

# LOWER NORTH ISLAND DAIRY

THIS REPORT CONTAINS THE KEY RESULTS FROM THE MINISTRY OF AGRICULTURE AND FORESTRY'S 2009 PASTORAL MONITORING PROGRAMME.

This model represents approximately 1100 seasonal supply dairy farms in the bottom half of the North Island, including the regions of Manawatu, Horowhenua, Wairarapa and southern Hawkes Bay.

## KEY POINTS

- › Milk production rose 2 percent to 115 500 kilograms of milksolids in 2008/09 compared with the previous drought-affected year. Production for 2009/10 is expected to be similar due to the dry and then cold period leading into winter and the pressure to cut costs.
- › Net cash income fell by 30 percent to \$638 900 in 2008/09 as a result of the steep fall in milk payout. A further decline of 6 percent is expected in 2009/10, due to the milk payout falling further.
- › Farm working expenses rose by 9 percent to \$459 900 in 2008/09 due to higher prices for inputs and committing expenditure based on a much higher final payout. Little expenditure could be curtailed as the payout was revised downwards over the year. Farmers are expecting to reduce expenditure by 16 percent in 2009/10.
- › The result of the reduced income and increasing expenditure was a cash deficit of about \$120 000 in 2008/09 despite significant cuts in discretionary expenditure. A small cash deficit of just under \$4000 is anticipated in 2009/10 as farmers slash expenditure in anticipation of a lower payout.
- › A fairly sombre mood has developed due to these cash deficits, but there is general optimism for the medium to longer term viability of the industry, with the focus now on surviving the next two years.

»» TABLE1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE LOWER NORTH ISLAND DAIRY MODEL<sup>1</sup>

YEAR ENDED 30 JUNE	2006/07	2007/08	2008/09	2009/10 BUDGET
Effective area (ha)	130	130	130	130
Cows wintered (head)	370	370	370	370
Replacement heifers (head)	85	85	85	85
Cows milked 15th December (head)	360	360	360	360
Stocking rate (cows/ha)	2.8	2.8	2.8	2.8
Total milksolids (kg)	114 400	113 500	115 500	115 500
Milksolids per ha (kg/ha)	880	873	888	888
Milksolids per cow milked (kg/cow)	318	315	321	321
MS advance to end June (\$/kg)	3.65	6.62	4.15	3.77
MS deferred payment (\$)	0.50	0.81	1.00	1.05
Net cash income (\$)	518 800	913 000	638 900	599 400
Farm working expenses (\$)	328 400	422 400	459 900	388 000
Farm profit before tax (\$)	36 000	310 800	2 400	40 700
Farm surplus for reinvestment <sup>2</sup> (\$)	1 300	232 900	-84 800	32 700

### Notes

<sup>1</sup> Figures may not add to totals due to rounding.

<sup>2</sup> 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 discretionary cash less off-farm income and drawings.



»» TABLE 2: LOWER NORTH ISLAND DAIRY MODEL BUDGET<sup>1</sup>

	2008/09			2009/10 BUDGET			CHANGE BETWEEN 2008/09 AND 2009/10 (%)
	WHOLE FARM (\$)	PER COW (\$)	PER KG MILSOLIDS (\$)	WHOLE FARM (\$)	PER COW (\$)	PER KG MILSOLIDS (\$)	
REVENUE							
Milksolids	592 800	1 647	5.13	556 700	1 546	4.82	-6
Cattle	51 000	142	0.44	47 200	131	0.41	-8
Other farm income	1 200	3	0.01	1 200	3	0.01	0
LESS:							
Cattle purchases	6 200	17	0.05	5 700	16	0.05	-7
Net cash income	638 900	1 775	5.53	599 400	1 665	5.19	-6
Farm working expenses	459 900	1 278	3.98	388 000	1 078	3.36	-16
Cash operating surplus	179 000	497	1.55	211 400	587	1.83	18
Interest	142 000	394	1.23	138 000	383	1.19	-3
Rent and/or leases	0	0	0.00	0	0	0.00	..
Stock value adjustment	0	0	0.00	0	0	0.00	..
Minus depreciation	34 600	96	0.30	32 600	91	0.28	-6
Farm profit before tax	2 400	7	0.02	40 700	113	0.35	1581
Taxation	61 800	172	0.53	-17 400	-48	-0.15	-128
Farm profit after tax	-59 300	-165	-0.51	58 100	161	0.50	198
Add back depreciation	34 600	96	0.30	32 600	91	0.28	-6
Reverse stock value adjustment	0	0	0.00	0	0	0.00	..
Off-farm income	3 000	8	0.03	3 000	8	0.03	0
Discretionary cash	-21 800	-61	-0.19	93 800	260	0.81	530
APPLIED TO:							
Net capital purchases	17 000	47	0.15	10 000	28	0.09	-41
Development	11 000	31	0.10	4 000	11	0.03	-64
Principal repayments	26 200	73	0.23	25 300	70	0.22	-3
Drawings	60 000	167	0.52	58 000	161	0.50	-3
New borrowings	0	0	0.00	0	0	0.00	..
Introduced funds	16 000	45	0.14	0	0	0.00	-100
Cash surplus/deficit	-119 900	-333	-1.04	-3 600	-10	-0.03	97
Farm surplus for reinvestment <sup>2</sup>	-84 800	-236	-0.73	32 700	91	0.28	139
ASSETS AND LIABILITIES							
Farm, forest and building (opening)	4 446 000	12 350	38.49	3 900 000	10 833	33.77	-12
Plant and machinery (opening)	147 500	410	1.28	135 400	376	1.17	-8
Stock valuation (opening)	516 700	1 435	4.47	516 700	1 435	4.47	0
Dairy company shares	654 500	1 818	5.67	522 000	1 450	4.52	-20
Other farm related investments (opening)	0	0	0.00	0	0	0.00	..
Total farm assets	5 764 600	16 013	49.91	5 074 000	14 095	43.93	-12
Total liabilities (opening)	1 500 000	4 167	12.99	1 650 000	4 583	14.29	10
Total equity (assets-liabilities)	4 264 600	11 846	36.92	3 424 000	9 511	29.65	-20

**Notes**

<sup>1</sup> Figures may not add to totals due to rounding.

<sup>2</sup> 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 discretionary cash less off-farm income and drawings.

**Symbol**

.. Not applicable.

»» TABLE 3: LOWER NORTH ISLAND DAIRY MODEL EXPENDITURE<sup>1</sup>

	2008/09			2009/10 BUDGET			CHANGE BETWEEN 2008/09 AND 2009/10 (%)
	WHOLE FARM (\$)	PER COW (\$)	PER KG MILSOLIDS (\$)	WHOLE FARM (\$)	PER COW (\$)	PER KG MILSOLIDS (\$)	
FARM WORKING EXPENSES							
Permanent wages	40 000	111	0.35	40 000	111	0.35	0
Casual wages	6 000	17	0.05	3 500	10	0.03	-42
ACC	900	3	0.01	1 200	3	0.01	28
Total labour expenses	46 900	130	0.41	44 700	124	0.39	-5
Animal health	25 200	70	0.22	23 000	64	0.20	-9
Breeding	14 800	41	0.13	14 200	39	0.12	-4
Dairy shed expenses	9 000	25	0.08	9 000	25	0.08	0
Electricity	13 700	38	0.12	14 700	41	0.13	7
Feed (hay and silage)	59 500	165	0.52	52 200	145	0.45	-12
Feed (feed crops)	7 200	20	0.06	7 200	20	0.06	0
Feed (grazing)	46 600	130	0.40	34 900	97	0.30	-25
Feed (other)	28 200	78	0.24	19 800	55	0.17	-30
Fertiliser	71 600	199	0.62	56 000	156	0.48	-22
Lime	2 200	6	0.02	2 200	6	0.02	0
Freight (not elsewhere deducted)	4 500	13	0.04	4 000	11	0.03	-11
Regrassing costs	8 000	22	0.07	7 000	19	0.06	-13
Weed and pest control	4 500	13	0.04	4 200	12	0.04	-7
Fuel	11 500	32	0.10	11 500	32	0.10	0
Vehicle costs (excluding fuel)	13 500	38	0.12	12 500	35	0.11	-7
Repairs and maintenance	41 500	115	0.36	28 000	78	0.24	-33
Total other working expenses	361 700	1 005	3.13	300 600	835	2.60	-17
Communication costs (phone and mail)	4 800	13	0.04	4 800	13	0.04	0
Accountancy	5 000	14	0.04	5 000	14	0.04	0
Legal and consultancy	6 500	18	0.06	4 500	13	0.04	-31
Other administration	3 000	8	0.03	3 000	8	0.03	0
Water charges (irrigation)	0	0	0.00	0	0	0.00	..
Rates	13 000	36	0.11	13 600	38	0.12	5
Insurance	5 500	15	0.05	5 700	16	0.05	4
Other expenditure <sup>2</sup>	13 500	38	0.12	6 000	17	0.05	-55
Total overhead expenses	51 300	143	0.44	42 700	119	0.37	-17
Total farm working expenses	459 900	1 278	3.98	388 000	1 078	3.36	-16
Wages of management	85 000	236	0.74	85 000	236	0.74	0
Depreciation	34 600	96	0.30	32 600	91	0.28	-6
Total farm operating expenses	579 500	1 610	5.02	505 600	1 405	4.38	-13
CALCULATED RATIOS							
Economic farm surplus (EFS <sup>3</sup> )	59 400	165	0.51	93 800	260	0.81	
Farm working expenses/NCI <sup>4</sup>	72%			65%			
EFS/total farm assets	1.0%			1.8%			
EFS less interest and lease/equity	-1.9%			-1.3%			
Interest+rent+lease/NCI	22%			23%			
EFS/NCI	9%			16%			

**Notes**

1 Figures may not add to totals due to rounding.

2 Includes Dairy NZ levy and Accident Compensation Corporation (ACC) employer levy.

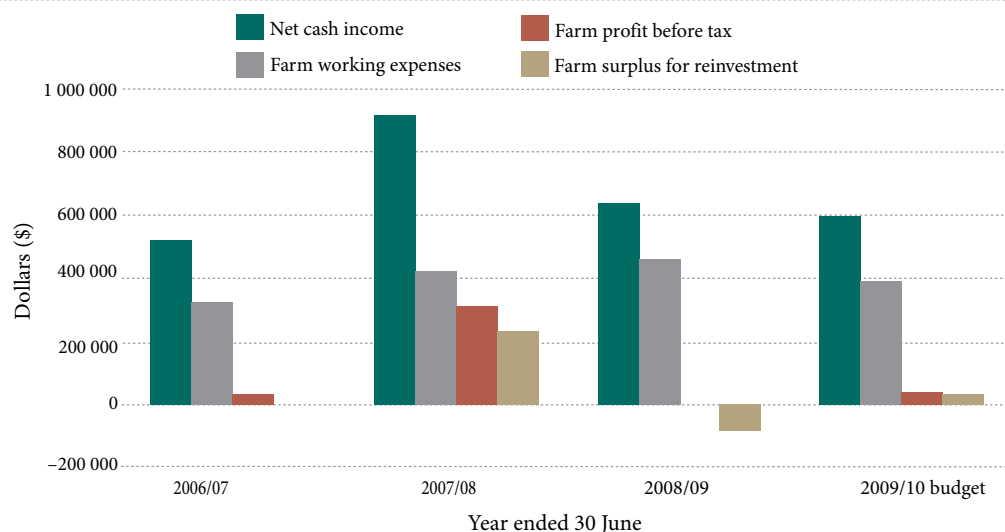
3 EFS (or earnings before interest and tax) is calculated as follows: net cash income plus change in livestock values less farm working expenses less depreciation less wages of management (WOM). WOM is calculated as follows: \$38 000 allowance for labour input plus 1 percent of opening total farm assets to a maximum of \$85 000.

4 Net cash income.

**Symbol**

.. Not applicable.

»» FIGURE 1: LOWER NORTH ISLAND DAIRY MODEL PROFITABILITY TRENDS



## FINANCIAL PERFORMANCE OF THE LOWER NORTH ISLAND DAIRY MODEL FARM IN 2008/09

Most dairy farms in the lower North Island have a cash deficit for 2008/09, driven by the significant decline in payout during the season, and the higher cost structures that were difficult to change through the financial year. The cash operating surplus for the model farm was \$179 000, a decrease of 64 percent compared with \$490 700 in 2007/08. This reflects the reduction in the expected total payout to \$5.20 per kilogram of milksolids for milk supplied in 2008/09, compared with \$7.62 per kilogram of milksolids for the 2007/08 season.

### REVENUE DECREASES BY 30 PERCENT

Net cash income on the lower North Island dairy model farm in 2008/09 was down by \$274 200 or 30 percent on the previous year to \$638 900. Milk revenue was down by \$251 200, or 30 percent to \$592 800. The key driver of this significant decline in milk income was the large decrease in payout through the season. The expected interim payout to the end of June 2009 is \$4.15 per kilogram of milksolids, with no value added payment in February. This is significantly less than 2007/08 at \$6.55 per kilogram of milksolids, plus 10 cents per kilogram of milksolids value added in February 2008.

### MILK PRODUCTION UP BY 2 PERCENT

Overall, the model farm's milk production of 115 500 kilograms of milksolids for the 2008/09 season was 2 percent ahead of the previous year. Industry sources indicated that there was a significant range in individual farm performances from 15 percent behind the previous season, to farms that were 20 percent ahead. In general, production was up slightly in the west and down slightly in the east compared with 2007/08. The lower North Island had a difficult winter, spring and autumn with a drought developing in eastern areas. This compares with 2007/08 where the lower North Island suffered a major drought that had a significant impact on total milk production and farm expenditure.

Winter and spring 2008 was very wet and cool in the western regions, with record rainfall over this period. In the east there was an average winter and wet spring. The result was lower pasture growth rates and pasture utilisation. The late spring was dry, with only adequate rainfall and high temperatures in early summer. Very

good rainfall in February resulted in good pasture growth, with little or no supplement fed for six to eight weeks. However, there was little rainfall in March and April, resulting in low pasture growth rates and low pasture covers by late autumn. Adequate rainfall fell in May but was accompanied by cool temperatures, again suppressing pasture growth rates.



#### PRICES FOR CALVES AND SURPLUS COWS FALL

Stock income decreased by \$21 500, or 30 percent for the 2008/09 year. This decrease is largely due to significantly lower prices for surplus calves (bobby calves sold for \$16.50 in 2008/09 compared with \$40 a year earlier) and a 25 percent fall in mixed age cow prices. With the decline in livestock prices, there was little demand for “budget cows” (cull cows suitable for milking for a further season, rather than going to the works) in 2008/09. Increased cow deaths due to poorer condition post-drought, combined with the wet, cold spring meant there were fewer cows for sale.

#### CASH EXPENDITURE UP 9 PERCENT

Overall, total farm working expenses on the lower North Island dairy model farm in 2008/09 were up by \$37 500 on 2007/08 to \$460 000, an increase of 9 percent. This equates to \$3.98 per kilogram of milksolids compared with \$3.72 per kilogram of milksolids in 2007/08. Farm working expenses for the 30 monitored farms varied from \$1.76 to \$5.35 per kilogram of milksolids. Most of the variation can be explained by differences in expenditure on labour, feed costs including grazing, fertiliser and repairs and maintenance.

Labour expenditure on the model farm increased by 14 percent to \$47 000 in 2008/09 due to increased salary and wage rates resulting from the tight labour market and more use of casual labour in spring. Animal health expenditure rose by 27 percent to \$25 200, reflecting the difficult winter/spring; lighter cow condition and more prevalent animal health issues in spring; more expenditure aimed at getting cows back in calf; and more dry cow therapy. Animal breeding expenses increased by 25 percent to \$14 800 partly as a result of the uptake of new semen technologies.

#### FEED PRICES UP

Supplementary feed expenses increased by 3 percent to \$142 000. The difficult spring saw farmers feed higher levels of supplement than usual, including significant quantities of palm kernel, to recover cow condition and boost production in light of the anticipated payout. The cost of dry cow grazing in winter 2008 increased significantly following the widespread drought (\$23 per head per week versus \$16 per head per week a year earlier); however fewer cows were able to be grazed out.

Less hay and pasture silage was made due to the poor spring conditions and less maize silage was purchased at the generally higher prevailing prices. Following the difficult spring, there were low levels of supplement on hand over the summer and early autumn, and as a result more palm kernel was used over this period at lower average prices. The price of palm kernel decreased significantly throughout the season from around \$390 per tonne down to \$240 per tonne, with some forward contracts being taken out over the summer at \$210 per tonne.

The yields of maize silage were very high, associated with warm temperatures and timely rainfall. Initially, maize was being contracted at around 33 cents to 35 cents per kilogram of dry matter (kgDM), however, with declining payouts the spot price of maize silage in the late autumn was down to around 22 cents per kgDM landed on farm. Some dairy farmers walked away from contracts and a significant quantity of maize silage grown was un-contracted.

In the lower North Island dairy model feed expenses were \$393 per cow compared with \$383 per cow in



2007/08. The average for the monitored farms was \$389 per cow with a range of \$137 to \$813 per cow.

#### FERTILISER EXPENDITURE INCREASES BUT LESS APPLIED

Fertiliser expenditure increased by 10 percent to \$71 600. This reflects a significant reduction in fertiliser and nitrogen use, given most fertilisers doubled in price. Only three-quarters of maintenance phosphate was applied in 2008/09. Less nitrogen was used over the spring, due to high urea prices (\$1100 per tonne) and wet ground conditions making it difficult to apply.

Repairs and maintenance increased by 14 percent to \$41 500. Higher expenditure was incurred through the first half of the season before the significant cuts to the payout forecast were made. Total overhead expenses also increased by 22 percent to \$51 300.

#### NET RESULT FALLS FROM RECORD LEVELS OF PREVIOUS YEAR

Farm profit before tax on the lower North Island dairy model farm is down 99 percent to \$2400 in 2008/09, from \$310 900 in 2007/08. This is a result of the sharp reduction in payout and continuing increase in farm working expenses.

Taxation is expected to increase by 21 percent to \$61 800, due largely to terminal tax liabilities from 2007/08 (around \$44 000). This is despite revising provisional tax to reflect the reduced income in 2008/09.

Interest expenses fell by 2 percent to \$142 000; from \$1.28 to \$1.23 per kilogram of milksolids. However, interest as a percentage of net cash income increased to 21 percent compared with 16 percent in 2007/08 due to the drop in income. Average mortgage interest rates fell by 0.2 percent to 8.8 percent. Earlier in 2008/09 some mortgages were being rolled over onto relatively high rates even though interest rates fell rapidly later in the year. However, the majority of farm mortgages tend to be fixed for longer terms and so the benefit from lower interest rates is slow to be realised. The model farm has an opening debt ratio of 26 percent in 2008/09. The opening overdraft was eliminated by the large cash surplus achieved in 2007/08 but grew during the year as the payout fell below early expectations.

Personal expenditure reduced by 3 percent to \$60 000, and capital and development expenditure fell by 40 percent to \$28 000, reflecting lower incomes and discretionary cash. There was no major change in principal repayments or new borrowings. Off-farm income fell slightly, however there is little reliance on this by farmers.

The lower North Island dairy model farm redeemed some surplus or “dry” Fonterra shares, given the reduced share value. The budget includes \$16 000 of income from share redemption shown as introduced funds.

Overall, there is a cash deficit of \$119 900 on the lower North Island dairy model farm even after allowing for the decrease in discretionary expenditure. This has been reflected in significantly higher overdrafts at the end of the year. The farm surplus for reinvestment for the model farm was a deficit of \$84 800 in 2008/09, a \$317 700 reduction from the surplus in 2007/08.

Few farm sales in the lower North Island means it is difficult to give a good indication of farm values. Some farms have sold very well, similar in price to last season, while some other farm sales have been significantly less than last season. The best estimate for the southern North Island is a decrease of around \$5 per kilogram of milk solids; from an average of around \$45 per kilogram of milksolids (for land, buildings and shares), to an average of under \$40 per kilogram of milksolids. The value of land and buildings on the model farm has fallen by 12 percent to \$3 900 000 at the end of June 2009.





## BUDGET FINANCIAL PERFORMANCE OF THE LOWER NORTH ISLAND DAIRY MODEL FARM IN 2009/10

The cash operating surplus on the lower North Island dairy model farm is expected to increase by \$32 400 to \$211 400 for the 2009/10 year. This is an 18 percent increase reflecting major cost savings and reductions in farm expenditure. Farmers are tending to decrease the number of cows in milk and focus on per cow production and feeding, along with reducing fertiliser applications and closely scrutinising all spending.

### MILK REVENUE EXPECTED TO FALL BY 6 PERCENT

Milk revenue is expected to decline by \$36 100, or 6 percent, to \$556 700. This reflects the lower milk payout to June 2010 of \$3.60 per kilogram of milksolids plus 20 cents value added to be paid in April 2010. Farmers expect a total payment for 2008/09 of \$5.20 per kilogram of milksolids including a value added payment, giving a deferred payment of \$1.05.

Milk production on the lower North Island dairy model farm for 2009/10 is expected to be similar to the previous season at 115 500 kilograms of milksolids. This is closer to an average season but production will be constrained by lighter cows, lower winter pasture covers and an early and cold start to winter.

Stock revenue (sales less purchases) is expected to decrease by \$3400 to \$41 500, reflecting lower mixed age cow and heifer prices. Net cash income is expected to decrease by \$39 500 (6 percent) to \$599 400 for the 2009/10 season.

### EXPENDITURE CUT BY 16 PERCENT

Overall, the model's farm working expenses are expected to decrease by \$71 900 or 16 percent to \$388 000. The area of major reduction is repairs and maintenance, expected to fall by a third, to \$28 000, reflecting the pressure to reduce farm expenditure. Fertiliser expenditure is also anticipated to decrease by 22 percent to \$56 000, reflecting lower product prices and the application of only two-thirds of maintenance phosphate.

### FALLING PRICES HELP REDUCE FEED EXPENDITURE

The other area of significant reduction is feed expenditure, falling by 19 percent to \$114 200 (or \$317 per cow). This is due to declining costs, mainly for maize silage and palm kernel and also for dry cow grazing, and to a lesser extent, heifer grazing. With declining payouts and tighter financial positions, more cows are being wintered on dairy farms, and for the first time in a number of years the supply of dry cow grazing is higher than demand. The price of dry cow grazing has decreased to around \$18 per head per week.

Those with tighter financial positions due to their higher debt levels are expected to make even deeper cuts to fertiliser and feed expenditure. Farmers will be hoping for a return to more average seasonal conditions requiring fewer supplementary feed inputs.

#### **SMALLER CUTS TO MOST CATEGORIES OF EXPENDITURE**

Other areas of expenditure that are expected to fall include a 42 percent cut to casual labour (to \$3500) due to reduced use of relief milkers and more family labour being expected in the cow shed. Freight expenditure is also likely to decrease as more animals are grazed on farm. Most other costs have been trimmed by 5 to 10 percent as farmers try to get farm working expenditure nearer \$3 per kilogram of milksolids. All expenditure is being closely scrutinised as to its contribution to improving profit and farmers are being cautious about committing to expenditure before they are more confident about the final payout.

The ACC employers' levy expense falls in line with the previous year's reduced income, falling from \$9600 in 2008/09 to just \$1900 in 2009/10.

#### **NET RESULT EXPECTED TO IMPROVE**

Farm profit before tax is expected to recover somewhat to \$40 800 in 2009/10, compared with just \$2400 in 2008/09. This will only be achieved by careful control of expenses.

A tax refund of \$17 400 is expected, due to the sharp reduction in income in 2008/09. Interest expenditure is expected to reduce by 3 percent to \$138 000, or \$1.19 per kilogram of milksolids. The average mortgage interest rate is expected to fall by 0.6 percent to 8.2 percent.

As farmers attempt to balance their cash position, drawings on the model farm are expected to be cut by \$2000. A significant decline in development and capital expenditure is expected, and the model shows it halving, from \$28 000 to \$14 000 in 2009/10. Principal repayments are expected to be largely unchanged but given high overdraft levels, \$100 000 has been transferred to interest-only term debt. The opening overdraft has increased by \$50 000.

The lower North Island dairy model farm expects a small cash deficit of \$3600 in 2009/10, a significant improvement from the deficit of \$119 900 in the previous financial year. This is the result of significantly reduced cash expenditure to offset the lower anticipated payout and high overdraft levels.



## INFORMATION ABOUT THE MODEL

This model represents approximately 1100 seasonal supply dairy farms in the bottom half of the North Island, including the regions of Manawatu, Horowhenua, Wairarapa and southern Hawkes Bay. The dairy farms supply the Fonterra Co-operative Dairy Company.

Generally, they are well-developed farms, have good soil fertility levels, and a modest level of well-maintained buildings, plant and equipment. On average, the farms are 130 effective hectares in size, milking 360 cows. They have an additional run-off of 15 hectares.

Most of the lower North Island has reliable summer rainfall. However, many farms in the Manawatu and East Coast are somewhat drought prone by New Zealand standards. Approximately 300 farms have irrigation, mainly in south Wairarapa, Hawkes Bay and Manawatu.

The model budget is prepared for an owner-operator farm, with labour employed, and represents an estimated 70 to 80 percent of dairy farms – the other 20 to 30 percent fit into the sharemilking or partnership categories.

The model is created from information drawn from 30 dairy farms and a wide cross section of agribusiness representatives. The aim of the model is to typify an average dairy farm for the lower North Island. Budget figures are averaged from the contributing properties and adjusted to represent a real dairy farm. Income figures include off-farm income, new borrowing, and other cash income.

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