Financial Survey 2019
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 2019. A description of the model farm is at the back of this report.

KEY POINTS

- The 2018/19 season was again mixed climatically. Cows went into calving in reasonable condition, courtesy of the good autumn. The spring was mild but wet, with cows not peaking that well, but holding production through the spring. The summer and autumn were quite dry, with rainfall around 40% of the average. Some increased rain in May and June sees most farms go into the winter with good pasture covers.
- While milksolids production was up 2-3% by Christmas, the dry summer/autumn saw total production for the season down around 2% in the Waikato, and 3% in the Bay of Plenty. The weighted average used in the model was a decrease of 2.2%.
- Net income for the 2018/19 season is on a par with 2017/18; while the within season payout improved, this was offset by the reduction in milksolids production. Meanwhile farm working expenses have increased (by 7%) due to a range of factors; increased per unit cost increases, and increased spending on supplementary feed (for the dry), and increased fertiliser usage.
- Surplus funds have been used to cover capital expenditure, some farm development, and some principal debt repayment, such that the farm essentially breaks even for the year.
- Notwithstanding the farm is operating a full operating expenditure, plus repaying debt, the balance sheet has taken a hit over 2018/19 due to a decrease in land and Fonterra share values, such that equity is down 16% at years' end.
- For 2019/20, farmers are budgeting for an increase in net cash income (up 3%) due to a 2% increase in milksolids production coupled with an expectation of an improvement in the milksolids payout. Farm working expenditure is budgeted at similar to 2018/19 levels, meaning that the farm can again pay off some debt.
- As in recent years, farmers have been buoyed by recent increases in the milksolids payout, but confidence is relatively subdued. This is due to a range of factors: Fonterra's capital issues, M. Bovis, ever increasing costs, particularly for compliance, the need to reduce debt, and ongoing anti-dairying rhetoric.

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

Year ended 30 June	2015/16	2016/17	2017/18	2018/19	2019/20 budget
Effective area (ha)	125	125	127	127	127
Cows wintered (head)	356	345	373	373	364
Replacement heifers (head)	76	73	80	80	78
Cows milked 15th December (head)	350	339	365	365	360
Stocking rate (cows/ha)	2.8	2.8	2.7	2.9	2.8
Total milksolids (kg)	128,624	128,314	130,064	127,203	129,746
Milksolids per ha (kg/ha)	1,029	1,027	1,024	1,002	1,022
Milksolids per cow milked (kg/cow)	367	379	356	349	360
MS advance to end June ($/kg)	3.40	5.06	5.35	5.11	5.41
MS deferred payment ($)	0.12	0.50	1.32	1.34	1.25
Net cash income ($)	492,094	724,749	893,680	895,721	923,714
Farm working expenses ($)	469,251	468,340	500,828	533,841	533,493
Farm profit before tax ($)	-179,203	256,409	221,197	186,927	277,977
Farm surplus for reinvestment[1] ($)	-182,740	34,586	115,178	109,802	115,488

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 2018 was wet but mild, with good pasture growth. While cows did not peak that high, they held production well during the spring, such that production was up around 2-3% by Christmas, compared with the previous season.

The season then turned quite dry in January through to May, with many Waikato areas receiving less than half their long-term average rainfall over the January-June period, whereas the Bay of Plenty did receive more rain. Farmers had made limited hay and silage in the spring, but this was more than rectified in late spring/early summer as the drying weather resulted in good pasture growth, resulting in many farmers harvesting above average levels of supplement. Much of which was subsequently fed out over the summer/autumn as pasture growth struggled in the dry weather.

High temperatures in February also affected cows and production. By season's end, production was down by around 2% in the Waikato, and around 3% in the Bay of Plenty – the weighted average for the model is a production drop of 2.2% compared with the 2017/18 season.

Maize crops generally had a good season, with good rain in December resulting in crops growing well. The heat, coupled with just enough rain in the summer saw good cob fill, although some crops on lighter soils were showing signs of moisture stress by harvest. The dry autumn has also adversely affected many winter forage crops.

Good feeding levels in the spring saw a slight improvement in in-calf rates, with the Livestock Improvement statistics showing a 1.3% (15.3% versus 16.5%) drop in not-in-calf rates compared with spring 2017, and a 1.8% (69% versus 67.2%) improvement in the 6-week in-calf rate.

There were a number of cases of facial eczema throughout both regions, although the prevalence was quite patchy. Some farms have been hit hard with nitrate poisoning following the rapid growth through May, with some cow deaths, and a number of abortions.

Many farms had low pasture covers at the start of May, but some good rain and mild temperatures have seen most farms go into the winter with good pasture covers of 2200-2300 kgDM/ha. Cow condition is on par with last year, although a number of rising 2-year heifers are below target liveweights. Currently soil conditions are still relatively dry, and much more rain is required to wet sub-soils. Rainfall from January to June 2019 has been 40% of the long-term average.

FINANCIAL PERFORMANCE 2018/19

Revenue Static

Net cash income for the model is essentially the same as for 2017/18. While the within-year milksolids payout was up fractionally, this was offset by the lower production, resulting in a 1% reduction in overall income from milksolids.

Net cattle income has increased by 15%, on the back of still strong beef schedules, and a slight reduction (2.4%) in cow numbers.

Expenditure Increases

Farm working expenses increased in 2018/19 by 7% compared with 2017/18. This was the result of a range of increases across several expenditure items. In absolute terms farm working expenditure increased from $501,000 in 2017/18 to $533,800 in 2018/19. On a per kilogramme of milksolids basis, the increase was from $3.85 to $4.20/kg, although the 2018/19 figure is bolstered due to the lower level of milksolids production.

The main increases were:

- Labour costs up 6% due to a combination of a tighter labour market and increases in the minimum wage.
- Overall feed costs are up by 15%. Within this the expenditure on hay or silage (including maize silage) made on-farm or bought in, increased by 18%, a legacy of the poor summer/autumn, on crops by 8% due to increased contracting costs, off-farm grazing by 15% (increased grazing fees)and bought-in supplements (mostly palm kernel) by 16% due mainly to increased costs.
- Fertiliser expenditure increased by 36%, due to a combination of increased tonnages, and increased cost.
- Repairs and maintenance expenditure decreased by 9% due to a combination of farmers catching up with deferred maintenance, and the need to spend money in other areas, such as effluent systems, and debt reduction.

Total debt servicing dropped by 10% due to a combination of slightly lower interest rates, and some principal debt reduction. Overdraft levels and interest rates remained much the same as for 2017/18.

Net Result

Largely as a result of the increase in farm working expenditure, farm profit before tax for 2018/19 is $187,000, down 15% on 2017/18. Further expenditure has been:

- Tax liability has decreased (by 21%) in line with the decrease in net profitability.
- Personal drawings remain the same as in 2017/18.
- Further expenditure on capital items and development; a combination of spending on environmental compliance issues, including (especially) improved effluent management systems, and vehicle replacement.
- Debt repayment. This involves the equivalent of a 67% repayment of a full 20-year P&I repayment, plus the remainder of the Fonterra loan. The principal repayment is based on 67% of the monitored farmers making debt repayments, whereas the rest remain on interest only.

The farm cash surplus for the year is $2,900, to which is added the Fonterra dividend, giving a net cash (surplus) position of $17,700.

FINANCIAL PERFORMANCE 2019/20

Revenue Up

The budgeted net cash income for the model increases by $28,000, or 3% compared with 2018/19. The main driver of this is a combination of the expected increased payout and a budgeted 2% increase in production. Net cattle income is down by 14%; a reflection of the 2.4% reduction in cows wintered, coupled with an expectation of a slight decrease in the beef schedule.

Expenditure Static

Overall, the survey farmers were budgeting for a very similar expenditure on total farm working expense in 2019/20, with a range of increases and decreases:

- Labour cost is again budgeted to increase, up by 6%.
- Total feed costs decrease by 7%, mainly due to a reduction in the expected area to be cropped, and an expectation of reduced bought-in supplementary feed. With the restrictions being applied to the level of palm kernel that can be fed, many farmers are continuing to look at a PKE-blend (i.e. 70% PKE + 30% other feedstuff, e.g. barley, tapioca), which commands a higher price.
- Fertiliser expenditure is down 4% in expectation of slightly lower applications of nitrogen fertilisers.
- Fuel costs are up 10% in expectation of higher fuel costs.
- Overhead expenses are up by 11%, largely in anticipation of higher rates and insurance costs.

Debt servicing drops again (down 7%) in expectation of a slight drop in interest rates and due to a lower debt level as a result of debt repayments. Overdraft levels have been held at the same as for 2018/19.

Net Result

The currently budgeted farm profit before tax is $238,400, up 28% on 2018/19. Budgeted spending of this includes:

- Tax payment increases in line with the improved profitability.
- Drawings are lifted by 2%.
- Capital expenditure again at a reasonable level ($34,000), in anticipation of meeting further compliance costs, along with vehicle and plant and equipment replacement.
- Some expenditure on farm development is budgeted for, particularly related to environmental compliance. For many farms this can involve a significant lump sum (e.g. for new effluent system), the funding of which usually involves further borrowing.

- Debt reduction again is budgeted for; again the equivalent of 67% of a full principal repayment based on a table mortgage equivalent. The 67% proportion is largely based on the model being unable to fund a full repayment.

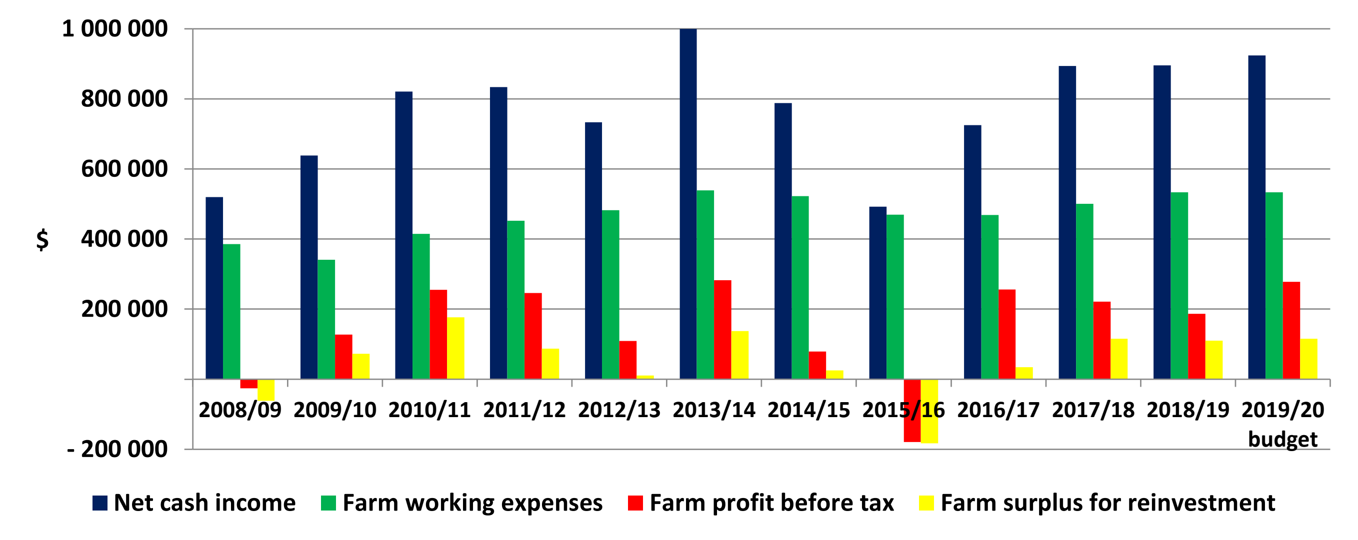
Currently the result is a cash farm surplus of $16,200, which when added to the Fonterra dividend, gives a net cash position of $25,700; a small buffer against a drop in payout or increased farm expenditure.

Balance Sheet

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, and many are not selling at all. There is limited data available on aggregate sales, but what is available would indicate that average sales values have dropped by 10-15%. In light of this, the value of land and buildings for the model have been reduced by 10% as opening value for 2019/20.

Coupled with this is the decrease In the Fonterra share value. For the model farm, these two factors add up to a reduction in total capital value of $689,200 (11%). This is partially offset by the principal debt repayments, but the net result is a 16% decrease in equity.

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 for the model covering: farm working expenditure, debt servicing, living expenses, taxation, and capital replacement.

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

Breakeven ($/kgMS)	2014/15	2015/16	2016/17	2017/18	2018/19	Budget 2019/20
Farm Working Expenses	$4.07	$3.65	$3.65	$3.85	$4.20	$4.11
Interest	$1.20	$1.14	$1.07	$1.08	$0.99	$0.91
Drawings	$0.58	$0.46	$0.51	$0.63	$0.65	$0.64
Depreciation	$0.19	$0.32	$0.28	$0.24	$0.27	$0.26
Tax	$0.09	$0.00	$0.10	$0.10	$0.38	$0.57
	$6.12	$5.57	$5.61	$5.90	$6.48	$6.49
(less) Cattle Income	$0.37	$0.44	$0.32	$0.42	$0.51	$0.43
Breakeven Payout	**$5.75**	**$5.13**	**$5.29**	**$5.48**	**$5.97**	**$6.06**
Within season payment	$5.75	$3.37	$5.30	$6.41	$6.48	$6.63
Difference	$0.00	-$1.76	$0.01	$0.92	$0.50	$0.57

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

This emphasises the need for a milksolids payout of around $6/kgMS in order to cover farm operating costs, and a payout higher than $6 if other costs such as capital replacement, development, and debt reduction are to be met.

For the surveyed farmers, the relevant figures showing the range are:

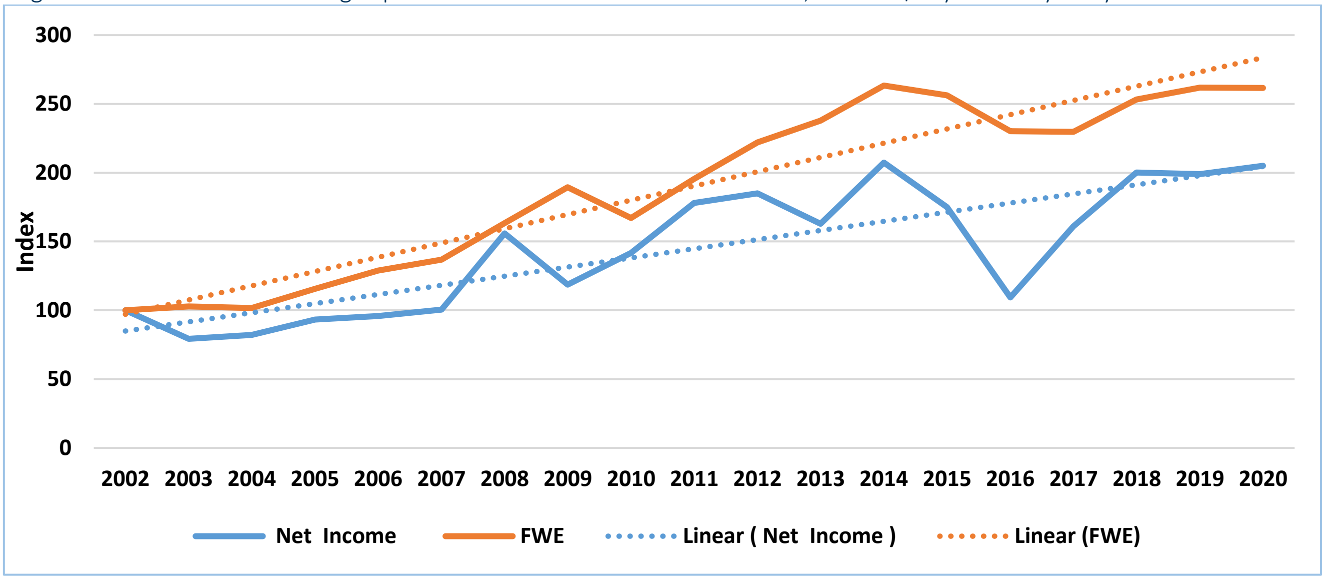
Table 3: Expenditure range information from the monitored farms ($/kgMS)

	2018/19	2019/20
Animal Health	0.11 - 0.42	0.15 - 0.38
Total feed cost	0.10 - 1.84	0.25 - 1.32
Fertiliser	0.28 - 0.81	0.11 - 0.81
Repairs and maintenance	0.15 - 0.48	0.15 - 0.48
Total farm working expenses	1.81 - 6.56	1.80 - 5.86
Interest	0.10 - 1.90	0.10 - 1.81
Drawings	0.05 - 0.90	0.04 - 0.84
Depreciation	0.11 - 0.56	0.09 - 0.44

ISSUES

- Analysis of the model shows that the rate of increase in farm working expenses over the last 19 years, has averaged 1.4% per year faster than the rate of increase in net income.

Figure 2: Indexed farm working expenses versus indexed net cash income; Waikato/Bay of Plenty dairy model



This illustrates that long term the system is not sustainable and is a major driver of farm expansion/amalgamation, as farmers seek to gain economies of scale as a means to contain costs.

- Environmental compliance continues as a major concern and cost. In the Waikato, farmers are waiting to see what version of Plan Change 1 will result from the hearings, and many farmers continue to spend significant sums ensuring effluent management systems are compliant, particularly as Fonterra has warned farmers that from the 2020/21 season they face non-collection of milk if their environmental management is not up to standard. Currently very few farmers understand the implications of the zero-carbon bill regarding greenhouse gas emissions, and again are waiting to see what the final policy will be.

- The issues within the dairy industry, coupled with variations in payout and profitability is seeing an increasing trend of smaller farms getting out of dairying, and either leasing out for dairying or maize, or grazing dairy replacements. For a number of farmers selling up, there is a lot of hesitation as to what to do with the capital and where to invest it.

- The M. Bovis situation in the Waikato has gone quiet, and while some farmers are looking at closed herds or developing direct relationships with graziers or buyers, there is some degree of complacency creeping in. Many farmers also continue to struggle with NAIT with respect to entering or changing numbers online.

- As per last year, while farmers are pleased with the improved profitability, confidence remains subdued due to a range of factors: debt, environmental compliance, accessing good labour, and Fonterra's capital restructuring.

Table 4: Waikato/Bay of Plenty Dairy Model Budget

	2018/19			2019/20 Budget		
	Whole Farm ($)	Per Cow ($)	Per kg of milksolids ($)	Whole Farm ($)	Per Cow ($)	Per kg of milksolids ($)
Revenue						
Milksolids	823 655	2 257	6.48	860 278	2 390	6.63
Cattle	71 130	195	0.56	64 556	179	0.50
Other farm income	7 000	19	0.06	7 000	19	0.05
Less:						
Cattle purchases	6 064	17	0.05	8 120	23	0.06
Net cash income	**895 721**	**2 454**	**7.04**	**923 714**	**2 566**	**7.12**
Farm working expenses	**533 841**	**1 463**	**4.20**	**533 493**	**1 482**	**4.11**
Cash operating surplus	**361 880**	**991**	**2.84**	**390 221**	**1 084**	**3.01**
Interest	126 429	346	0.99	117 732	327	0.91
Rent and/or leases	0	0	0.00	0	0	0.00
Stock value adjustment	- 14 509	- 40	-0.11	0	0	0.00
Minus depreciation	34 015	93	0.27	34 085	95	0.26
Farm profit before tax	**186 927**	**512**	**1.47**	**238 405**	**662**	**1.84**
Income equalisation	0	0	0.00	0	0	0.00
Taxation	43 524	119	0.34	73 572	204	0.57
Farm profit after tax	**143 403**	**393**	**1.13**	**164 833**	**458**	**1.27**
Allocation of funds						
Add back depreciation	34 015	93	0.27	34 085	95	0.26
Reverse stock value adjustment	14 509	40	0.11	0	0	0.00
Drawings	82 125	225	0.65	83 430	232	0.64
Farm surplus for reinvestment[1]	**109 802**	**301**	**0.86**	**115 488**	**321**	**0.89**
Reinvestment						
Net capital purchases	33 501	92	0.26	34 000	94	0.26
Development	12 775	35	0.10	16 920	47	0.13
Principal repayments	60 603	166	0.48	48 410	134	0.37
Farm cash surplus/deficit	**2 923**	**8**	**0.02**	**16 158**	**45**	**0.12**
Other cash sources						
Dividend on wet shares[2]	14 638	40	0.12	9 564	27	0.07
Dividend on dry shares[2]	164	0	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	**17 724**	**49**	**0.14**	**25 722**	**71**	**0.20**
Assets and Liabilities						
Farm, forest and building (opening)	4 892 500	13 404	38.46	4 403 250	12 231	33.94
Plant and machinery (opening)	209 673	574	1.65	210 222	584	1.62
Stock valuation (opening)	602 658	1 651	4.74	588 149	1 634	4.53
Dairy company shares	699 715	1 917	5.50	513 753	1 427	3.96
Other farm related investments (opening)	0	0	0.00	0	0	0.00
Total farm assets	**6 404 545**	**17 547**	**50.35**	**5 715 373**	**15 876**	**44.05**
Total liabilities (opening)	**2 467 588**	**6 761**	**19.40**	**2 406 985**	**6 686**	**18.55**
Total equity (assets-liabilities)	**3 936 957**	**10 786**	**30.95**	**3 308 389**	**9 190**	**25.50**

[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

	2018/19			2019/20 Budget		
	Whole Farm ($)	Per Cow ($)	Per kg of milksolids ($)	Whole Farm ($)	Per Cow ($)	Per kg of milksolids ($)
Farm working expenses						
Permanent wages	58 765	161	0.46	62 017	172	0.48
Casual wages	9 855	27	0.08	10 400	29	0.08
ACC	1 951	5	0.02	2 072	6	0.02
Total labour expenses	**70 571**	**193**	**0.55**	**74 490**	**207**	**0.57**
Animal health	33 580	92	0.26	33 120	92	0.26
Breeding	22 046	60	0.17	21 600	60	0.17
Dairy shed expenses	7 665	21	0.06	7 740	22	0.06
Electricity	19 080	52	0.15	19 440	54	0.15
Feed (hay and silage)	47 900	131	0.38	50 000	139	0.39
Feed (feed crops)	18 900	52	0.15	12 500	35	0.10
Feed (grazing)	51 168	140	0.40	50 388	140	0.39
Feed (other)	55 600	152	0.44	49 200	137	0.38
Fertiliser	55 568	152	0.44	53 082	147	0.41
Lime	1 402	4	0.01	4 176	12	0.03
Freight (not elsewhere deducted)	4 234	12	0.03	4 284	12	0.03
Regrassing costs	7 081	19	0.06	7 020	20	0.05
Weed and pest control	4 161	11	0.03	4 284	12	0.03
Fuel	9 855	27	0.08	10 800	30	0.08
Vehicle costs (excluding fuel)	18 250	50	0.14	18 000	50	0.14
Repairs and maintenance	43 800	120	0.34	43 200	120	0.33
Total other working expenses	**400 290**	**1 097**	**3.15**	**388 834**	**1 080**	**3.00**
Communication costs (phone, mail)	2 920	8	0.02	2 880	8	0.02
Accountancy	4 709	13	0.04	5 040	14	0.04
Legal and consultancy	4 052	11	0.03	4 104	11	0.03
Other administration	9 235	25	0.07	9 000	25	0.07
Water charges	0	0	0.00	0	0	0.00
Rates	20 750	57	0.16	21 600	60	0.17
Insurance	10 220	28	0.08	11 520	32	0.09
ACC Employer	4 618	13	0.04	4 618	13	0.04
Other expenditure[1]	6 477	18	0.05	11 407	32	0.09
Total overhead expenses	**62 980**	**173**	**0.50**	**70 169**	**195**	**0.54**
Total farm working expenses	**533 841**	**1 463**	**4.20**	**533 493**	**1 482**	**4.11**
Calculated Ratios						
Economic farm surplus (EFS[2])	228 356	626	1.80	271 137	753	2.09
Farm working expenses/NCI[3]	60%			58%		
EFS/total farm assets	3.6%			4.7%		
EFS less interest and lease/equity	2.6%			4.6%		
Interest+rent+lease/NCI	14.1%			12.7%		
EFS/NCI	25.5%			29.4%		

[1] Includes DairyNZ levy, and M. Bovis levy for 2019/20.

[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 127 hectares, milking 360 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 25 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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