Financial Survey 2018
Waikato/Bay of Plenty Dairy

This report summarises the results of a financial survey of dairy farms across the Waikato and Bay of Plenty regions, carried out by AgFirst through June 2018. A description of the model farm is at the back of this report.

KEY POINTS

- The 2017/18 season was a season of two halves. The first half was incredibly wet right through the winter and spring, up to the end of October. It then turned very hot and dry, with minimal rain, through to the start of January. Good rain fell in early January, and good conditions prevailed on until the end of the season.
- Milk production was down by 10% on average by Christmas due to the poor conditions. While pasture growth improved in January, production did not follow due to a combination of poor pasture quality and heat stress in most herds due to the hot, humid conditions over January and February. With cooling conditions from March onwards, production picked up and almost made up for the poor spring by the end of the year. Milksolids production for the model finishes the year down 1.1% compared with 2016/17; a weighted average of the Waikato, down 1.9%, and the Bay of Plenty, up 2.5%. Not withstanding the average, there is a wide variation in final production between individual farms compared with 2016/17.
- The combination of the poor spring and improved payout saw farmers readily spend on supplementary feed, and along with a catch-up on previously deferred farm working expenditure, saw total farm working expenditure lift by 11.5% of a per kilogramme of milksolids basis compared with 2016/17. Total FWE expenditure was $4.07/kgMS compared with $3.65/kgMS in 2016/17.
- Notwithstanding the relatively poor season, the lift in the payout sees the model improve its Net Cash Income by 24%, and Cash Operating Surplus by 50%, compared with 2016/17. These are expected to improve again in 2018/19 by 5% and 7% respectively, again driven by an improved payout.
- The lift in profitability sees major lifts in a number of expenditure areas: taxation, capital spending on compliance issues, and debt repayment both with respect to 2017/18, and budgeted for again in 2018/19.
- While farmers welcome the improved profitability, confidence is relatively subdued; the advent of *Mycoplasma Bovis* has been a huge jolt to the industry, and farmers are concerned as to how they might manage it, and biosecurity in general, along with ever-increasing compliance issues and costs.

Table 1: Key Parameters, Financial Results and Budget for the Waikato/Bay of Plenty Dairy Model

Year ended 30 June	2014/15	2015/16	2016/17	2017/18	2018/19 budget
Effective area (ha)	123	125	125	125	125
Cows wintered (head)	355	356	345	347	340
Replacement heifers (head)	66	66	66	66	64
Cows milked 15th December (head)	350	350	339	339	338
Stocking rate (cows/ha)	2.8	2.8	2.8	2.7	2.7
Total milksolids (kg)	130,464	128,624	128,314	126,864	129,400
Milksolids per ha (kg/ha)	1,061	1,029	1,027	1,015	1,035
Milksolids per cow milked (kg/cow)	373	367	379	374	383
MS advance to end June ($/kg)	4.29	3.40	5.06	5.35	5.55
MS deferred payment ($)	1.50	0.12	0.50	1.32	1.40
Net cash income ($)	788,056	492,094	724,749	901,901	952,124
Farm working expenses ($)	522,563	469,251	468,340	516,300	530,675
Farm profit before tax ($)	78,832	-179,203	256,409	202,941	252,411
Farm surplus for reinvestment[1] ($)	25,386	-182,740	34,586	115,213	143,412

Note:
[1] Farm surplus for reinvestment is the cash available from the farm business, after meeting living costs, which is available for principal repayments, capital expenditure, and further farm development.

PHYSICAL FACTORS

The winter and spring of 2017 was particularly wet, which created significant problems on-farm, and saw production well down on most farms (average 10%) by Christmas. Many farmers were forced to buy in extra supplementary feed, particularly as they were unable to make any on-farm. The wet weather also delayed plantings of maize, although the resultant weather over the summer autumn saw most crops yield very well, with high quality silage (high DM, and ME) resulting.

January and February saw relatively good pasture growth, but the high temperatures and high humidity saw cows suffer from heat stress, and milk production lifted very little. The late summer/autumn period saw excellent pasture growth and conditions, and many farms caught up to some extent on production lost earlier in the year. Many farms also took advantage of the pasture growth to make silage, albeit of lesser quality due to lower ME levels.

While the 6-week in-calf rate improved slightly compared with 2016/17, overall empty rates were up slightly, to 10% - 12%, although again there was a wide variation between farms. Facial eczema affected some cows, although sub-clinical cases were more widely reported, with many of these quite possibly carry-overs from previous years.

Pasture covers going into early winter 2018 have been very good, at around 2,500 kgDM/ha, although recent weather has turned wet and cold, which slowed pasture growth, and has reduced pasture covers by around 150 kgDM/ha. Cow condition is 'reasonable', but still below target on many farms. Most farms are also going into the new season with good reserves of supplementary feed on hand.

FINANCIAL PERFORMANCE 2017/18

Revenue Up

As occurred during the 2016/17 season, payout forecasts increased as the season progressed, with the total payout for the 2017/18 season of $6.75/kgMS, a 50 c/kgMS improvement over 2016/17. This has been very welcome to farmers, as production has been down due to the poor season. This has been offset to a slight degree by the reduction in the Fonterra dividend payment.

As a result, total milksolids income is up by 25%, and net cattle income by 5% (more cull cows), compared with 2016/17.

The overall result is that Net Cash Income for the model in 2017/18 is $901,900, up 24% compared with 2016/17.

Expenditure Also Up

Farm working expenses have increased compared with 2016/17 for four key reasons: the poor climatic season required it, there was a requirement to catch up on deferred spending from previous years, a legacy of the low payouts, and, not the least, the improved payout allowed for an increase.

Total farm working expenses have lifted by 10% in absolute terms, from $368,300 in 2016/17 to $516,300 in 2017/18, or on a per kilogramme milksolids basis, from $3.65/kg to $4.07/kg.

Within this increase, the main changes are:

- Breeding expenses up 25%, driven mainly by a reversion to a more regular herd-testing regime.
- Overall feed costs are up by 13%. Within this the expenditure on hay or silage (including maize silage) made on-farm or bought in, increased by 46%, a legacy of the poor season, on crops by 17%, mostly due to larger areas being cropped, and off-farm grazing by 6% (increased grazing fees). Expenditure on bought in supplements such as palm kernel were much the same.
- Fertiliser expenditure increased by 3%, mainly due to a small increase in nitrogen fertiliser applied.
- Regrassing expenditure increased by 31% as many farmers renewed pastures damaged by the wet weather.
- Repairs and maintenance expenditure increased by 48%. A combination of the need to repair infrastructure due to the poor weather, and a catch-up on previously deferred expenditure.

Total debt servicing has dropped slightly (2%); while interest rates remain constant, some debt repayment has reduced total term debt, and the better payout has seen a reduction in overdraft levels.

Net Result

Farm profit before tax for 2017/18 is $202,900, up markedly (154%) on 2016/17. As a result, this surplus has been used in various ways:

- Tax liability has increased in line with the improved profitability.
- Personal drawings increased by 22%, back towards the level it was prior to the low payouts.
- Significant expenditure on capital items, a combination of spending on compliance issues, e.g. milk vat cooling systems, improved effluent management systems, and vehicle replacement, again a deferred item in recent years.
- Debt repayment. For the 2017/18 year, the first instalment repayment has been made on the Fonterra loan, plus some principal repayment on the term debt.

The farm cash surplus for the year is $9,200, to which is added the Fonterra dividend, giving a net cash position of $38,700.

FINANCIAL PERFORMANCE 2018/19

Revenue Up

The budgeted net cash income for the model increases by $50,200, or 6% compared with 2017/18. The main driver of this is the expected increased payout and a higher deferred payment relative to 2017/18. Net cattle income is down by 10%; a reflection of a 1% reduction in peak cows, coupled with an expectation of a slight decrease in the beef schedule.

Income is also boosted by farmers budgeting for an increase in production for 2018/19, as reflected in a 2% increase in the model budget.

Expenditure Up Slightly

The survey farmers were budgeting for a slight increase in total farm working expense in 2018/19, increasing by 3% with a range of increases and decreases:

- Dairy shed expenditure is up 11%.
- Total feed costs increase by 11%, mainly due to a budgeted increase in the cost of bought-in supplement. With the restrictions being applied to the level of palm kernel that can be feed, many farmers are now looking at a PKE-blend (i.e. 70% PKE + 30% other feedstuff, e.g. barley, tapioca), which commands a higher price. Grazing expenditure is also up (4%) due to an expectation of higher grazing fees.
- Fertiliser expenditure is up 5% in expectation of slightly higher application of phosphatic and potassium fertilisers.
- Regrassing costs down 11%.
- Repairs and maintenance down 11%.
- Administration costs up 4%.

Debt servicing drops slightly again (down 4%); while interest rates have been held, the reduction is due to lower term debt as well as a lower average overdraft level.

Net Result

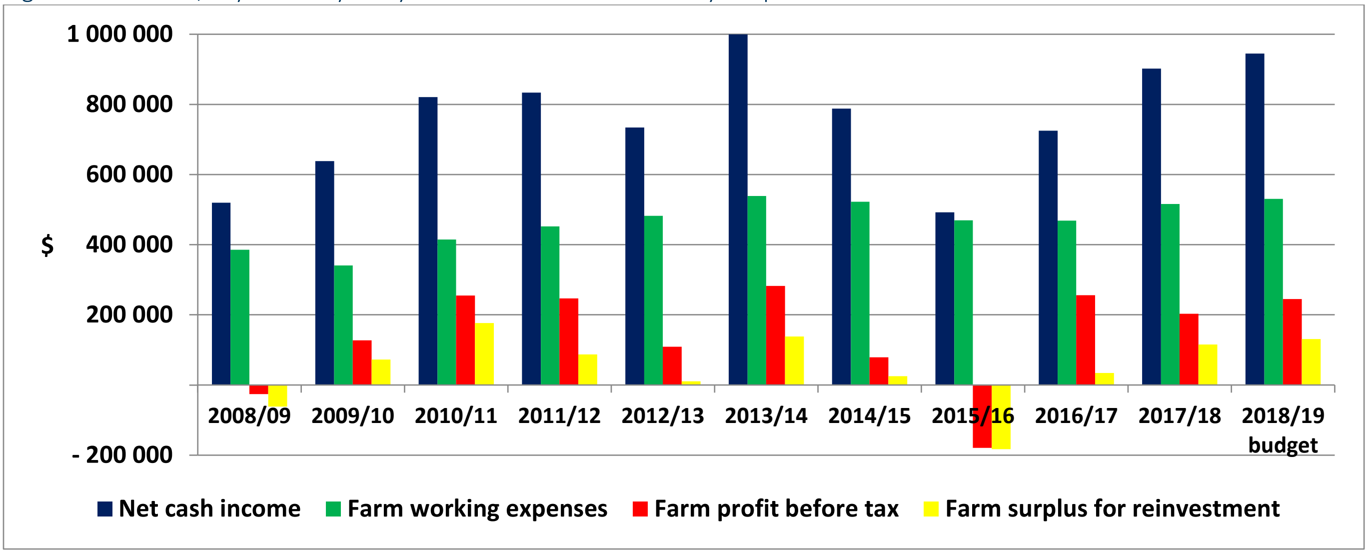
The currently budgeted farm profit before tax is $252,400, up 21% on 2017/18. Budgeted spending of this includes:

- Tax payment increases in line with the improved profitability.
- Drawings are held constant.
- Capital expenditure again at a reasonable level ($45,000), in anticipation of meeting further compliance costs, along with vehicle and plant and equipment replacement.
- Debt reduction again is budgeted for; a combination of the remainder of the Fonterra loan, plus a full principal repayment based on a table mortgage equivalent.

Currently the result is a cash farm surplus of $17,500, which when added to the Fonterra dividend, gives a net cash position of $43,600; a small buffer against a drop in payout or increased farm expenditure.

While the cash position is looking positive, the capital side is less so. While good farms in good locations are selling well, farms elsewhere less so; many are not selling at all. Coupled with this is a decrease in livestock values, and the recent decrease In the Fonterra share value. For the model farm, this adds up to a reduction in total capital value of $157,300, although total equity only decreases by $63,500; the drop in capital value is partially offset by the principal debt repayments.

Figure 1: Waikato/Bay of Plenty Dairy Model Trends in Profitability Graph



Breakeven Payout

A calculation is shown below of the 'breakeven' milksolids payout required to meet basic expenditure requirements covering: farm working expenditure, debt servicing, living expenses, taxation, and capital replacement.

Table 2: Breakeven payout estimate ($/kg MS)

Breakeven ($/kgMS)						Budget
	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Farm Working Expenses	$4.54	$4.07	$3.65	$3.65	$4.07	$4.10
Interest	$1.04	$1.20	$1.14	$1.12	$1.11	$1.04
Drawings	$0.72	$0.58	$0.46	$0.51	$0.63	$0.62
Depreciation	$0.21	$0.19	$0.32	$0.28	$0.24	$0.26
Tax	$0.66	$0.09	$0.00	$0.10	$0.38	$0.49
	$7.17	$6.12	$5.57	$5.66	$6.43	$6.52
(less) Cattle Income	$0.37	$0.37	$0.44	$0.32	$0.37	$0.33
Breakeven Payout	**$6.81**	**$5.75**	**$5.13**	**$5.35**	**$6.06**	**$6.19**
Within season payment	$7.52	$5.75	$3.37	$5.30	$6.69	$6.92
Difference	$0.71	$0.00	-$1.76	-$0.05	$0.63	$0.73

[While depreciation is not a cash cost per se, it represents a real cost of maintaining plant and equipment on-farm]

For the surveyed farmers, the relevant figures showing the range, mean and median are:

Table 3: Expenditure range information from the monitored farms ($/kgMS)

	2017/18	2018/19
Animal Health	0.08 - 0.37	0.14 - 0.35
Total feed cost	0.45 - 2.27	0.76 - 2.71
Fertiliser	0.15 - 0.72	0.16 - 0.63
Repairs & maintenance	0.01 - 0.68	0.13 - 0.61
Total farm working expenses	3.08 - 5.95	2.83 - 5.69
Interest	0.07 - 1.70	0.03 - 1.86
Drawings	0.07 - 1.71	0.23 - 2.23
Depreciation	0.05 - .072	0.12 - 0.77

Payout Doubts

While farmers have welcomed the announced $7.00/kgMS payout for 2018/19, many have some doubts as to whether this will be attained, particularly in view of recent drops in the GDT auction prices. Table 4 shows the model situation if the payout drops, remembering that the impact is concentrated around the drop in the advance payout (the figures assume a proportion drop across both the advance for 2018/19, and the final payout in 2019/20).

Table 4: Sensitivity analysis around payout

Payout ($/kg)	$7.00	$6.75	$6.50
Net cash income ($)	$952,124	$887,423	$861,543
Farm working expenses ($)	$530,675	$530,675	$530,675
Farm profit before tax ($)	$252,411	$187,711	$161,831
Farm surplus for reinvestment ($)	$143,412	$78,712	$52,832

This also assumes that farm working expenses stay static; the reduction in income would be buffered by the dividend payout, and then by reductions in capital expenditure and principal repayments.

ISSUES

There are a range of issues concerning farmers, key ones of which are outlined below:

- Probably the most significant issue to hit dairy farmers this year was the outbreak of *Mycoplasma Bovis*, including on two Waikato farms. Farmers are concerned to endeavour to prevent the spread of the disease onto their farms, and many farmers are thinking about, or implementing a range of actions:
  - Looking at using AB on all cows so they are not having to buy-in or lease any bulls
  - Double fencing, or erecting electric fence outriggers along the boundary
  - Being very cautious on rearing any extra calves, particularly dairy-beef
  - Considering bringing heifers out grazing back onto the milking platform, or buying a run-off to graze heifers on
  - Looking for farm visitors to (a) have clean vehicles and boots on arrival, and (b) clean vehicles/boots before leaving

  On the positive side, most are now being very careful around NAIT tagging and tracing stock movements. While farmers support the attempt at eradication, all are waiting to see the results of testing over the spring.

  How this all plays out remains to be seen, but on-farm biosecurity is certainly being taken seriously. The proposed biosecurity levy to fund the M. Bovis eradication has yet to be announced; expectation is around 1 c/kgMS, which for the model farm equates to around $1,300 (which is not included in the current budget).
- M. Bovis will also have an impact on dairy-beef calf rearing. Beef farmers are looking to deal direct with calf rearers, as opposed to buying in the stockyards, as well as asking that any rearers feeding raw milk either pasteurise it or treat it (i.e. with citric acid) to reduce the pH. It is felt that most larger-scale rearers will continue in operation, but smaller operators could well pull out.
- Finding and retaining good farm staff remains a significant concern. As previously, there is a combination of factors here, including: dairy farming still not seen as a good career path, a number of share/contract milkers 'burnt off' due to the low payouts and now lost to the industry, the path to farm ownership becoming more difficult for many, and recent moves to restrict overseas labour. Farmers are becoming more interested in 'easier-care' type systems, such as once-a-day milking (OAD). Currently around 10% of the national herd milks OAD for the full season, and many farmers use this approach post-Christmas.
- Cost of complying with regulation also remains a major concern. This covers a range of issues, such as: animal welfare, food safety, health and safety, and environmental issues, with the latter including the probability of agriculture being brought into the Emissions Trading Scheme within the next year or two. Much of this is driving the need for ongoing capital expenditure and environmental issues (along with labour issues) is driving something of a trend to lower stocking rates and concentrate on per cow production, which in itself is a trend towards getting the best out of the current system and assets, rather than push for expansion.
- Overall, therefore, while farmers are pleased with the payout and better cashflow, confidence is somewhat subdued due to the biosecurity scare, and ongoing compliance issues – farming is becoming a very complicated business.

Table 4: Waikato/Bay of Plenty Dairy Model Budget

	2017/18			2018/19 Budget		
	Whole farm ($)	Per cow ($)	Per kg of milksolids ($)	Whole farm ($)	Per cow ($)	Per kg of milksolids ($)
Revenue						
Milksolids	815 747	2 406	6.43	863 431	2 555	6.67
Capacity Adjustment	32 350	95	0.26	39 467	117	0.31
Cattle	53 872	159	0.42	49 273	146	0.38
Other farm income	6 500	19	0.05	6 700	20	0.05
Less:						
Cattle purchases	6 568	19	0.05	6 748	20	0.05
Net cash income	**901 901**	**2 660**	**7.11**	**952 124**	**2 817**	**7.36**
Farm working expenses	**516 300**	**1 523**	**4.07**	**530 675**	**1 570**	**4.10**
Cash operating surplus	**385 601**	**1 137**	**3.04**	**421 448**	**1 247**	**3.26**
Interest	140 901	416	1.11	135 022	399	1.04
Rent and/or leases	0	0	0.00	0	0	0.00
Stock value adjustment	- 11 005	- 32	-0.09	0	0	0.00
Minus depreciation	30 755	91	0.24	34 015	101	0.26
Farm profit before tax	**202 941**	**599**	**1.60**	**252 411**	**747**	**1.95**
Income equalisation	0	0	0.00	0	0	0.00
Taxation	48 809	144	0.38	65 135	193	0.50
Farm profit after tax	**154 132**	**455**	**1.21**	**187 276**	**554**	**1.45**
Allocation of funds						
Add back depreciation	30 755	91	0.24	34 015	101	0.26
Reverse stock value adjustment	11 005	32	0.09	0	0	0.00
Drawings	79 924	236	0.63	80 228	237	0.62
Farm surplus for reinvestment[1]	**115 967**	**342**	**0.91**	**141 063**	**417**	**1.09**
Reinvestment						
Net capital purchases	53 040	156	0.42	45 000	133	0.35
Development	0	0	0.00	0	0	0.00
Principal repayments	53 765	159	0.42	80 952	240	0.63
Farm cash surplus/deficit	**9 163**	**27**	**0.07**	**15 111**	**45**	**0.12**
Other cash sources						
Dividend on wet shares[2]	29 126	86	0.23	28 453	84	0.22
Dividend on dry shares[2]	401	1	0.00	0	0	0.00
Introduced funds	0	0	0.00	0	0	0.00
New borrowings	0	0	0.00	0	0	0.00
Off-farm income	0	0	0.00	0	0	0.00
Net cash position	**38 690**	**114**	**0.30**	**43 564**	**129**	**0.34**
Assets and Liabilities						
Farm, forest and building (opening)	4 892 500	14 432	38.56	4 798 125	14 196	37.08
Plant and machinery (opening)	187 850	554	1.48	209 673	620	1.62
Stock valuation (opening)	562 129	1 658	4.43	551 124	1 631	4.26
Dairy company shares	766 599	2 261	6.04	692 896	2 050	5.35
Other farm related investments (opening)	0	0	0.00	0	0	0.00
Total farm assets	**6 409 078**	**18 906**	**50.52**	**6 251 817**	**18 497**	**48.31**
Total liabilities (opening)	**2 533 830**	**7 474**	**19.97**	**2 440 065**	**7 219**	**18.86**
Total equity (assets-liabilities)	**3 875 248**	**11 431**	**30.55**	**3 811 752**	**11 277**	**29.46**

[1] Farm surplus for reinvestment is the cash available from the farm business, after meeting living costs, which is available for investment on the farm or for principal repayments. It is calculated as farm profit after tax plus depreciation plus stock adjustments less drawings.

[2] Dividend payments shown are net of marginal tax

Table 5: Waikato/Bay of Plenty Dairy Model Expenditure

	2016/17			2018/19 Budget		
	Whole farm ($)	Per cow ($)	Per kg of milksolids ($)	Whole farm ($)	Per cow ($)	Per kg of milksolids ($)
Farm working expenses						
Permanent wages	88 140	260	0.69	88 218	261	0.68
Casual wages	7 458	22	0.06	8 126	24	0.06
ACC	2 918	9	0.02	2 887	9	0.02
Total labour expenses	**98 516**	**291**	**0.78**	**99 231**	**294**	**0.77**
Animal health	31 595	93	0.25	31 434	93	0.24
Breeding	21 696	64	0.17	20 956	62	0.16
Dairy shed expenses	7 865	23	0.06	8 764	26	0.07
Electricity	17 628	52	0.14	18 590	55	0.14
Feed (hay and silage)	40 700	120	0.32	43 200	128	0.33
Feed (feed crops)	17 500	52	0.14	17 500	52	0.14
Feed (grazing)	44 356	131	0.35	46 202	137	0.36
Feed (other)	48 000	142	0.38	60 000	178	0.46
Fertiliser	40 735	120	0.32	42 660	126	0.33
Lime	0	0	0.00	0	0	0.00
Freight (not elsewhere deducted)	5 153	15	0.04	5 949	18	0.05
Regrassing costs	10 238	30	0.08	8 382	25	0.06
Weed and pest control	3 678	11	0.03	3 343	10	0.03
Fuel	9 153	27	0.07	9 464	28	0.07
Vehicle costs (excluding fuel)	16 103	48	0.13	15 717	47	0.12
Repairs and maintenance	44 643	132	0.35	39 627	117	0.31
Total other working expenses	**359 042**	**1 059**	**2.83**	**371 788**	**1 100**	**2.87**
Communication costs (phone and mail)	2 390	7	0.02	2 887	9	0.02
Accountancy	5 763	17	0.05	6 202	18	0.05
Legal and consultancy	3 837	11	0.03	3 380	10	0.03
Other administration	3 970	12	0.03	4 533	13	0.04
Water charges	0	0	0.00	0	0	0.00
Rates	18 984	56	0.15	19 604	58	0.15
Insurance	9 411	28	0.07	10 816	32	0.08
ACC Employer	4 480	13	0.04	4 480	13	0.03
Other expenditure[1]	9 907	29	0.08	7 754	23	0.06
Total overhead expenses	**58 742**	**173**	**0.46**	**59 656**	**176**	**0.46**
Total farm working expenses	**516 300**	**1 523**	**4.07**	**530 675**	**1 570**	**4.10**
Calculated Ratios						
Economic farm surplus (EFS[2])	258 842	764	2.04	302 433	895	2.34
Farm working expenses/NCI[3]	57%			56%		
EFS/total farm assets	4.0%			4.8%		
EFS less interest and lease/equity	3.0%			4.4%		
Interest+rent+lease/NCI	15.6%			14.2%		
EFS/NCI	28.7%			31.8%		

[1] Includes Dairy NZ levy.

[2] EFS (economic farm surplus) is calculated as follows: net cash income plus change in livestock values less farm working expenses less depreciation less wages of management (WOM). WOM is calculated as follows: $38 000 allowance for labour input plus 1 percent of opening total farm assets to a maximum of $85 000.

[3] Net cash income.

INFORMATION ABOUT THE MODEL

The Waikato/Bay of Plenty Dairy Model represents approximately 4,900 dairy farms across the Waikato and Bay of Plenty regions. The model is a seasonal supply farm based on an average property of 125 hectares, milking 340 cows and producing around 125,000 - 130,000 kgMS in a normal season. Heifers are grazed off the farm for 17 months.

The model is created from information drawn from 24 surveyed dairy farms and a cross section of agribusiness representatives. The aim of the model is to typify an average dairy farm for the Waikato/Bay of Plenty region. The model is assumed to supply Fonterra. The income and expenditure shown is on a cash in/cash out basis.

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