

# SOUTHLAND DAIRY

This report contains the key results from MAF's 2010 dairy monitoring programme. Please note that the sample of farms has changed between 2008/09 and 2009/10. Caution should be taken when comparing data between these two years.

## KEY POINTS

- › Milksolids production per cow and per hectare were similar to the 2008/09 year despite low pasture production in 2009/10. Farmers are budgeting to increase milksolids production by 4 percent in 2010/11.
- › The increase in milksolids payout saw net cash income increase 28 percent compared with the 2008/09 season to \$1.365 million. A similar net cash income is expected in 2010/11.
- › Farm working expenditure per kilogram of milksolids decreased for the second year in a row as farmers responded to an initial very low predicted payout. The model spent \$3.18 per kilogram of milksolids on farm working expenses, which is budgeted to increase to \$3.32 per kilogram of milksolids in 2010/11.
- › Farm profit before tax increased to \$383 200 up from \$3500 in 2008/09. This sharp increase was driven by the increased final milksolids payment and a concerted effort by farmers to reduce their farm working expenses. Farm profit before tax is budgeted to decrease 7 percent in 2010/11 to \$356 800.
- › Farmers welcomed the increased payout but remain cautious spenders for the short-term. The lack of farm sales indicates less willingness to take on debt.

»» TABLE 1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE SOUTHLAND DAIRY MODEL

YEAR ENDED 30 JUNE	2006/07	2007/08	2008/09	2009/10 <sup>1</sup>	2010/11 BUDGET
Effective area (ha)	178	183	183	192	192
Cows wintered (head)	518	549	557	548	562
Replacement heifers (head)	127	127	137	134	143
Cows milked 15th December (head)	490	499	510	518	538
Stocking rate (cows/ha)	2.8	2.7	2.8	2.7	2.8
Total milksolids (kg)	196 000	189 000	195 840	202 752	211 200
Milksolids per ha (kg/ha)	1 101	1 033	1 070	1 056	1 100
Milksolids per cow milked (kg/cow)	400	379	384	391	393
MS advance to end June (\$/kg)	3.65	6.62	4.15	5.15	5.30
MS deferred payment (\$)	0.50	0.81	1.00	1.05	0.95
Net cash income (\$)	857 495	1 478 097	1 069 513	1 364 963	1 423 698
Farm working expenses (\$)	553 052	698 967	705 915	645 082	701 136
Farm profit before tax(\$)	99 516	466 495	3 453	383 180	356 762
Farm surplus for reinvestment <sup>2</sup> (\$)	-6 944	323 458	-41 248	262 742	151 081

### 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 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: SOUTHLAND DAIRY MODEL BUDGET

	2009/10			2010/11 BUDGET		
	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)
<b>REVENUE</b>						
Milksolids	1 249 805	2 413	6.16	1 311 974	2 439	6.21
Dividend on wet shares	64 680	125	0.32	50 688	94	0.24
Cattle	48 193	93	0.24	58 527	109	0.28
Other farm income	3 501	7	0.02	3 632	7	0.02
<b>LESS:</b>						
Cattle purchases	1 216	2	0.01	1 123	2	0.01
<b>Net cash income</b>	<b>1 364 963</b>	<b>2 635</b>	<b>6.73</b>	<b>1 423 698</b>	<b>2 646</b>	<b>6.74</b>
<b>Farm working expenses</b>	<b>645 082</b>	<b>1 245</b>	<b>3.18</b>	<b>701 136</b>	<b>1 303</b>	<b>3.32</b>
<b>Cash operating surplus</b>	<b>719 881</b>	<b>1 390</b>	<b>3.55</b>	<b>722 562</b>	<b>1 343</b>	<b>3.42</b>
Interest	336 252	649	1.66	337 450	627	1.60
Rent and/or leases	0	0	0.00	0	0	0.00
Stock value adjustment	28 231	55	0.14	1 420	3	0.01
Minus depreciation	28 680	55	0.14	29 771	55	0.14
<b>Farm profit before tax</b>	<b>383 180</b>	<b>740</b>	<b>1.89</b>	<b>356 762</b>	<b>663</b>	<b>1.69</b>
Taxation	50 600	98	0.25	163 031	303	0.77
<b>Farm profit after tax</b>	<b>332 580</b>	<b>642</b>	<b>1.64</b>	<b>193 730</b>	<b>360</b>	<b>0.92</b>
Add back depreciation	28 680	55	0.14	29 771	55	0.14
Reverse stock value adjustment	-28 231	-55	-0.14	-1 420	-3	-0.01
Dividend on dry shares	0	0	0.00	0	0	0.00
Off-farm income	13 000	25	0.06	5 760	11	0.03
<b>Discretionary cash</b>	<b>346 029</b>	<b>668</b>	<b>1.71</b>	<b>227 841</b>	<b>423</b>	<b>1.08</b>
<b>APPLIED TO:</b>						
Net capital purchases	25 657	50	0.13	45 181	84	0.21
Development	25 657	50	0.13	34 600	64	0.16
Principal repayments	50 000	97	0.25	0	0	0.00
Drawings	70 287	136	0.35	71 000	132	0.34
New borrowings	0	0	0.00	0	0	0.00
Introduced funds	0	0	0.00	0	0	0.00
<b>Cash surplus/deficit</b>	<b>174 428</b>	<b>337</b>	<b>0.86</b>	<b>77 060</b>	<b>143</b>	<b>0.36</b>
<b>Farm surplus for reinvestment<sup>1</sup></b>	<b>262 742</b>	<b>507</b>	<b>1.30</b>	<b>151 081</b>	<b>281</b>	<b>0.72</b>
<b>ASSETS AND LIABILITIES</b>						
Farm, forest and building (opening)	6 988 000	13 490	34.47	6 902 000	12 829	32.68
Plant and machinery (opening)	191 200	369	0.94	198 472	369	0.94
Stock valuation (opening)	819 243	1 582	4.04	847 474	1 575	4.01
Dairy company shares	876 120	1 691	4.32	906 301	1 685	4.29
Other farm related investments (opening)	0	0	0.00	0	0	0.00
<b>Total farm assets</b>	<b>8 874 563</b>	<b>17 132</b>	<b>43.77</b>	<b>8 854 247</b>	<b>16 458</b>	<b>41.92</b>
<b>Total liabilities (opening)</b>	<b>4 599 000</b>	<b>8 878</b>	<b>22.68</b>	<b>4 466 000</b>	<b>8 301</b>	<b>21.15</b>
<b>Total equity (assets-liabilities)</b>	<b>4 275 563</b>	<b>8 254</b>	<b>21.09</b>	<b>4 388 247</b>	<b>8 157</b>	<b>20.78</b>

**Note**

<sup>1</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 3: SOUTHLAND DAIRY MODEL EXPENDITURE

	2009/10			2010/11 BUDGET		
	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)
<b>FARM WORKING EXPENSES</b>						
Permanent wages	108 780	210	0.54	117 333	218	0.56
Casual wages	20 202	39	0.10	21 520	40	0.10
ACC	3 551	7	0.02	5 469	10	0.03
<b>Total labour expenses</b>	<b>132 533</b>	<b>256</b>	<b>0.65</b>	<b>144 322</b>	<b>268</b>	<b>0.68</b>
Animal health	35 224	68	0.17	37 660	70	0.18
Breeding	18 648	36	0.09	19 368	36	0.09
Dairy shed expenses	11 640	22	0.06	11 836	22	0.06
Electricity	18 426	36	0.09	19 234	36	0.09
Feed (hay and silage)	81 326	157	0.40	83 390	155	0.39
Feed (feed crops)	12 950	25	0.06	13 450	25	0.06
Feed (grazing)	74 592	144	0.37	85 004	158	0.40
Feed (other)	7 252	14	0.04	8 070	15	0.04
Fertiliser	95 312	184	0.47	107 900	201	0.51
Lime	4 055	8	0.02	4 236	8	0.02
Freight (not elsewhere deducted)	6 083	12	0.03	7 000	13	0.03
Regrassing costs	6 734	13	0.03	8 500	16	0.04
Weed and pest control	5 698	11	0.03	5 350	10	0.03
Fuel	17 754	34	0.09	19 530	36	0.09
Vehicle costs (excluding fuel)	20 740	40	0.10	21 280	40	0.10
Repairs and maintenance	41 944	81	0.21	44 660	83	0.21
<b>Total other working expenses</b>	<b>458 378</b>	<b>885</b>	<b>2.26</b>	<b>496 468</b>	<b>923</b>	<b>2.35</b>
Communication costs (phone and mail)	3 234	6	0.02	3 350	6	0.02
Accountancy	6 661	13	0.03	6 700	12	0.03
Legal and consultancy	3 500	7	0.02	3 850	7	0.02
Other administration	10 840	21	0.05	9 849	18	0.05
Water charges (irrigation)	0	0	0.00	0	0	0.00
Rates	11 520	22	0.06	11 904	22	0.06
Insurance	9 408	18	0.05	11 200	21	0.05
ACC employer	2 115	4	0.01	5 890	11	0.03
Other expenditure <sup>1</sup>	6 894	13	0.03	7 603	14	0.04
<b>Total overhead expenses</b>	<b>54 172</b>	<b>105</b>	<b>0.27</b>	<b>60 346</b>	<b>112</b>	<b>0.29</b>
<b>Total farm working expenses</b>	<b>645 082</b>	<b>1 245</b>	<b>3.18</b>	<b>701 136</b>	<b>1 303</b>	<b>3.32</b>
<b>CALCULATED RATIOS</b>						
Economic farm surplus (EFS <sup>2</sup> )	634 432	1 225	3.13	609 212	1 132	2.88
Farm working expenses/NCI <sup>3</sup>	47%			49%		
EFS/total farm assets	7%			7%		
EFS less interest and lease/equity	7%			6%		
Interest+rent+lease/NCI	25%			24%		
EFS/NCI	46%			43%		
Wages of management	85 000	164	0.42	85 000	158	0.40

**Note**

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 SOUTHLAND DAIRY FARM MODEL IN 2009/10



The cash operating surplus for the Southland dairy model increased significantly to \$719 900 in 2009/10, a 98 percent increase compared with 2008/09. This sharp increase was driven by the increased final milksolids payment and a concerted effort by farmers to reduce their farm working expenses.

The model's stocking rate was 2.7 cows per hectare. Production per cow was 391 kilograms of milksolids and production per hectare was 1056 kilograms. Both per cow production (up 2 percent) and per hectare production (down 1 percent) were similar to the 2008/09 season.

Although the end of season milksolids production totals were similar, pasture production in 2009/10 was lower than 2008/09 as a result of a cool spring/early summer. The distribution of pasture growth within the season and throughout the region was also different to 2008/09. This in turn impacted on milk production, supplement conservation, winter feed crop yields and reproductive performance. Industry and farmer commentators estimate only 72 percent of average grass growth was achieved. There were also extremes in weather with northern Southland having a dry November and December which severely affected pasture growth; then wet soils and a flood in the other parts of the region in autumn 2010 made it difficult for farmers to extend the milking season.

### REVENUE UP SIGNIFICANTLY

Net cash income for the model increased 28 percent in 2009/10 compared with 2008/09, to a total of \$1.365 million. This was very much driven by the increase in the milksolids payout.

### VARIABLE SEASON FOR PASTURE GROWTH

Some good pasture growth periods, notably September and January–February, kept milk production going and there was better autumn growth than the 2008/09 season. Figure 1 from the Southland Demonstration Farm shows poor pasture growth early and in the mid-season, with the occasional growth spike. This figure also demonstrates the variable growth rate between months and weeks which made it difficult to manage covers, supplements, nitrogen application and grazing management.

### PAYOUT INCREASE WELCOMED

The payout to June 2010 was \$5.15 per kilogram of milksolids compared with \$4.15 in 2008/09. Milk sales dominate net cash income at 92 percent, similar to the previous year's 94 percent. Cull cow prices were better than 2008/09 but calf prices were again disappointing, averaging \$17.00 to \$20.00 per head. As a result, cattle revenue decreased by \$15 000 for the farm model.

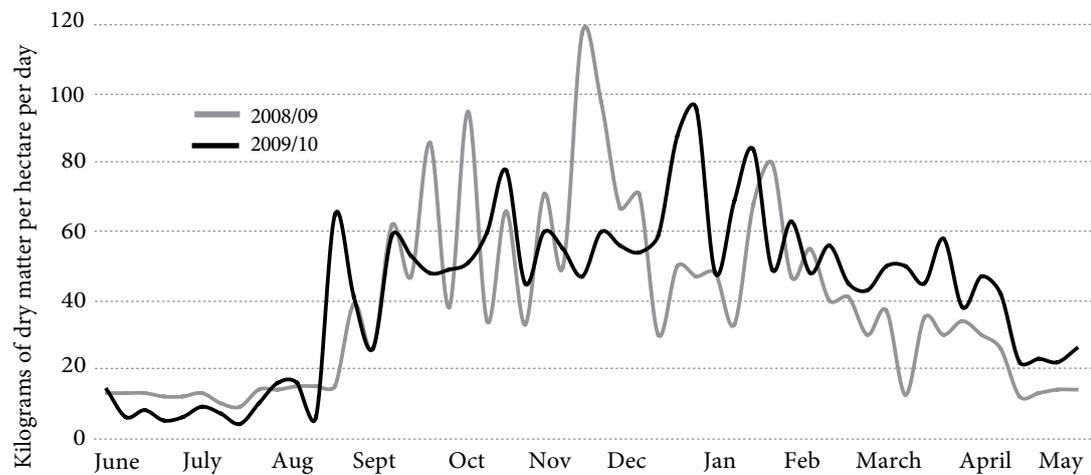
### EXPENDITURE DOWN

Total farm working expenses decreased to \$3.18 per kilogram of milksolids in 2009/10 from \$3.60 per kilogram of milksolids the previous year. Farmers responded to a very low predicted payout price (\$4.55 per kilogram of milksolids) and low advance payment, by only spending on items directly influencing production and assessing each expenditure item for best value.

Farmers were cautious spenders in 2009/10. They reduced, and in some cases delayed, expenditure until they could afford to pay for the item out of cash flow. Farmers still maintained tight control over expenditure throughout the season even after improved payout announcements.

Farm working expenses accounted for 47 percent of net cash income, down from 66 percent in 2008/09.

»» FIGURE 1: SOUTHLAND DEMONSTRATION FARM PASTURE GROWTH RATES



Source: Southland Demonstration Farm.

Labour, feed, fuel and fertiliser are still the big ticket items in the model. Farmers commented that non-discretionary farm working expenses are continuing to increase.

#### KEEPING LABOUR COSTS DOWN

Labour costs per hour did not increase significantly between 2008/09 and 2009/10 and the model shows a 2 percent decrease in total labour expenditure to \$132 500. When milksolid payout predictions were low, many farmers or family members committed to working more hours to keep the labour expenses under control.

#### LESS FEED MADE

Total feed costs were \$340 per cow or 27 percent of total farm working expenditure in 2009/10. This was a 12 percent decrease on the previous year and was due to reduced amounts of hay and silage made rather than cheaper feed sources. Winter grazing rates for cows remained firm from the previous season at around \$24 per head per week. However, by the end of 2009/10 they had increased to \$28 per head. The purchase price for standing grass started at 17 cents per kilogram of dry matter and rose to 23 cents per kilogram of dry matter. Yields of winter feed crops (mainly kale and swedes) were average to below average for dairy run-offs and specialist dairy grazers.

#### FERTILISER APPLICATIONS AT MAINTENANCE LEVELS

The total amount of fertiliser applied in the Southland dairy model was equivalent to 115-29-40-42 kilograms per hectare of N-P-K-S. The run-off received 143-34-56-12 kilograms per hectare and reflects the run-off's requirements to grow supplements and crops with some nutrient transferred to the milking platform. Up to Christmas 2009, nitrogen application took preference over annual fertiliser applications. As cash flow improved, more typical fertiliser application patterns resumed.

Farmers spent \$192 per cow or \$517 per milking hectare on fertiliser and lime. This was a 21 percent decrease in fertiliser and lime expenditure per hectare compared with 2008/09. The fertiliser prices for main products, except potassium, were also lower over the whole year.

#### FUEL AND VEHICLE COSTS DOWN

Fuel and vehicle costs were down 11 and 14 percent respectively. This decrease was driven by more stable fuel prices, less vehicle use and strategic fuel purchasing.

### LESS INTEREST PAYMENTS MADE

The model has debt of \$22.68 per kilogram of milksolids. As fixed term loans matured the floating rate or new fixed rate was generally cheaper, with the model's average interest rate in 2009/10 at 7.2 percent compared with 8.5 percent in 2008/09.

Interest payments of \$336 300 accounted for 25 percent of the net cash income. Farmers' (and banks') attitudes to debt became more conservative during the year in response to the global financial crisis and resulting credit crunch. Some monitored farmers repaid principal on loans, which is highly unusual for this model and industry commentators felt that most Southland dairy farmers did not repay principal. The model in 2009/10 made \$50 000 of principal repayments on the total liabilities of \$4.599 million.



### NET RESULT IMPROVED

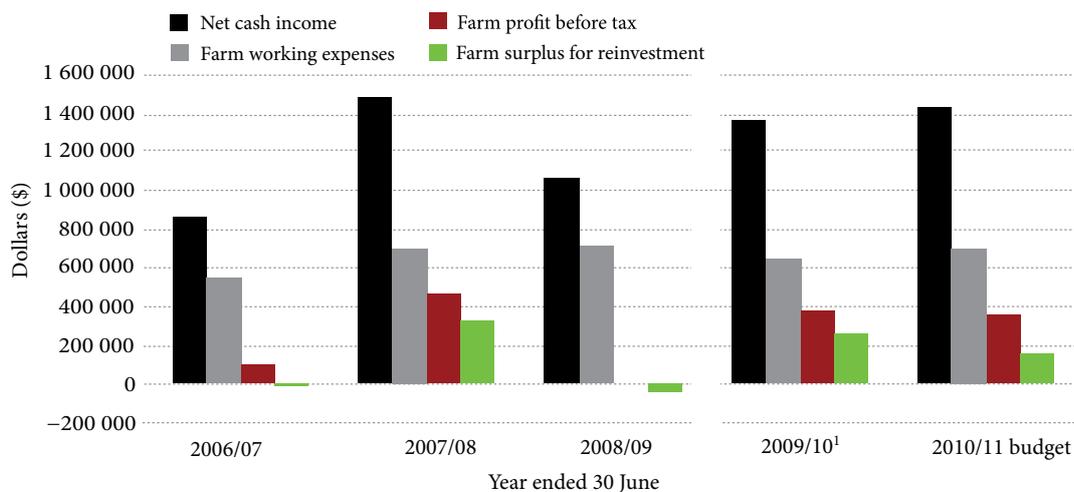
Farm profit before tax increased more than 10 fold to \$383 200, up from \$3500 in 2008/09. Despite a much improved profit before and after tax, farmers spent below typical amounts on capital development and drawings as they remained cautious spenders.

Drawings were down by \$9000 to \$70 300. The model recorded a farm surplus for reinvestment of \$262 700, compared with a deficit of \$41 200 in 2008/09.

### UNCERTAINTY AROUND LAND VALUE

The value of dairy land as at 1 July 2010 was difficult to determine. Few dairy farm sales throughout the year meant a true market rate was difficult to assess, and vendor and buyer price expectations were wide apart. Estimates vary but the model has used a 1 percent decrease in land value compared with 1 July 2009. This gives a 7 percent return on capital for the model due to better economic farm surplus and slightly less capital invested.

»» FIGURE 2: SOUTHLAND DAIRY MODEL PROFITABILITY TRENDS



**Note**

<sup>1</sup> 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.

## BUDGET FINANCIAL PERFORMANCE OF THE SOUTHLAND DAIRY FARM MODEL IN 2010/11

The Southland dairy model's cash operating surplus in 2010/11 is expected to remain almost at the same level as 2009/10. This result is due to an expected \$58 700 increase in net cash income being cancelled out by a \$56 000 increase in farm working expenditure. Farmers intend to maintain a prudent attitude to spending but are unable to avoid some expenditure increases such as rates and electricity.

The budget is based on a final payout of \$5.30 in June 2011. However, current industry reports suggest that, depending on the exchange rate, the final payout could be considerably higher and farmers are confident that this price will be achieved or bettered. The \$4.30 per kilogram of milksolids opening advance for the season is higher than 2009/10 and will also help the farm's cash flow. After the previous year's high profits, tax is likely to be a significant issue for farmers to manage.

### REVENUE STEADY

Southland farms began the 2010/11 season with adequate grass covers and satisfactory cow condition, but below average winter crop yields and supplementary feed. Budgeting for an average pasture growth season and an average planned increase of 20 cows milked, farmers predict an increase in per hectare production of 4 percent to 1100 kilograms of milksolids per hectare.

The net cash income is budgeted to be \$1.423 million, which is 4 percent higher than 2009/10. At \$2650 per cow this is the same as the previous year.

### FARM WORKING EXPENDITURE BUDGETED TO INCREASE

Farm working expenditure is expected to increase 9 percent compared with 2009/10 to \$701 100. This equates to \$3.32 per kilogram of milksolids, which is still lower than the low payout year of 2008/09 where farm working expenditure was \$3.60 per kilogram of milksolids. The improved advance payout means that expenditure is unlikely to be delayed until later in the season.

Farmers are budgeting to keep farm working expenses to \$3.32 per kilogram of milksolids, which industry commentators believe will be difficult to achieve. They suggest that \$3.50 per kilogram of milksolids is possibly nearer the likely final result.

Increases are expected in all expense categories except weed and pest control and other administration. The largest budgeted dollar increases are in labour (up 9 percent to \$144 300) feed (up 8 percent to \$189 900) and fertiliser (up 13 percent to \$107 900). The family and extra farmer labour utilised in 2009/10 are not expected in 2010/11 and farmers are also budgeting for higher wage rates. Feed expenditure is expected to increase as more silage and hay is made and grazing costs are expected to be slightly higher. Farmers expect fertiliser prices to increase but fertiliser industry representatives point out that the price is predicted to stay stable in the short-term.

Few monitored farmers commented on the impact that the New Zealand Emissions Trading Scheme will likely have on increasing costs. Several agribusiness commentators believe that fuel and electricity price increases and the flow on effects to everything associated with those inputs, such as feed, freight, contracting and regrassing, will possibly increase costs to a greater extent than what farmers may be budgeting.

Insurance is expected to increase 20 percent to \$11 200 in 2010/11. This is due to the global financial situation and major natural disasters increasing premiums.

Interest rates are expected to rise slightly in the model for 2010/11 (up 0.3 percentage points). Industry commentators believe that floating interest rates are likely to increase by up to 2.5 percentage points over the

next two years. More farmers have their term loans on floating interest rates than in the past. However, the majority of farms and the model still have fixed interest rate term loans. Peak and average overdraft levels are likely to be less than in 2008/09. The model predicts no principal repayments in 2010/11.

## FARM PROFIT BEFORE AND AFTER TAX

Farm profit before tax is expected to decrease 7 percent to \$356 800. Tax bills in 2010/11 are expected to be significantly higher (by \$112 400) as terminal tax and higher provisional tax payments fall due based on the previous year's higher earnings. Accountants believe farmers will take advantage of any tax smoothing mechanisms available, such as income equalisation, to manage their tax liabilities. Farm profit after tax for the model is budgeted to be \$193 700, down 42 percent on 2009/10.

The model is budgeting to purchase additional shares in 2010/11 to cover the increased 2010/11 production. After capital, (including Fonterra shares), development and drawings, the model is budgeting for a \$151 100 farm surplus for reinvestment, which is 42 percent less than 2009/10. At 1 July 2010, total liabilities make up 50 percent of the total farm assets.

## INFORMATION ABOUT THE MODEL

The Southland dairy model represents the production from the 809 dairy farms in Southland. The model is a family-run farm that supplies milk to the Fonterra factory at Edendale. Around 61 percent of Southland dairy farms are classified as owner-operated. Equity partnerships are becoming a bigger feature of ownership structures in Southland.

The model continues to increase to represent the expansion occurring in Southland. In 1995, the model was a 130 hectare stand-alone farm. In 2010, it is 192 hectares with a 68-hectare run-off.

Many farms in Southland are relatively new, being less than six years old. The model is created by collecting data from 25 farms and a wide cross-section of agribusiness representatives. The aim of the model is to represent the typical owner-operated farm in Southland.

For more information on the model contact: [trish.burrough@maf.govt.nz](mailto:trish.burrough@maf.govt.nz)

### PUBLISHER

Ministry of Agriculture and Forestry  
PO Box 2526, Wellington 6140, New Zealand  
Tel +64 4 894 0100 or Freephone 0800 008 333  
Email: [policy.publications@maf.govt.nz](mailto:policy.publications@maf.govt.nz)  
Web: [www.maf.govt.nz](http://www.maf.govt.nz)

ISBN 978-0-478-36368-5 (Online)

© Crown copyright – Ministry of Agriculture and Forestry August 2010

### DISCLAIMER

The information in this report by the Ministry of Agriculture and Forestry is based on the best information available to the Ministry at the time it was drawn up and all due care was exercised in its preparation. As it is not possible to foresee all uses of this information or to predict all future developments and trends, any subsequent action that relies on the accuracy of the information in this report is the sole commercial decision of the user and is taken at his/her own risk. Accordingly, the Ministry of Agriculture and Forestry disclaims any liability whatsoever for any losses or damages arising out of the use of this information, or in respect of any actions taken.

**New Zealand Government**

