

Huntly Road Dairies Limited

The importance of a great team



Otago | Anne-Marie & Duncan Wells

Farm Systems Change – 2016 Dairy Farm Case Study

Ministry for Primary Industries
Manatū Ahu Matua





Huntly Road Dairies Limited

At a glance

Huntly Road Dairies Limited

Anne-Marie and Duncan Wells believe in building strong teams around them.

Huntly Road Dairies Limited is an equity partnership comprising Anne-Marie and Duncan Wells with 50 percent, Barry and Helen Pannett with 25 percent and Doug and Louis Spence with 25 percent. The company was formed on 8 December 2010 and purchased a self-contained dairy unit, milking 280 cows through a 20-aside herring bone milking shed. With changes made following the purchase, the farming business began in the 2011/2012 season.

Although Duncan came from a dairy farming family, he qualified as an electrician before travelling overseas. On his return to New Zealand he began working on a dairy farm, enjoyed it and was soon working his way toward farm ownership. A long distance relationship that started in India, ultimately led Anne-Marie to leave her job in Bath, as a business analyst focusing on business improvement, to join him. Together they run the dairy farm on an effective milking platform of 182 hectares (141.6 hectares owned and 40.4 hectares leased) with their team at Huntly Road on the Taieri, south of Dunedin.

Season Ended	Total kgMS	FWE/kgMS
2012	253,824	\$4.65
2013	266,518	\$4.65
2014	296,045	\$4.26
2015	299,393	\$4.53
2016	284,948	No data

At a glance – 2014/15 Season



Farm Details

Milking Platform	141.6 ha
Dairy support	- ha
Total	141.6 ha
Milking Platform Leased	40.4 ha
Effective Milking Platform	182.0 ha
Est. kgDM grown (per effective ha/year)	15,000
Cows (per effective ha)	3.4

Livestock Details



Breed Type	Crossbreed
Peak cows milked	611
Production per cow (kgMS)	490
Live weight per cow (estimated actual kg)	480

Other Details

People working on farm (FTE)	4
Peak Production (kgMS/ Cow/Day for top month)	2.1
Start of Calving	4 Aug
Calved in 6 weeks	88%
Average Pasture Cover (kgDM/ha at start of calving)	2,080
Production (kgMS/ effective ha)	1,645

Farming focus

Anne-Marie and Duncan worked through the stages of working for wages, lower-order share-milking to 50/50 sharemilking as they built their equity. Ultimately they wanted stability for their family and to stay in one place. So purchasing a farm of their own became the objective. They understood the financial barriers and recognised that an equity partnership was the enabler to purchasing a farm on the Taieri. Therefore, connecting with the right business partners who shared their values, was vital to the success of the farming business.



STRENGTH IN THE TEAM

The selection of the right equity partners is the foundation on which Anne-Marie and Duncan have built their dairy farming business. Around them they have a team of advisors who work with them to achieve the objectives set for the business.

**Read more
on Page 5**



IMPROVING EACH PIECE OF THE PROCESS

Duncan has an innovative bent and is always looking for ways to do things differently. The changes he has made range from the design of a tailpaint guide, through to design of the calf rearing shed. He is continually identifying and trying new ways of working.

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GIVING BACK TO THE COMMUNITY

Throughout their day to day activity both Anne-Marie and Duncan include activity that enables them to give back to their community and to the dairy industry.

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Huntly Road Dairies Limited

A closer look

Strength in the team

Anne-Marie and Duncan had clearly defined expectations of the team they wanted to build around them. Beginning with their equity partners, they knew the critical success factor was an alignment of interests and values among the equity partners to enable an effective working relationship that would stand the test of time. It took time to find investors with the “right chemistry” and that patience was worthwhile. Together with the Pannett’s and the Spence’s they formed Huntly Road Dairies Limited, bought the Taiari farm and agreed the plan for the dairy farm. The level of investment at the outset was evidence of the commitment of the shareholders to the equity partnership. They decided to use the whole property as a milking platform and to invest in a 54 bail rotary shed with cup removers, an in-shed grain feeding system, effluent system and storage and calf shed.

The equity partnership reporting processes affirm the focus on governance. The discipline of monthly reporting on farm statistics, and comparison of actual to budgeted income and expenditure, ensures the performance across the entire farming business is monitored. Anne-Marie and Duncan value the input from their equity partners, their banker and their accountant and believe that good governance contributes greatly to their success.

In addition to the monthly reporting, they have 3 - 4 shareholder meetings during the year, which are attended by the bank manager and the accountant. Anne-Marie and Duncan describe the other shareholders, banker and accountant as their advisory board.

The advisory board meetings have a set agenda, which includes the farm management reporting and operating budget. The annual farm budget is a living document against which actual results are assessed. They consistently undertake reviews of actual spend against budget spend to understand where value to the business is delivered.

Anne-Marie and Duncan were the 2015 Supreme winners of the Dairy Business of the Year competition and won awards for the best Otago dairy business and for their environmental performance. They are continually seeking to improve their performance across all activities on the farm. The use of DairyBase, participation in dairy industry competitions and the analysis from their own accountant provide Anne-Marie and Duncan with the ability to compare their performance to others and across periods for their own farming business. All of which is useful and when combined with the strategic thinking from the advisory board delivers good quality decision making.

At a day to day level, getting the strength of the on-farm team to deliver is fundamental to the success of the business. Duncan works closely with the farm team, developing their skills and experience and helping them to gain understanding of the background and reasoning which he applies to his on-farm decision making.

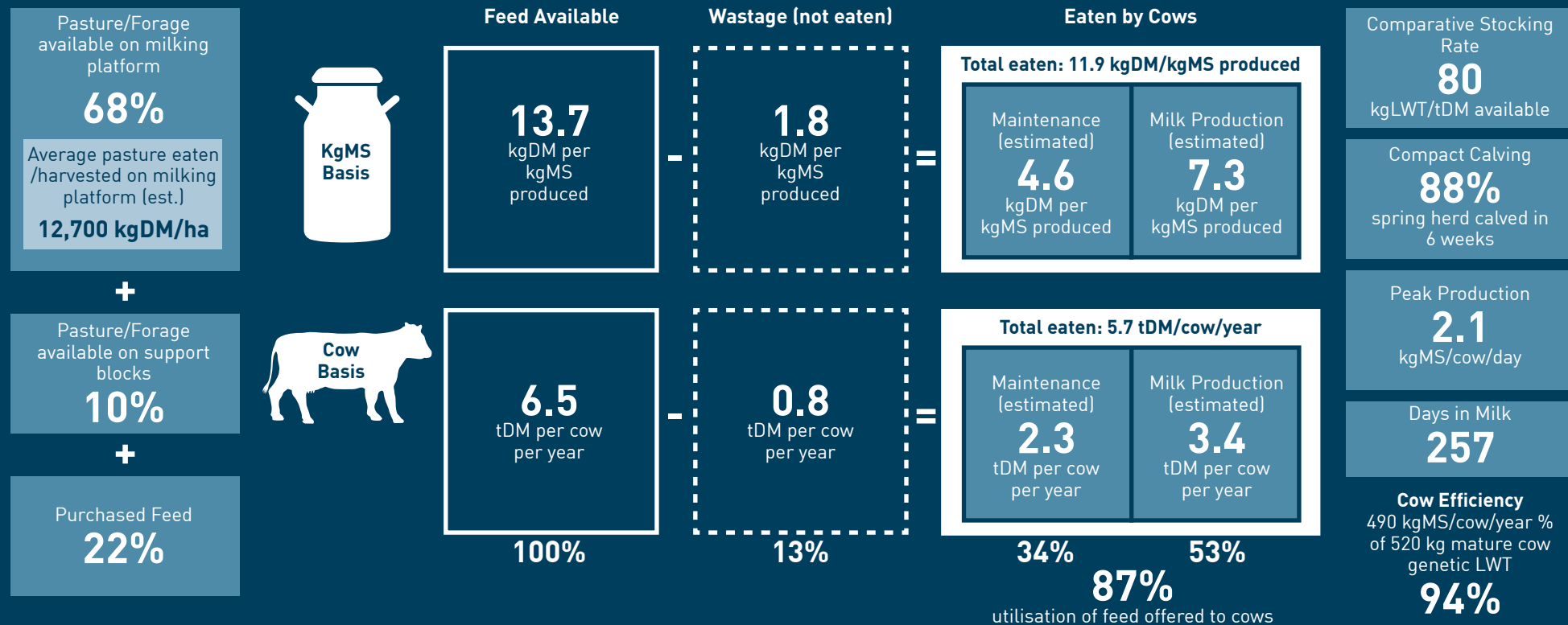


Feed to milk efficiency 2014/15 season

FEED SUPPLY

FEED UTILISATION

COW EFFICIENCY



What does this show?

Feed Supply

Duncan operates a pasture-based system, with both grass and crops being harvested in the paddock.

The summer turnips are used to provide quality feed in the summer and as a tool for the re-grassing program. The fodder beet is grown for use in the autumn, winter and spring.

The purchased feed includes grass silage, baleage, and grain and barley mixed with molasses. The grain and barley is fed using the in-shed feed system.

Feed Utilisation

Over the four seasons from 2011/12 to 2014/15:

- Total feed available per kgMS produced reduced from

5.5kgDM/kgMS to 13.7kgDM/kgMS.

- The farm's estimated feed use or conversion from feed to milk improved with a reduction in wastage from 2.5kgDM/kgMS to 1.8kgDM/kgMS.

A further reduction in wastage was achieved 2015/2016 to 1.4kgDM/kgMS.

The estimated feed utilisation in 2014/2015 is 87 percent, with 53 percent being used for milk production. In that season 11.9kgDM was eaten to produce 1kgMS.

Cow Efficiency

In 2014/2015, the comparative stocking rate of 80kgLWT/tDM was low compared with previous years. In that year they

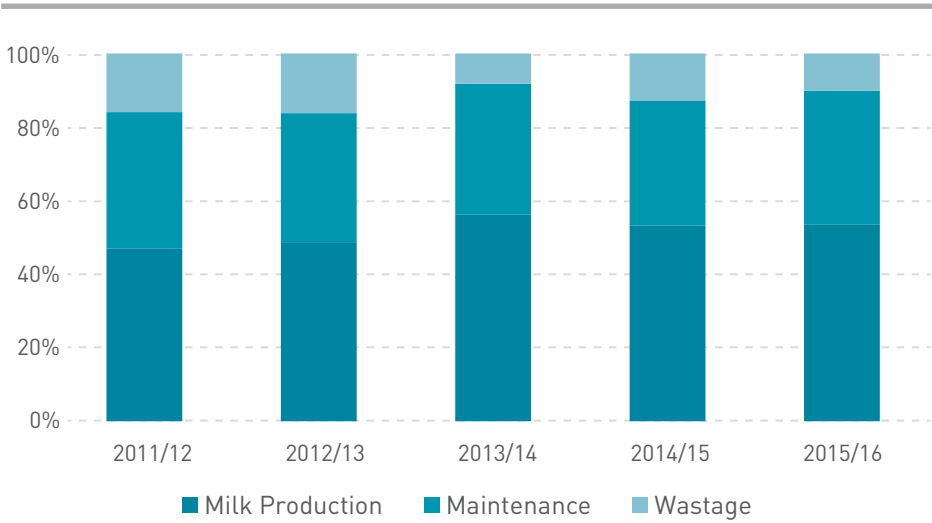
harvested and purchased additional feed which resulted in an uplift in production per cow from the lower comparative stocking rate.

The peak production has lifted from 1.8kgMS/cow/day in 2011/2012 to 2.1kgMS/cow/day in 2014/2015. This improvement is in part a reflection of the very high BW/PW of this herd and consistently high-performing ancestry at 99 percent.

The combination of compact calving and high peak production deliver a 94 percent cow efficiency across 257 days in milk with cows producing 490kgMS from a 520kg mature cow genetic liveweight. By comparison using the estimated actual average liveweight of the cows of 480kg, cow efficiency is 102 percent.

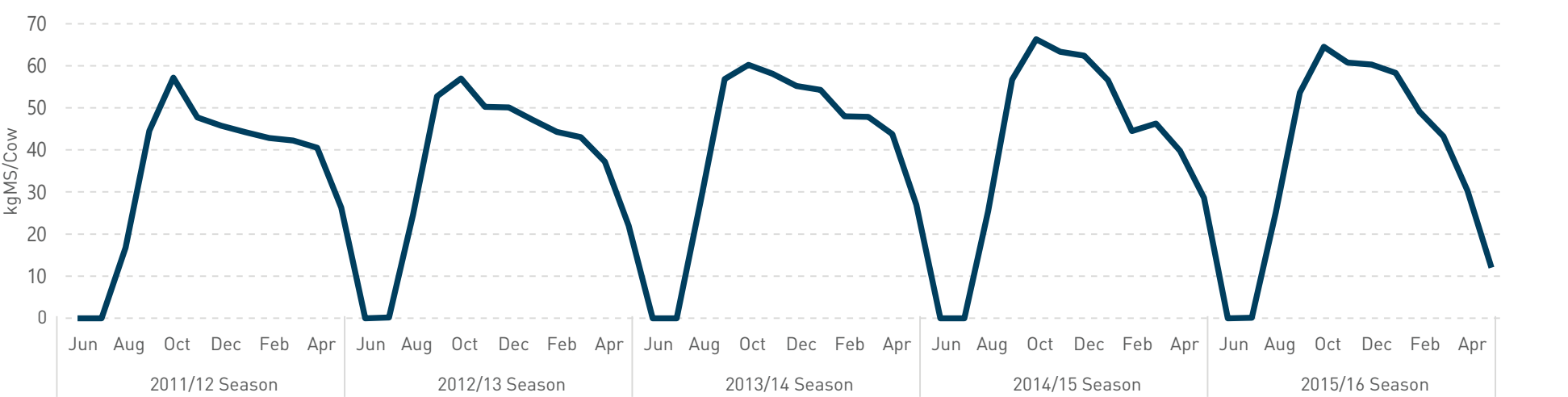
Feed to milk efficiency performance over time

Feed to Milk Efficiency

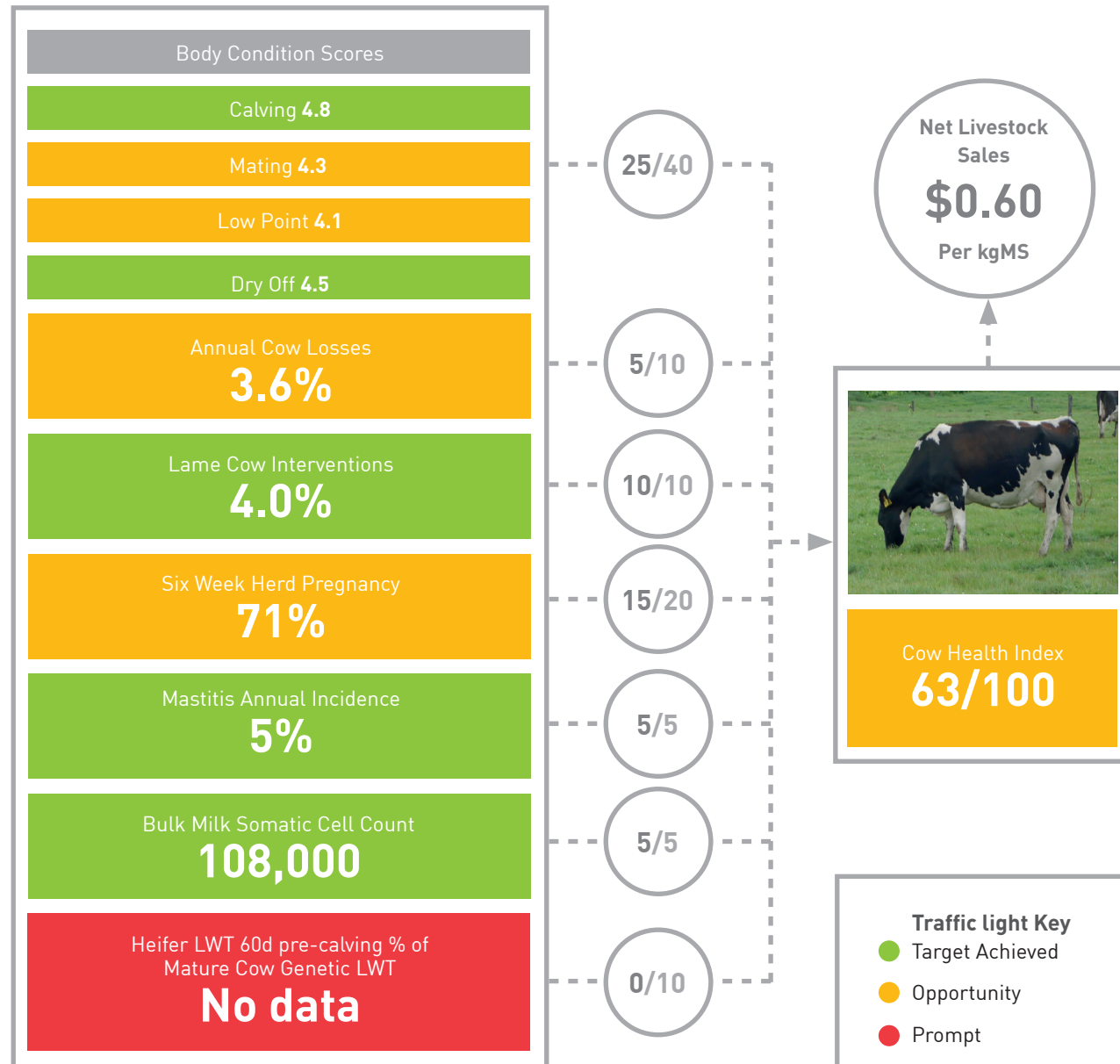


	Season Ended				
	2012	2013	2014	2015	2016
Comparative Stocking Rate kgLWT/tDM available	86	83	86	80	86
Farm Feed Conversion kgDM/kgMS produced	15.5	14.9	13.0	13.7	13.6
Cow Feed Conversion kgDM/kgMS produced	13.0	12.5	11.9	11.9	12.2
Feed Wasted kgDM/kgMS produced	2.5	2.4	1.1	1.8	1.4
Feed Grown % of feed available	91%	84%	88%	78%	86%
Feed Purchased % of feed available	9%	16%	12%	22%	14%

Per Cow Milk Solids Production



Animal health 2014/15 season



What does this show?

The Cow Health Index is a weighted score out of 100 comprising body condition score, cow losses, lame cow interventions, herd pregnancy rate, mastitis, somatic cell count and heifer live weight.

The measures are coded using the traffic light system. Green indicates areas where targets have already been achieved, orange where there is opportunity to improve, and red where performance has been less than desired.

Herd Survivability Metrics

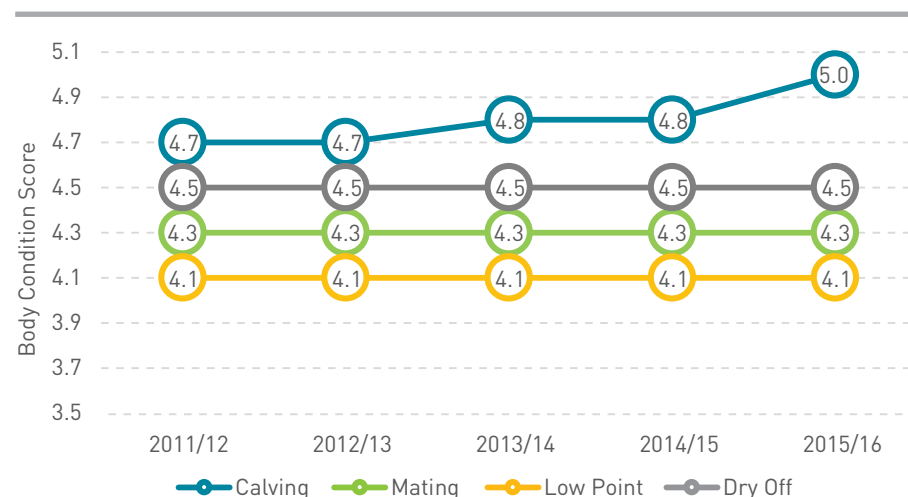
3 year-olds Retention Rate	77%
Replacement Rate at calving	21%
Heifer Mating LWT % Mature Cow LWT	58%
Herd Empty Rate	10%

The Cow Health Index at 63/100 highlights the opportunity to discuss these measures.

Duncan does not weigh the heifers 60 days pre-calving. Instead he relies on feeding them well as they grow. The herd is run as two mobs with the R2 heifers and lighter cows in one mob and the mixed aged cows in a second mob. This eliminates the competition between younger and older cows for feed and enables Duncan to plan and deliver feed to more effectively respond to the needs of each mob.

Animal health performance over time

Animal Health



	Season Ended				
	2012	2013	2014	2015	2016
Cow Health Index (Max 100)	53	50	55	63	63
Annual Cow Losses	1.7%	2.0%	1.9%	3.6%	2.3%
Lame Cow Interventions	1.2%	2.7%	3.5%	4.0%	8.0%
Six Week Herd Pregnancy	No data	No data	No data	71%	70%
Mastitis	4%	3%	3%	5%	6%
BMSCC (000s)	171	91	98	108	108
Heifer LWT 60d pre-calving					
% of Mature Cow Genetic LWT	No data	No data	No data	No data	No data

What does this show?

Historically, Anne-Marie and Duncan have monitored cow condition by 'eye' and adjusted feed supply to ensure they are well fed. However they now have their vet visit and assess body condition score four times each year.

The 2014/2015 season had a sharp increase in cow losses. These were mainly through the winter / spring period and older cows. The incidence of lame cow interventions is showing an increase. However, there has been more of a focus on prevention rather than cure and recording the cows treated.

The BMSCC has dropped from the first season at 171,000 to very low levels around 98,000 to 108,000 for the last three seasons. The increasing mastitis incidence is likely reflecting an increase in treatment of cows as a result of

better identification. Also, they have been encouraged by their vets to reduce the use of dry cow therapy and it is unclear whether this may contribute to this increase as well.

Anne-Marie and Duncan aim to rear 150 replacements each season and give the calves the best start possible by bottle feeding the new-born calves fresh colostrum. They introduce meal to the calf diet when the calves reach three weeks. The calves are weaned at 90kg and leave the farm on 1 December to graze until they either return to the farm to calve as R2's or are sold as in-calf heifers.

Anne-Marie and Duncan do not want the genetics of their herd to be a limiting factor so they herd test four times a year. This enables them to get the Production Worth (PW)

to their target. For the past three seasons they have been genetic testing the calves to give them confidence in the recording of the dam and sire for each calf.

In the first couple of seasons they wanted to increase the herd size and were building their cow numbers. They aim for a 22 percent replacement rate.

There is no heifer live weight 60 days pre-calving as the heifers are not weighed.

Improving each piece of the process

Duncan is always looking for different ways of doing things – opportunities to improve the farm processes.

These are not necessarily big changes. They are often smaller changes that deliver incremental improvements to the overall farming business.

As a qualified electrician, it is hardly surprising that Duncan spots opportunities where he can to use those skills. He has built a traffic light system visible from the milking shed to make it easy for the farm team to monitor the effluent systems. The lights are green, amber and red indicating the effluent pond levels. The farm team aims to maintain a green light with effective management of the effluent system.

The new rules for chilling milk will require that raw milk must be cooled to 6°C within two hours of the end of milking, or within six hours of starting milking, and held at or below 6°C until collection or the next milking. Again using his electrical skills, Duncan developed a temperature control system to monitor the milk and adjust the water chilling process through the plate cooler. In so doing, the chilling system is controlled and the energy usage is reduced.

The preparation for mating is a real focus for Duncan and in recent years they have been recording pre-mating heats in a bid to identify non-cycling cows. To improve the tail paint process Duncan designed and built a tail painting guide which easily positions the paint in the right place on the cow.

At dry off, again using the tail paint process, a colour coding system is used to split the cows into calving date. August is red, September is yellow and October is blue. The identification of expected calving dates assists with management of the cows during the dry period.

In 2015 they built a new calf shed and considered the design layout of the pens as part of the development. Rather than the traditional format, they set up the calf pens within the calf shed as triangles, so the team can work easily with the calves.

Duncan wanted to use a feed system to add to the pasture diet of the herd and an in-shed grain feeding system was installed in the milking shed. Duncan combines the minerals and molasses with water before mixing with the grain to encourage the cows to eat the feed and to minimise the dust in the milking shed.



Environmental performance

The dairy farm is located near Outram in the Taieri River Catchment. As the farm is located within the Otago Regional Council boundaries, there is a requirement to meet the thresholds (for nutrient budget and water quality) under ORC Plan 6A.

The contour of the farm is flat and has an average annual rainfall of 720mm onto the predominately gleyed soils.

When they moved onto the farm, Anne-Marie and Duncan cleared the historical landfill on the farm and filled it in. They remove all rubbish from the farm and have a recycling system in place for the baleage wrap.

The initial development of the dairy farm included the building of an impact pond and a 90 day effluent storage pond. They pump from the impact pond to the effluent storage pond using a gravity system. The effluent is spread, using a fail-safe irrigation system, over 35 percent of the farm at a low rate to maximise plant uptake.

Every paddock on the farm has been soil tested at least once to build a picture of areas for attention and areas for saving on fertiliser inputs. Duncan works with the fertiliser representative to ensure applications are effective, based on the distance from the milking shed, soil types and historical applications of both fertiliser and effluent. As the Olsen P is above the agronomic optimum, the fertiliser application is being limited. This reduces the phosphorus loss to water and has the benefit of cost saving as well. The nitrogen fertiliser is applied strategically and at low rates, which benefits both the environment and reduces costs.

The majority of cows are wintered off the farm to give pasture time to rest. Although Anne-Marie and Duncan run a predominantly pasture-based system they use silage, cereal grain (barley or wheat) and molasses which is fed through an in-shed feed system. The in-shed feed system maximises feed utilisation. To reduce pasture damage during particularly wet conditions there is a temporary stand-off pad for up to 100 cows. Given the small size of the stand-off pad it is used tactically.

The temperature of the milk and the temperature of the plate cooler water are monitored. The milk volume through the plate cooler is measured and the flow of water through the plate cooler is modified depending upon the cooling level required. Therefore, only the correct amount of water is chilled and only the right amount of water is used, to deliver an effective cooling process and reduce electricity usage.

In the future they want to:

- investigate the use of solar power for energy generation at the milking shed;
- increase the percentage of the farm receiving effluent to minimise use of chemical fertiliser;
- develop a better standoff/feed pad system to further protect the pasture;
- demolish the old milking shed and fill in the old effluent ponds.



Giving back to the community

With a strong sense of community, both Anne-Marie and Duncan seek to support both their community and the wider dairy industry.

It is important to Anne-Marie and Duncan to share their farming life with others to assist greater understanding of the dairy sector. They have welcomed visits from school groups, accountants, DairyNZ and Fonterra.

For the past 15 years Duncan has been involved in the annual IHC Calf and Rural Scheme raising two calves each season as part of the fundraising programme.

The Malcam Charitable Trust is a Dunedin-based youth development trust, which in partnership with Otago Polytechnic, offers “Farmhand”. The “Farmhand” programme is a free, 13-week, rural-based work and life skills programme which connects young urban people with rural communities and permanent work or further education. Duncan has created a living classroom for students in the “Farmhand” programme providing the students with the opportunity to experience and learn skills on-farm at Huntly Road. A number of the students who have worked with Duncan have gone on to obtain full-time employment in the dairy sector.

The development of their farm team is equally important to Anne-Marie and Duncan. Their focus is on training and mentoring the next generation of dairy farmers. Farm

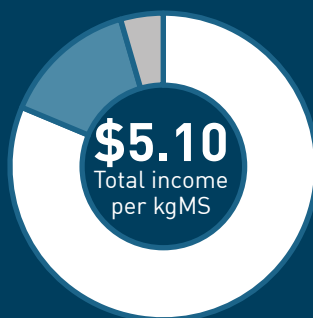
team meetings are held regularly to discuss what is happening on the farm and planning the workload. These discussions include the reasons for and background to the actions to be taken. Team members have three scheduled performance appraisals each year, with one just after the busy spring period. It is important to Anne-Marie and Duncan that their team members are happy and supported. However, they do expect their farm team members to demonstrate an enthusiasm for both learning and the dairy industry. As a result there is an expectation of transience as team members seek to learn more and move on to other roles on other farms as part of growing and developing their skills and experience.

Anne-Marie recognises the importance of support for dairy women and is a member of the Dairy Women’s Network (DWN). As part of that involvement Anne-Marie is leading the launch of a Regional Group in the Taieri area to hold a variety of social and learning events. In addition, together with others she is creating an opportunity for women living on the Taieri to connect with each other. The aim is to bring the community together and provide support, in particular with a focus on those newly arrived in the area and more broadly for times on the farm that are especially busy, including in spring and during calving and lambing.



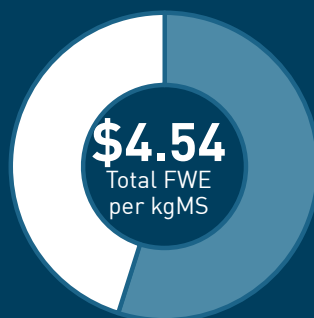
Financial performance 2014/15 season

Income per kgMS



Milk Income per kgMS
 Livestock Trading per kgMS
 Other Income per kgMS

FWE per kgMS



Feed Expenses per kgMS
 Other FWE per kgMS

Profit and Loss

	\$000s	 Per Cow	 Per KgMS
Milk Income	1,325	\$2,169	\$4.43
Livestock Trading & Other Income	199	\$326	\$0.67
Total Income	1,524	\$2,495	\$5.10
Feed Costs	658	\$1,077	\$2.20
Other FWE	699	\$1,144	\$2.34
Total FWE	1,357	\$2,221	\$4.54
EBITDA	167	\$274	\$0.56

Breakeven Milk Price (per kgMS)

Feed Costs

\$2.20

+

Other FWE

\$2.34

=

Total FWE

\$4.54

-

Livestock Trading and Other Income

\$0.67

=

Breakeven Milk Price
Before debt servicing and depreciation

\$3.87

What does this show

Anne-Marie and Duncan own 50 percent of the company. They work day to day in the farming business so have managed the complexity of putting the financial processes in place, progressing through the set-up phase for the first season in 2011/2012 and on from there.

Feed costs have increased from \$1.91kgMS to \$2.20kgMS while other farm working expenses have decreased from \$2.75kgMS to \$2.34kgMS. Anne-Marie and Duncan recognise the cost of purchased feed is the greatest challenge and sourcing enough feed at the right price is an ongoing focus. They are able to manage other farm working expenses by prioritising farm projects.

The breakeven milk price, before debt servicing and depreciation, has consistently remained below \$4.00kgMS.

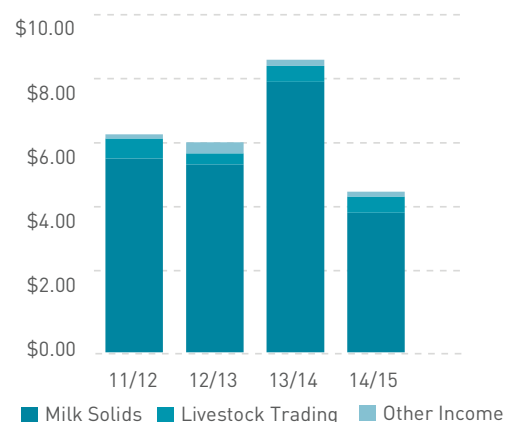
Anne-Marie maintains the budget as a "living" document and prepares monthly reports using CashManager Rural™. This allows her to monitor budgeted spending compared to actual and assess the value delivered from the spend. This consistent attention to detail ensures that variances are understood and allows for action to be taken where needed. It also provides a "no surprises" environment for the shareholders and the bankers.

Financial performance over time

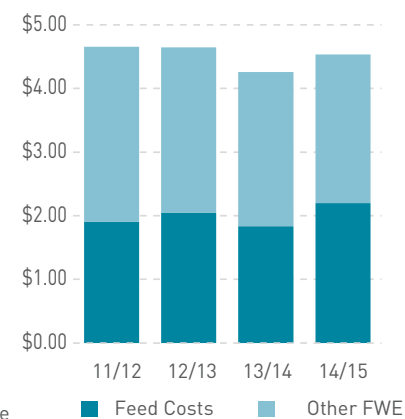
Financial Efficiency	Season Ended			
	2012	2013	2014	2015
Feed cost per kgMS	\$1.91	\$2.04	\$1.84	\$2.20
Other FWE per kgMS	\$2.75	\$2.60	\$2.42	\$2.34
Breakeven Milk Price	\$3.91	\$3.95	\$3.57	\$3.87
Return On Assets %	5%	4%	13%	0%
Capital employed per kgMS	\$38	\$35	\$34	\$32
Milk Price	\$6.09	\$5.90	\$8.49	\$4.43

Profit and Loss to EBITDA (per kgMS)	Season Ended			
	2012	2013	2014	2015
Milk income	\$6.09	\$5.90	\$8.49	\$4.43
Dividends	\$0.12	\$0.36	\$0.20	\$0.16
Livestock trading	\$0.63	\$0.34	\$0.50	\$0.51
Total income	\$6.84	\$6.60	\$9.19	\$5.10
Feed costs	\$1.91	\$2.04	\$1.84	\$2.20
Other FWE	\$2.75	\$2.60	\$2.42	\$2.34
Total FWE	\$4.66	\$4.64	\$4.26	\$4.54
EBITDA	\$2.18	\$1.96	\$4.93	\$0.56

Income per kgMS



Expenses per kgMS





Definitions

Definitions

General

kgDM	Kilograms of Dry Matter at 11MJ ME
kgMS	Kilograms of Milk Solids
MJ ME	Mega Joules of Metabolic Energy

Animal Health

Actual LWT (Live weight)	Actual live weight of mature cows (5 – 7 years) with Body Condition Score of 4.5 at 100 days in milk
Annual Cow Losses	All cows which died (died, euthanised, pet food) during the season divided by cows calved
BW (Breeding Worth)	The index used to rank cows and bulls based on how efficiently they convert feed into profit. This index measures the expected ability of the cow or bull to breed replacements that are efficient converters of feed into profit. BW ranks male and female animals for their genetic ability for breeding replacements. For example a BW68 cow is expected to breed daughters that are \$34 more profitable than daughters of a BW0 cow.
BMSCC (Bulk Milk Somatic Cell Count)	Arithmetic average of Bulk Milk Somatic Cell Count for the season
BCS (Body Condition Score)	An assessment of a cow's body condition score (BCS) on a scale of 1-10 to give a visual estimate of her body fat/protein reserves
Cow Health Index	Weighted score out of 100 comprising BCS (40), Heifer LWT (10), Reproductive outcomes (20), Lameness (10) , Cow losses (10), Mastitis (5) and Bulk Milk Somatic Cell Count (5)
Genetic Mature Cow LWT (Live weight)	Live weight Breeding Value from Livestock Improvement Corporation (LIC) (modified by ancestry) for a fully grown mature cow (5 – 7 years) at BCS 4.5 at 100 days in milk
Lame Cow Interventions	The recorded incidence of new lame cow treatments per cows that have calved in the season (new being the same leg after 30 days or a new leg)
Mastitis	The recorded incidence of new cases per the number of cows, including heifers, calved for the season (new being the same quarter after 14 days or a new quarter)
PW (Production Worth)	An index used to measure the ability of the cow to convert feed into profit over her lifetime.
Recorded Ancestry	This is an "identified paternity" measure. The higher the level the more accurate the BW and PW information. It indicates the level of recording of an animal's dam and sire and includes all female relatives related through ancestry (ie sisters, nieces, etc) and is used when she is a calf. The evaluation of untested animals is based solely on ancestry records.
Reliability	A number on a scale of 0 to 99 which measures how much information has contributed to the trait evaluation for the animals, and how confident we can be that a Breeding Value is a good indication of the animal's true merit. The more herd testing data available the higher the score.
Replacement Rate	The number of heifers to calve divided by the total herd to calve for the season, expressed as a percentage

Feed Efficiency

Comparative Stocking Rate	Total kilograms of mature cow genetic live weight of cows calved divided by tonnes of dry matter available
Cow Feed Efficiency – Eaten	Standardised (11 MJ ME/kgDM) kilograms of dry matter eaten per kilogram of milk solids produced
Farm feed Efficiency – Available	Standardised (11MJ ME/kgDM) or kilograms of dry matter per kilogram of milk solids produced
PKE	Palm Kernel Expeller
DDG	Dried Distillers' Grain

Environmental

Green House Gas Emissions	Green house gases on a whole farm basis expressed as CO ² equivalents
Nitrogen Conversion Efficiency	A ratio of product divided by Nitrogen input (Nitrogen input includes fertiliser, supplement and Nitrogen fixation), expressed as a percentage
N loss (Nitrogen loss)	An estimate of the Nitrogen that enters the soil beneath the root zone, expressed as kg N/ha/year
P loss (Phosphorus loss)	An estimate of the Phosphorus lost to water as surface and subsurface run off, expressed as kg P/ha/year

Financial

Net Livestock Sales	Net Income from Livestock sales (sales less purchases)
Breakeven Milk Price	The breakeven milk price is the payout needed per kgMS to cover the direct costs of production
EBITDA	Earnings Before Interest, Tax, Depreciation and Amortisation and is the cash surplus available from the farming business
Feed Costs	All feed purchases, irrigation, nitrogen, grazing, silage/hay contracting, cropping costs, regrassing, pest and weed control, leases, related wages
FWE (Farm Working Expenses)	Direct farm working costs including owner operator remuneration before interest, taxation, depreciation, amortisation
Livestock Trading	The income from livestock trading including both Net Livestock Income and accounting adjustments for changes to both the number of cows and the value of cows on hand at year end.
Milk Price	Total milk income divided by total kgMS

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