AGFIRST

Financial Survey 2020
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 2020. A description of the model farm is at the back of this report.

KEY POINTS

- The 2019/20 season was again mixed climatically. The recovery from the dry 2019 summer was good, with cows calving in reasonable condition into good pasture covers for winter/spring 2019. Reasonable, but below average rain kept pasture growing up to Christmas, but a severe drought over summer and autumn directly impacted production. Good rain through April/May coupled with mild temperatures have seen good recovery in pasture covers on most farms.
- Overall milksolids production is down 4.1% compared with 2018/19, with the Waikato much more impacted than the Bay of Plenty.
- Net income for the 2019/20 season is up 10% compared with 2018/19, largely due to the improvement in the payout over the 2019/20 season. Farm working expenses have also increased 10%, largely driven by the purchase of supplementary feed to combat the drought.
- Surplus funds have been used to cover capital expenditure, and some principal debt repayment, such that the farm shows a small surplus for the year.
- For 2020/21, the budget is showing a 7% decrease in Net Cash Income; while milksolids production is budgeted to increase (by 3%), this is more than offset by the reduction in the payout.
- As a result, farmers are budgeting on reduced farm working expenditure (down 5%) and hoping not to have another dry summer. Key reduction in budgeted expenditure is bought-in supplements, and repairs and maintenance.
- Overall, the farm is currently budgeting for a small profit, which is then added to by the dividend income.
- Currently, farmer morale could be described as 'okay', although there is considerable uncertainty around environmental issues, and the impact of Covid-19 both on the domestic economy and on a wider world scale.

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

Year ended 30 June	2016/17	2017/18	2018/19	2019/20	2020/21 Budget
Effective area (ha)	125	127	129	129	129
Cows wintered (head)	345	373	369	364	364
Replacement heifers (head)	73	80	69	78	78
Cows milked 15th December (head)	339	365	358	360	360
Stocking rate (cows/ha)	2.8	2.7	2.9	2.8	2.8
Total milksolids (kg)	128,314	130,064	132,200	126,753	130,556
Milksolids per ha (kg/ha)	1,027	1,024	1,025	983	1,012
Milksolids per cow milked (kg/cow)	379	356	369	352	363
MS advance to end June ($/kg)	5.06	5.35	5.1	5.81	4.91
MS deferred payment ($)	0.50	1.07	1.34	1.25	1.40
Net cash income ($)	724,749	880,244	877,601	968,134	900,595
Farm working expenses ($)	468,340	500,724	519,730	575,502	547,464
Farm profit before tax ($)	256,409	207,864	182,716	244,431	210,719
Farm surplus for reinvestment[1] ($)	34,586	108,047	108,757	128,995	110,108

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

2019/20 was definitely a season of two halves. Most farms went into calving at the start of the season with cows in reasonable condition, and good pasture covers. While temperatures were mild through the late winter/early spring, most areas saw above average rainfall which made the start to the season difficult. The mild temperatures continued, whereas rainfall through spring into December was below average, but sufficient to achieve good pasture growth, and a lot of pasture silage was made into December. The rain stopped just prior to Christmas and remained absent for several months.

The impact of the drought, which eventually covered all of the North Island, varied around the region. Western and southern Waikato was slightly less affected, as was central Bay of Plenty, while northern Waikato was probably the most badly affected.

Rain started falling again in many areas through March, although most areas were not fully out of the woods until late April, and Hauraki/Coromandel didn't see good rains until into June.

The drought obviously impacted on milksolids production, despite a significant increase in supplementary feeding, buoyed by a good payout. Production was down 5.1% in the Waikato compared to 2018/19, and 0.3% for the Bay of Plenty, giving a weighted average decrease of 4.1%.

Forage crops were also affected by the drought, although maize crops grown on heavy soils or peat still yielded very well at around 25 tonneDM/ha, whereas those on lighter soils only yielded 10 - 12 tonneDM/ha. In a number of areas maize crops were still available for purchase into March.

As a result of the drought, the area being regrassed is up on many farms, with a combination of some areas being undersown with perennials, and some areas undersown with annual ryegrasses. Demand was such that there was a shortage of seed available.

The drought also saw problems with stock water on a number of farms, with shallow (20 - 30 metre) bores drying up. The result has been several farms drilling bores to much greater depths. The drought also resulted in a number of pest problems, particularly crickets, with many farmers baiting for them, and slugs appearing following the rains. On the upside, there was very little evidence of facial eczema.

Following the rains, pasture growth has been exceptional, with growth rates up to 45 kgDM/ha/day for perennial pastures, and 60 kgDM/ha/day for annuals. This in itself has result in some problems, with high nitrate levels reported on several farms, and a number of stock deaths. While overall supplement levels on-farm are estimated to be down by 0.5 tonne DM/cow compared to normal, pasture covers heading into calving are well on target on most farms, and the monitored farms all reported sufficient supplements on hand to get through into spring.

FINANCIAL PERFORMANCE 2019/20

Revenue Up

Net cash income for the model increases by 10% compared with 2018/19. This is very largely driven by milksolids returns; despite a drop in production, this was more than offset by the higher payout. Net returns from cattle sales are down 6%, largely due to slightly lower beef schedules.

Expenditure Increases

Farm working expenses increased in 2019/20 by 10% compared with 2018/19. This was the result of a range of increases across several expenditure items. In absolute terms farm working expenditure increased from $525,000 in 2018/19 to $575,000 in 2019/20. On a per kilogramme of milksolids basis, the increase was from $3.97 to $4.54/kg, although the 2019/20 figure is bolstered due to the lower level of milksolids production.

The main increases were:

- Labour costs up 3% due to a combination of some increase in the use of casual labour combined with an increase in the minimum wage.
- Overall feed costs are up by 10%, largely driven by the drought. Within this the expenditure on hay or silage (including maize silage) made on-farm or bought-in, increased by 11%, off-farm grazing by 12% (increased grazing fees) and bought-in supplements (mostly palm kernel and DDG) by 12% due as a result of increased volumes purchased.

- Fertiliser expenditure increased by 30%, due to a combination of increased tonnages, and increased cost.
- Repairs and maintenance expenditure increased by 11%; the increased payout saw farmers take the opportunity to catch up with deferred maintenance.
- Administration/standing charges expenditure increased by 19% as a result of increased cost across most of these items.

Total debt servicing dropped by 11% due to a combination of slightly lower interest rates, and some principal debt reduction.

Net Result

Despite the increase in farm working expenditure, farm profit before tax for 2019/20 is $244,000, up 39% on 2018/19, driven largely by the increased payout. Further expenditure has been:

- Tax liability has increased 56% in line with the increase in net profitability.
- Personal drawings have increased slightly (7%).
- Ongoing plant and machinery replacement.
- Debt repayment. Given the improved payout and profitability, the model farm has made a full principal repayment this year, based on a 20-year P&I programme.

The farm cash surplus for the year is $18,400. No Fonterra dividend was received during the year.

FINANCIAL PERFORMANCE 2020/21

Revenue Down

While the monitored farms were budgeting for an average 5% increase in milksolids production, this was moderated to a 3% increase in expectation of (a) farms never fully recover in the year following a drought, and (b) potentially ongoing issues with a dry summer.

The payout is expected to be reduced, with the model budget working on the mid-point of Fonterra's forecast of $6.40/kgMS compared with $7.20 for 2019/20. The within season payout is based on the advance for the current year, plus the deferred payment from the previous year; the current expectation for this within season payment for the 2020/21 season is $6.46/kgMS.

The net result of this is milksolids income for 2020/21 is budgeted to be down 7% compared with 2019/20. Coupled with a slight reduction in net cattle income (down 3.5%), overall Net Cash Income drops 7% compared with 2019/20.

Expenditure Decreases

Overall, the monitored farms were budgeting for a 5% decrease in total farm working expense for 2020/21. This is driven by a range of factors:

- Labour cost is again budgeted to increase, up by 4%, a mix of more casual labour and a further increase in minimum wages.
- Total feed costs decrease by 13%, mainly due to a reduction in the expected area to be cropped, and an expectation of reduced bought-in supplementary feed (budgeted expenditure down 45%), as farmers expect a more 'normal' season. As reported last year, 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.
- Regrassing costs drop 14% again as farmers expect a more normal year.
- Fuel and vehicle costs drop 8% in expectation of fuel prices staying down.
- Repairs and maintenance expenditure drops 17% as a reflection of the reduction in payout.

Debt servicing drops again (down 8%) 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 2019/20.

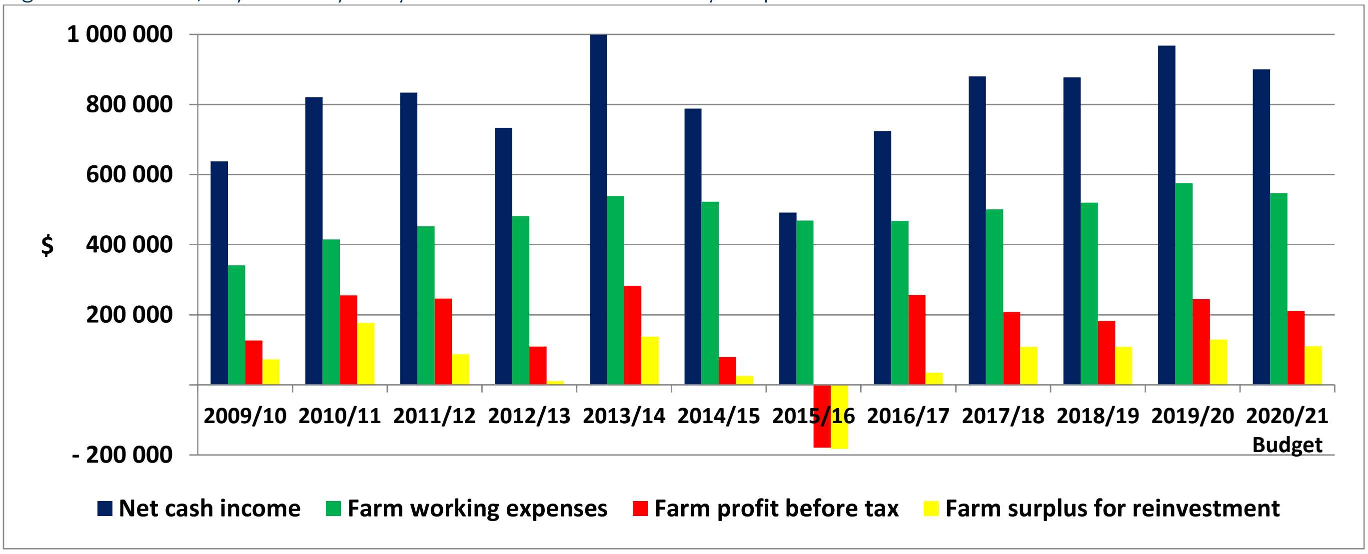
Net Result

The currently budgeted farm profit before tax is $210,700, down 14% on 2019/20. Budgeted spending of this includes:

- Tax payment decreases in line with the reduction in profitability.
- Drawings are held level with 2019/20.
- While there is some budgeted expenditure on capital items, this is down 22% compared with 2019/20. This is mostly farmers being cautious at this stage as a result of the reduced payout.
- Over recent years there has been a significant upgrade of effluent management systems on farms across the region, and the installation of labour-saving technologies within the milking shed. This often requires a lump sum payment for this, usually funded via debt. While not a direct reflection of the monitored farms per se, a development expenditure of $200,000 has been included in the budget, funded by debt, as a reflection of this wider trend. For the model farm, an effluent upgrade would cost between $80,000 - $120,000, depending on a range of factors, particularly soil type and contour.
- Debt reduction again is budgeted for, at a full principal repayment.

The end result, ignoring the development/new borrowing offset, is the farm showing a small farm cash surplus of $8,000, which is then added to by the expected dividend payment, giving a Net Cash position of positive $22,80. How this is spent will be decided as the season progresses.

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)	2015/16	2016/17	2017/18	2018/19	2019/20	Budget 2020/21
Farm Working Expenses	$3.65	$3.85	$3.97	$4.20	$4.54	$4.19
Interest	$1.14	$1.08	$0.96	$0.99	$0.89	$0.79
Drawings	$0.46	$0.63	$0.62	$0.65	$0.70	$0.68
Depreciation	$0.32	$0.24	$0.27	$0.27	$0.28	$0.28
Tax	$0.00	$0.10	$0.10	$0.38	$0.38	$0.39
	$5.57	$5.90	$5.92	$6.48	$6.79	$6.33
(less) Cattle Income	$0.44	$0.42	$0.49	$0.51	$0.48	$0.45
Breakeven Payout	**$5.13**	**$5.48**	**$5.43**	**$5.97**	**$6.30**	**$5.88**
Within season payment	$3.37	$6.41	$6.09	$6.48	$7.10	$6.41
Difference	-$1.76	$0.92	$0.67	$0.50	$0.80	$0.53

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

This continues to emphasise 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.

ISSUES

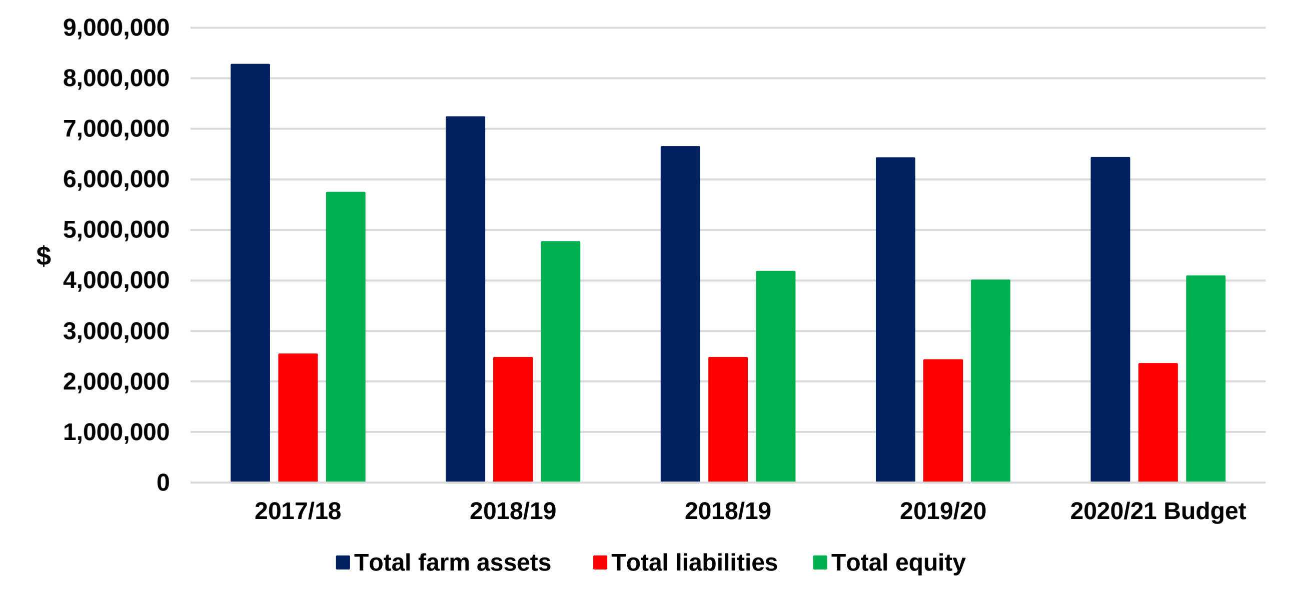
- Last year we commented on the impact of reducing asset values, especially land, on the model balance sheet. Values based on dairy farm sales throughout the Waikato reinforce this effect:

Table 3: Waikato Dairy Land Values ($/ha, L&B)

	2017	2018	2019	2020		2018 vs 2017	2019 vs 2018	2020 vs 2019
Mean	$52,967	$51,504	$39,260	$39,550		-3%	-24%	1%
Median	$54,123	$45,386	$38,887	$39,361		-16%	-14%	1%
Lowest	$37,288	$20,853	$7,807	$11,597				
Highest	$102,022	$145,569	$94,936	$78,358				

Based on Waikato farm sales from various sources

Figure 2: Changes in Model Asset and Equity



This shows that the model lost $1.8 million in asset value over the 2017/18 - 2018/19 period, which currently has stabilised. Equity loss is $1.6 million - slightly less due to repayment of debt.

- For farmers in the Waikato Plan Change 1 areas, the new plan, recently approved by Council, is not as bad as originally thought. Many dairy farmers within the catchment feel they have already done significant work, while many are also not overly certain what PC1 may actually entail. There is also some confusion between Regional Council plans and central governments *Action for Healthy Waterways* programme. When questioned about future actions, including for greenhouse gases, many of the monitored farmers noted they would probably need to reduce stocking rates

- The Covid-19 lockdown was not a major event for most dairy farmers, with most rating the drought as having a much bigger impact. Some farmers had problems with getting cull cows killed, while several have had labour problems due to immigrant workers not being able to return into the country. Some also had partners working off-farm who lost their jobs.

- Rainfall for calendar 2019 was 20-25% down in most regions and is down 50-60% to the end of May 2020. Consequently, most sub soils area still quite dry, which does not augur well if another dry summer eventuates.

- The M. Bovis situation in the Waikato has remained quiet, with few cases remaining. Currently there are five herds under movement control as a result of testing positive for TB, connected to the recent Hawke's Bay outbreak.

- Farmer moral is currently 'okay'; while most farms are operating well financially, there is significant uncertainty around politics, environmental issues, and the impact of Covid-19 on the economy and wider world scene.

Table 4: Waikato/Bay of Plenty Dairy Model Budget

	2019/20			2020/21 Budget		
	Whole Farm ($)	Per Cow ($)	Per kg of milksolids ($)	Whole Farm ($)	Per Cow ($)	Per kg of milksolids ($)
Revenue						
Milksolids	900 390	2 501	7.10	836 971	2 325	6.41
Cattle	68 940	192	0.54	66 096	184	0.51
Other farm income	6 600	18	0.05	5 200	14	0.04
Less:						
Cattle purchases	7 796	22	0.06	7 672	21	0.06
Net cash income	**968 134**	**2 689**	**7.64**	**900 595**	**2 502**	**6.90**
Farm working expenses	**575 502**	**1 599**	**4.54**	**547 464**	**1 521**	**4.19**
Cash operating surplus	**392 632**	**1 091**	**3.10**	**353 131**	**981**	**2.70**
Interest	112 937	314	0.89	103 447	287	0.79
Rent and/or leases	0	0	0.00	0	0	0.00
Stock value adjustment	0	0	0.00	- 3 050	- 8	-0.02
Minus depreciation	35 264	98	0.28	35 916	100	0.28
Farm profit before tax	**244 431**	**679**	**1.93**	**210 719**	**585**	**1.61**
Income equalisation	0	0	0.00	0	0	0.00
Taxation	62 500	174	0.49	51 376	143	0.39
Farm profit after tax	**181 931**	**505**	**1.44**	**159 342**	**443**	**1.22**
Allocation of funds						
Add back depreciation	35 264	98	0.28	35 916	100	0.28
Reverse stock value adjustment	0	0	0.00	3 050	8	0.02
Drawings	88 200	245	0.70	88 200	245	0.68
Farm surplus for reinvestment[1]	**128 995**	**358**	**1.02**	**110 108**	**306**	**0.84**
Reinvestment						
Net capital purchases	36 000	100	0.28	28 000	78	0.21
Development	0	0	0.00	200 000	556	1.53
Principal repayments	74 565	207	0.59	74 098	206	0.57
Farm cash surplus/deficit	**18 430**	**51**	**0.15**	**- 191 990**	**- 533**	**-1.47**
Other cash sources						
Dividend on wet shares[2]	0	0	0.00	14 767	41	0.11
Dividend on dry shares[2]	0	0	0.00	0	0	0.00
Introduced funds	0	0	0.00	0	0	0.00
New borrowings	0	0	0.00	200 000	556	1.53
Off-farm income	0	0	0.00	0	0	0.00
Net cash position	**18 430**	**51**	**0.15**	**22 777**	**63**	**0.17**
Assets and Liabilities						
Farm, forest and building (opening)	5 100 854	14 169	40.24	5 100 854	14 169	39.07
Plant and machinery (opening)	210 222	584	1.66	214 688	596	1.64
Stock valuation (opening)	592 285	1 645	4.67	592 285	1 645	4.54
Dairy company shares	514 261	1 429	4.06	514 261	1 429	3.94
Other farm related investments (opening)	0	0	0.00	0	0	0.00
Total farm assets	**6 417 621**	**17 827**	**50.63**	**6 422 088**	**17 839**	**49.19**
Total liabilities (opening)	**2 419 196**	**6 720**	**19.09**	**2 344 631**	**6 513**	**17.96**
Total equity (assets-liabilities)	**3 998 425**	**11 107**	**31.54**	**4 077 457**	**11 326**	**31.23**

[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

	2019/20			2020/21 Budget		
	Whole Farm ($)	Per Cow ($)	Per kg of milksolids ($)	Whole Farm ($)	Per Cow ($)	Per kg of milksolids ($)
Farm working expenses						
Permanent wages	58 320	162	0.46	58 680	163	0.45
Casual wages	12 600	35	0.10	15 084	42	0.12
ACC	2 072	6	0.02	2 142	6	0.02
Total labour expenses	**72 992**	**203**	**0.58**	**75 906**	**211**	**0.58**
Animal health	33 624	93	0.27	36 792	102	0.28
Breeding	23 544	65	0.19	23 544	65	0.18
Dairy shed expenses	8 244	23	0.07	8 280	23	0.06
Electricity	16 308	45	0.13	18 000	50	0.14
Feed (hay and silage)	53 000	147	0.42	60 800	169	0.47
Feed (feed crops)	18 900	53	0.15	14 500	40	0.11
Feed (grazing)	57 408	159	0.45	57 408	159	0.44
Feed (other)	62 400	173	0.49	34 400	96	0.26
Fertiliser	52 893	147	0.42	54 003	150	0.41
Lime	0	0	0.00	0	0	0.00
Freight (not elsewhere deducted)	6 624	18	0.05	7 056	20	0.05
Regrassing costs	12 600	35	0.10	10 800	30	0.08
Weed and pest control	3 348	9	0.03	3 816	11	0.03
Fuel	9 792	27	0.08	8 208	23	0.06
Vehicle costs (excluding fuel)	16 200	45	0.13	15 804	44	0.12
Repairs and maintenance	53 424	148	0.42	44 496	124	0.34
Total other working expenses	**428 309**	**1 190**	**3.38**	**397 907**	**1 105**	**3.05**
Communication costs (phone, mail)	2 664	7	0.02	2 592	7	0.02
Accountancy	6 120	17	0.05	6 120	17	0.05
Legal and consultancy	6 012	17	0.05	5 760	16	0.04
Other administration	5 688	16	0.04	6 408	18	0.05
Water charges	0	0	0.00	0	0	0.00
Rates	21 600	60	0.17	22 320	62	0.17
Insurance	11 160	31	0.09	12 240	34	0.09
ACC Employer	4 618	13	0.04	4 618	13	0.04
Other expenditure[1]	16 339	45	0.13	13 593	38	0.10
Total overhead expenses	**74 201**	**206**	**0.59**	**73 651**	**205**	**0.56**
Total farm working expenses	**575 502**	**1 599**	**4.54**	**547 464**	**1 521**	**4.19**
Calculated Ratios						
Economic farm surplus (EFS[2])	272 367	757	2.15	209 392	582	1.60
Farm working expenses/NCI[3]	59%			62%		
EFS/total farm assets	4.2%			3.3%		
EFS less interest and lease/equity	4.0%			2.6%		
Interest+rent+lease/NCI	11.7%			11.7%		
EFS/NCI	28.1%			23.8%		

[1] Includes DairyNZ levy, and M. Bovis 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 129 hectares, milking 360 cows and producing around 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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