LOWER NORTH ISLAND DAIRY

Key results from the Ministry for Primary Industries 2012 dairy monitoring programme

KEY POINTS

- An excellent summer for pasture growth on lower North Island dairy farms resulted in a record season in 2011/12, with an 11 percent increase in milksolids production. Production in 2012/13 is expected to return to just better than usual levels, down 7 percent compared with 2011/12.
- Net cash income rose 2 percent to $1 000 500 in 2011/12, with the increased production compensating for the downward revisions in payout during the year. A 20 percent decrease to $799 000 is expected in 2012/13.
- Farm working expenses increased 6 percent in 2011/12 to $527 900. Due to the higher production levels however, this represented a 5 percent reduction on a per kilogram basis to $3.85 per kilogram of milksolids from $4.05 in 2010/11. Expenditure is expected to decrease 8 percent in 2012/13 as a result of tighter budgetary control in line with the reduced forecast payout.
- A farm cash surplus of $84 900 in 2011/12 was a reduction of 30 percent compared with 2010/11. A deficit of $18 100 is expected in 2012/13 after the farm model purchases shares to cover the increased production in 2011/12.
- Farmers are confident about expected production in 2012/13 but are disappointed with the milk payout. They remain cautious about spending and are focused on maintaining positive current account balances and reducing debt.

Table 1: Key parameters, financial results and budget for the Lower North Island dairy model

Year ended 30 June	2008/09	2009/10[1]	2010/11[2]	2011/12 actual	2012/13 budget
Effective area (ha)	130	135	140	140	140
Cows wintered (head)	370	380	395	395	400
Replacement heifers (head)	85	87	93	93	95
Cows milked 15th December (head)	360	370	380	380	385
Stocking rate (cows/ha)	2.8	2.7	2.7	2.7	2.8
Total milksolids (kg)	115 500	121 500	123 000	137 000	127 000
Milksolids per ha (kg/ha)	888	900	879	979	907
Milksolids per cow milked (kg/cow)	321	328	324	361	330
Milksolids advance to end June ($/kg)	4.15	5.15	6.20	5.20	4.40
Milksolids deferred payment ($/kg)	1.00	1.05	0.95	1.39	0.85
Net cash income ($)	638 921	811 440	984 172	1 000 540	798 870
Farm working expenses ($)	459 934	386 518	497 630	527 855	485 677
Farm profit before tax($)	2 425	232 222	312 767	336 579	168 055
Farm surplus for reinvestment[3] ($)	–84 784	166 422	197 788	174 965	82 489

Notes

1 The sample of farms used to compile this model changed between 2008/09 and 2009/10. Caution is advised if comparing data between these two years.

2 The model size was revised in 2012 so the data in this report for 2010/11 may be different from earlier published data for this model.

3 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.

Table 2: Lower North Island dairy model budget

	2011/12			2012/13 budget		
	Whole farm ($)	Per cow ($)	Per kg of milksolids ($)	Whole farm ($)	Per cow ($)	Per kg of milksolids ($)
Revenue						
Milksolids	883 370	2 325	6.45	675 250	1 754	5.32
Dividend on wet shares	38 130	100	0.28	41 040	107	0.32
Cattle	74 540	196	0.54	78 380	204	0.62
Other farm income	11 500	30	0.08	9 800	25	0.08
Less:						
Cattle purchases	7 000	18	0.05	5 600	15	0.04
Net cash income	**1 000 540**	**2 633**	**7.30**	**798 870**	**2 075**	**6.29**
Farm working expenses	**527 855**	**1 389**	**3.85**	**485 677**	**1 261**	**3.82**
Cash operating surplus	**472 685**	**1 244**	**3.45**	**313 193**	**813**	**2.47**
Interest	126 800	334	0.93	122 099	317	0.96
Rent and/or leases	0	0	0.00	0	0	0.00
Stock value adjustment	14 769	39	0.11	0	0	0.00
Minus depreciation	24 075	63	0.18	23 040	60	0.18
Farm profit before tax	**336 579**	**886**	**2.46**	**168 055**	**437**	**1.32**
Income equalisation	0	0	0.00	0	0	0.00
Taxation	102 920	271	0.75	40 605	105	0.32
Farm profit after tax	**233 659**	**615**	**1.71**	**127 449**	**331**	**1.00**
Allocation of funds						
Add back depreciation	24 075	63	0.18	23 040	60	0.18
Reverse stock value adjustment	–14 769	–39	–0.11	0	0	0.00
Drawings	68 000	179	0.50	68 000	177	0.54
Farm surplus for reinvestment[1]	**174 965**	**460**	**1.28**	**82 489**	**214**	**0.65**
Reinvestment						
Net capital purchases	15 000	39	0.11	68 280	177	0.54
Development	10 000	26	0.07	5 000	13	0.04
Principal repayments	65 022	171	0.47	27 280	71	0.21
Farm cash surplus/deficit	**84 943**	**224**	**0.62**	**–18 071**	**–47**	**–0.14**
Other cash sources						
Dividend on dry shares	0	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	14 900	39	0.11	15 300	40	0.12
Net cash position	**99 843**	**263**	**0.73**	**–2 771**	**–7**	**–0.02**
Assets and Liabilities						
Farm, forest and building (opening)	4 950 000	13 026	36.13	5 100 000	13 247	40.16
Plant and machinery (opening)	145 500	383	1.06	138 675	360	1.09
Stock valuation (opening)	939 155	2471	6.86	953 924	2478	7.51
Dairy company shares	555 960	1463	4.06	619 240	1608	4.88
Other farm-related investments (opening)	5 000	13	0.04	5 000	13	0.04
Total farm assets	**6 595 615**	**17 357**	**48.14**	**6 816 839**	**17 706**	**53.68**
Total liabilities (opening)	2 170 000	5 711	15.84	2 034 978	5 286	16.02
Total equity (assets-liabilities)	**4 425 615**	**11 646**	**32.30**	**4 781 861**	**12 420**	**37.65**

Note
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.

Table 3: Lower North Island dairy model expenditure

	2011/12			2012/13 budget		
	Whole farm ($)	Per cow ($)	Per kg of milksolids ($)	Whole farm ($)	Per cow ($)	Per kg of milksolids ($)
Farm working expenses						
Permanent wages	48 000	126	0.35	48 000	125	0.38
Casual wages	22 000	58	0.16	20 000	52	0.16
ACC	2 643	7	0.02	2 114	5	0.02
Total labour expenses	**72 643**	**191**	**0.53**	**70 114**	**182**	**0.55**
Animal health	28 500	75	0.21	31 000	81	0.24
Breeding	15 950	42	0.12	16 000	42	0.13
Dairy shed expenses	8 000	21	0.06	8 500	22	0.07
Electricity	15 200	40	0.11	16 000	42	0.13
Feed (hay and silage)	84 200	222	0.61	70 430	183	0.55
Feed (feed crops)	7 200	19	0.05	6 400	17	0.05
Feed (grazing)	36 270	95	0.26	39 520	103	0.31
Feed (other)	18 000	47	0.13	18 500	48	0.15
Fertiliser	81 191	214	0.59	73 591	191	0.58
Lime	3 953	10	0.03	1 430	4	0.01
Freight (not elsewhere deducted)	4 200	11	0.03	4 600	12	0.04
Regrassing costs	8 700	23	0.06	5 000	13	0.04
Weed and pest control	4 000	11	0.03	4 000	10	0.03
Fuel	15 800	42	0.12	16 500	43	0.13
Vehicle costs (excluding fuel)	13 700	36	0.10	14 600	38	0.11
Repairs and maintenance	55 280	145	0.40	33 500	87	0.26
Total other working expenses	**400 144**	**1 053**	**2.92**	**359 571**	**934**	**2.83**
Communication costs (phone and mail)	2 600	7	0.02	2 700	7	0.02
Accountancy	4 600	12	0.03	4 600	12	0.04
Legal and consultancy	6 100	16	0.04	5 000	13	0.04
Other administration	4 100	11	0.03	4 100	11	0.03
Water charges (irrigation)	1 150	3	0.01	1 500	4	0.01
Rates	14 000	37	0.10	14 500	38	0.11
Insurance	9 900	26	0.07	11 000	29	0.09
ACC employer	4 686	12	0.03	5 019	13	0.04
Other expenditure[1]	7 932	21	0.06	7 572	20	0.06
Total overhead expenses	**55 068**	**145**	**0.40**	**55 991**	**145**	**0.44**
Total farm working expenses	**527 855**	**1 389**	**3.85**	**485 677**	**1 261**	**3.82**
Calculated ratios						
Economic farm surplus (EFS[2])	378 379	996	2.76	205 153	533	1.62
Farm working expenses/NCI[3]	53%			61%		
EFS/total farm assets	5.7%			3.0%		
EFS less interest and lease/equity	5.7%			1.7%		
Interest+rent+lease/NCI	12.7%			15.3%		
EFS/NCI	37.8%			25.7%		
Wages of management	85 000	224	0.62	85 000	221	0.67

Notes
1 Includes DairyNZ levy.
2 EFS 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.

FINANCIAL PERFORMANCE OF THE LOWER NORTH ISLAND DAIRY MODEL FARM IN 2011/12

Milksolids production increased significantly in 2011/12. This offset the lower payout, but increased farm working expenses resulted in the cash operating surplus falling 3 percent to $472 700, from $486 500 in 2010/11.

In western regions, production was up around 10 percent compared with 2010/11. Production on the East Coast was up 12 percent on average, after a difficult early season in 2010/11. Overall, there was an 11 percent increase in production in the lower North Island dairy model.

IMPROVED PRODUCTION OFFSETS LOWER PAYOUT

Milksolids revenue was virtually unchanged, at $883 400, in 2011/12 compared with $881 800 in 2010/11. The key factor was the increased production offsetting a 16 percent reduction in the advance milk payout, to $5.20 per kilogram of milksolids. The total milk price was revised four times during the 2011/12 season. It ended up down 10 percent from an opening forecast of $6.75 per kilogram to a May 2012 final forecast of $6.05 per kilogram of milksolids.

The total dividends on shares backed by milk production increased 15 percent to $38 100 in 2011/12.

Milk production up 11 percent

In 2011/12, milk production for the Lower North Island dairy farm model increased 11 percent, compared with 2010/11, to 137 000 kilograms of milksolids (979 kilograms per hectare). This was largely due to favourable summer weather, following an average winter and spring, compared with a difficult winter and spring in 2010/11.

Lower North Island dairy farms went into winter 2011 in a good position. Usual winter conditions prevailed in the west and were better than usual in the east, resulting in minimal pasture damage. Cow condition was lighter in the east but had improved to an acceptable status by calving.

A snow event in late August caused significant disruption in the east but a rapid improvement immediately followed, putting farms back on track. The east continued with what was described as the best spring in 20 years, while the west became wet and cold, leading to issues in adequately feeding stock through October and November.

The severe summer storm that hit south Taranaki and Wanganui had minimal effect on the dairy farms of Rangitikei and Manawatu, although there were cases of maize crops around Marton being flattened.

Wet and cool summer weather conditions were favourable for pasture growth. Herd sizes remained stable as there was no feed deficit to force a cull from milking herds. Per cow milk production stayed high with the large pasture intakes.

Cattle income unchanged but calf revenue up

Cattle income on the farm model rose just 1 percent, compared with 2010/11, to $74 500 in 2011/12. A reduction in income from cull cows was more than offset by a doubling of calf revenue.

The average cull cow price in 2011/12 was down on 2010/11. In 2010/11, prices improved significantly later in the season and a proportion of the herd was sold as "budget cows". The revenue from cull cows decreased 16 percent in 2011/12 to $44 300.

The model's bobby calf price rose 83 percent, from $12.00 to $22.00 in 2011/12. More calves were reared including some heifers destined for export. As a result, income from calves increased from $12 800 to $25 300 (from $56 to $110 on average per calf).

Expenditure rises 6 percent as income improves

Farm working expenses on the farm model increased 6 percent, compared with 2010/11, to $527 900 in 2011/12. This increase was a response to good production levels and an expectation that the milk payout would be higher. Due to the higher milksolids production, expenditure on a per kilogram basis actually fell 5 percent, from $4.05 to $3.85 per kilogram of milksolids.

The favourable growing conditions resulted in significantly increased expenditure on harvesting surplus pasture, while other farm expenditure generally remained at maintenance levels.

Repairs and maintenance expenditure increased 19 percent in 2011/12, to $55 300, on top of a significant increase (33 percent) the previous year. Substantial increases in expenditure were seen in regrassing (34 percent), weed and pest control (14 percent) and legal and consultancy (36 percent). Total labour expenditure increased 2 percent to $72 600. Animal health expenditure was down 2 percent due to the better season. Breeding expenditure increased 9 percent as farmers

continued herd testing and artificial insemination, were proactive with mating management and purchased National Animal Identification and Tracing tags.

Farm working expenses on monitored farms ranged from $2.90 to $5.38 per kilogram of milksolids.

Feed expenditure increases 10 percent as surpluses conserved

Feed expenditure on the model increased 10 percent to $145 700, or $1.06 per kilogram of milksolids, in 2011/12. The excellent pasture growth resulted in large feed surpluses being conserved. Farmers with run-offs made second and third cuts of supplement, adding to the "feed bill". Reserves on hand at the end of the season increased 23 percent. Farmers and industry commentators noted that, while supplement reserves were up in quantity, they were well down in quality and this will affect the animal response when these are fed.

A year earlier, farmers had expected to spend more on imported feeds such as palm kernel expeller. The excellent season meant that actual quantities purchased were significantly down. The average price paid was also lower. Increased maize silage purchases and hay and silage made on-farm were substituted for palm kernel expeller.

Wet soil conditions caused substantive delays in establishing crops, and rain also hampered harvesting surplus pasture. This led to poor yields in crops and/or late harvests. Grass silage quality was significantly influenced by the conditions and much of this feed remained on hand at the end of the season.

The range in feed expenditure across the monitored farms varied from $0.35 to $2.16 per kilogram of milksolids.

Improved income levels see fertiliser inputs maintained

Positive payout expectations saw fertiliser expenditure increase 2 percent to $81 200 in 2011/12. Applications were similar to 2010/11, when the farm model had returned to maintenance levels of phosphorous and applied more nitrogen due to short pasture covers in winter and spring. In 2011/12, the better than expected season resulted in slightly less urea being applied, but this was offset by rising urea prices. Phosphate fertiliser applications continued at slightly higher rates as farmers "banked" some of the good income levels in their farms.

PROFIT RISES 8 PERCENT

Farm profit before tax on the lower North Island dairy model was $336 600 in 2011/12, compared with $312 800 in 2010/11. This increase reflects reduced interest costs and a reduction in the depreciation allowable for taxation purposes plus the increased valuation due to higher cow numbers on hand going into winter 2012. Taxation increased 32 percent over the previous year, with increased terminal tax as farmers are running out of past losses to carry over.

After tax and drawings, and adjusting for the non-cash items above, the farm surplus for reinvestment is down 12 percent in 2011/12 to $175 000.

Despite this positive cash position, the farmer focus on debt repayment and on strengthening the current account results in only modest levels of capital expenditure and on-farm development ($25 000). Only genuine and "must-do" investments were made around items like plant replacement, upgrading of effluent systems and other infrastructure.

As reported in 2011, recent volatility in payouts is making farmers cautious about expenditure and keen to reduce debt. During 2010/11, the model's overdraft was substantially reduced, as this was the greatest priority for using the developing cash surplus. During 2011/12, the cash surplus was again added to the current account balance. The positive current account and further principal repayments have seen the model's equity ratio improve by three percentage points to 70 percent. This is despite a 5 percent increase in the value of total farm assets at the start of 2012/13 compared with a year earlier.

The average interest rate on the model fell 0.5 percent in 2011/12, reflecting farms continuing to move off higher fixed-term mortgages to lower floating rates. Around 75 percent of mortgages are now floating. Combined with the improvement in the current account, the lower interest rate resulted in a 10 percent reduction in interest expense to $126 800 in 2011/12. Interest costs on the monitored farms ranged from nil to $2.40 per kilogram of milksolids; while debt levels ranged from nil to $31.78 per kilogram of milksolids.

It is difficult to establish a value for the model due to the low volume of property sales combined with differences between east and west coasts. The value of the model is estimated to have increased 3 percent in 2011/12. This comes from a slightly higher value for the milking platform and no change in the value of the run-off.

BUDGET FINANCIAL PERFORMANCE OF THE LOWER NORTH ISLAND DAIRY FARM MODEL IN 2012/13

The cash operating surplus is expected to decline by $159 500, or 34 percent, to $313 200 in 2012/13. This is due to an expected 7 percent reduction in milksolids production and a fall in the milk payout forecast for 2012/13. Farm working expenses are expected to be cut to preserve cash flow, which was expected to be tight in the first half of the season. At the start of 2012/13, there was $1.34 per kilogram of milksolids less cash income from milk in the budget as a result of the manner in which Fonterra made its advance milk payments. In addition, farmers needed to buy additional shares to match their increased production in 2011/12.

REVENUE EXPECTED TO FALL 20 PERCENT

Net cash income is budgeted to decrease from around $1 million to $799 000 in 2012/13. This is based on the announced 15 percent reduction in the advance milk payment to June 2013 of $4.40 per kilogram of milksolids and a 39 percent reduction in the deferred payment for the previous season's milk production to $0.85 per kilogram milksolids. Milk revenue is expected to fall 24 percent to $675 300 while the dividend on wet shares is budgeted to increase 8 percent to $41 000 in 2012/13.

A 5 percent increase in cattle income is anticipated as a result of increased numbers of cows and heifers being available for sale. Prices for cows, surplus calves and bulls are expected to fall slightly.

Milk production expected to decrease

A return to a more typical season is expected to reduce production 7 percent in 2012/13, to 907 kilograms of milksolids per hectare. The 2012/13 season started with good pasture covers, acceptable to good cow condition and excellent feed reserves. At the start of 2012/13, the model recorded an improvement in feed inventory of 30 000 kilograms of dry matter.

Calving patterns in spring 2012 are likely to be more condensed. Empty rates were 2 percent better than last year, with 12 to 14 percent being typical. Farmers have tended to heed the request to reduce inductions. Some have achieved this by reducing the mating interval but this has resulted in higher empty rates.

EXPENDITURE CUTS AS CASH FLOW TIGHTENS

Farm working expenses on the lower North Island dairy farm model are expected to fall 8 percent to $485 700 ($3.82 per kilogram of milksolids) in 2012/13, as farmers reduce discretionary expenditure in the face of falling income.

Feed costs are expected to fall 7 percent in 2012/13 to $134 900, as more usual levels of spring pasture supplements are conserved and inventory is used up. The feed cost per kilogram of milksolids is budgeted to remain unchanged at $1.06. Tonnes of palm kernel expeller purchased are expected to remain similar to the lower levels purchased in 2011/12. Grazing prices are expected to rise further as a result of the improved returns for sheep and beef.

Fertiliser expenditure is budgeted to fall 9 percent as farmers trim costs and take advantage of higher levels of inputs over the past two seasons. Similarly, repairs and maintenance expenditure is expected to reduced 39 percent after two years of significant investment.

Labour expenses are expected to fall 3 percent with reduced casual labour inputs and a fall in Accident Compensation Corporation premiums. Regrassing is also budgeted to decrease as farmers defer non-essential expenditure.

These cuts are expected to be somewhat offset by likely price rises in other areas, such as animal health, electricity, freight, vehicles and fuel and rates. A significant increase is also expected in insurance premiums, following the rise in the cost of reinsurance after the recent Christchurch earthquakes.

FARM PROFIT HALVES

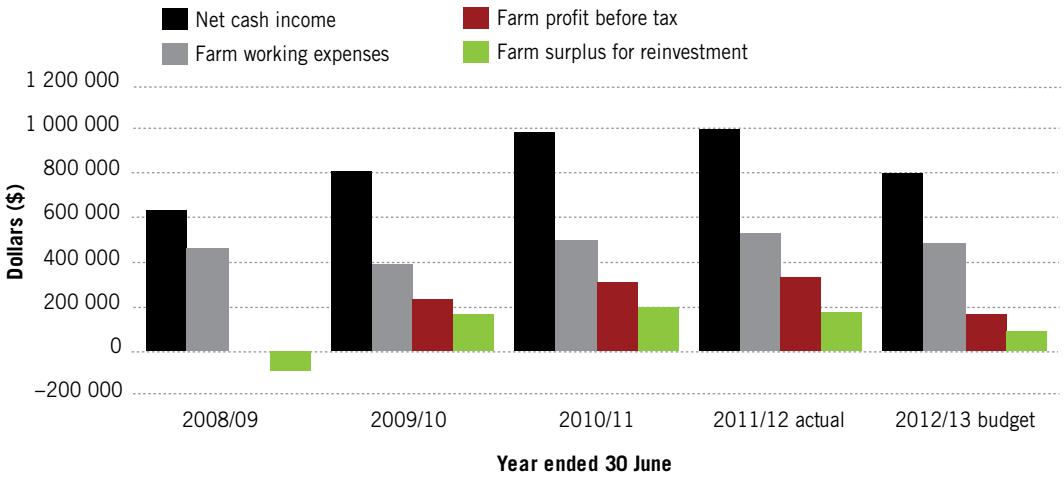
Farm profit before tax is expected to fall 50 percent, to $168 100, in 2012/13 as a result of the reduced cash operating surplus. Interest expenditure on the model is budgeted to decrease 4 percent as interest rates continue to trend down and the level of debt falls.

Taxation payments on the model are expected to

fall 61 percent, to $40 600, as farmers revise their provisional tax payments to preserve cash.

Capital expenditure on-farm and farm development are expected to reduce, as are principal repayments. However, these amounts plus the intention to buy more Fonterra shares to "share up" last year's record production will absorb more cash than the entire expected farm surplus for reinvestment of $82 500 in 2012/13.

Figure 1: Lower North Island dairy model profitability trends



INFORMATION ABOUT THE MODEL

This model represents nearly 1100 seasonal supply dairy farms in the bottom half of the North Island, including the regions of Manawatu, Horowhenua, Wairarapa and Southern Hawke's 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 140 effective hectares in size, wintering 395 cows and peak milking 380 cows. They have a supporting run-off of 60 hectares on which cows are wintered and surplus pasture conserved in summer. Yearlings are grazed off-farm from June to May and the calves are reared and retained on the milking area and run-off.

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

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 was created from information drawn from 20 dairy farms and a wide cross section of agribusiness representatives. The model's aim is to typify an average dairy farm for the lower North Island. Budget figures were averaged from the contributing properties and adjusted to represent a real dairy farm.

The model was recalculated for 2010/11 based on the Livestock Improvement Corporation's published data showing the average farm size in the area had increased to 141 hectares with 383 peak-milked cows producing 320 kilograms of milksolids. Variations are compared with the new model size of 140 hectares, which differs from that published in 2011.

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