	5.13	5.45	4.71	4.44	7,186	7,787	6,618	6057	2041	2267	1986	1890
Non-Dairy Operating Expenses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OPERATING EXPENSES	5.13	5.45	4.71	0.00	7,186	7,787	6,618	0.00	2041	2267	1986	0.00
OPERATING PROFIT												
	1.89	3.42	1.56	0.50	2,650	4,880	2,197	681	752	1421	659	212
DAIRY OPERATING PROFIT	1.89	3.42	1.56	0.50	2,650	4,880	2,197	681	752	1421	659	212
Non-Dairy Operating Profit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OPERATING PROFIT	1.89	3.42	1.56	0.50	2,650	4,880	2,197	681	752	1421	659	212

Notes: