

# CANTERBURY DAIRY

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

The model represents approximately 770 dairy farms throughout Canterbury and north Otago. It represents a farm that is mainly spray irrigated with some border irrigation, and does not own a run-off.

## KEY POINTS

- › Extreme shifts in weather conditions during 2008/09 saw production per cow fall by 4 percent to 397 kilograms of milksolids per cow. Production is expected to more than recover in 2009/10 with an expected 5 percent increase.
- › Net cash income fell a substantial 29 percent (down \$658 700), mainly due to the reduced payout. A further fall of 5 percent in net cash income is expected for 2009/10 due to the continuing fall in milk payout.
- › Farm working expenses rose 8 percent (up \$82 600) during 2008/09, mainly due to higher feed and fertiliser expenditure earlier in the year when the expected payout was at \$7.00 per kilogram of milksolids. Farmers plan to cut back expenses by 7 percent in 2009/10 compared with 2008/09.
- › The reduced payout coupled with a drop in production and higher costs resulted in a \$45 500 loss before tax in 2008/09 for the Canterbury dairy model. A further loss of \$40 500 before tax is expected in 2009/10.
- › Anecdotally, farmers in Canterbury are cautiously optimistic about the longer term prospects in dairying as they grapple with the current economic downturn.

»» TABLE 1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE CANTERBURY DAIRY MODEL<sup>1</sup>

YEAR ENDED 30 JUNE	2005/06	2006/07	2007/08	2008/09	2009/10 BUDGET
Effective area (ha)	195	203	210	210	210
Cows wintered (head)	647	700	720	733	733
Replacement heifers (head)	162	170	180	183	183
Cows milked 15th December (head)	621	682	691	705	705
Stocking rate (cows/ha)	3.2	3.4	3.3	3.4	3.4
Total milksolids (kg)	246 500	268 708	286 000	280 123	294 129
Milksolids per ha (kg/ha)	1 264	1 324	1 362	1 334	1 401
Milksolids per cow milked (kg/cow)	397	394	414	397	417
MS advance to end June (\$/kg)	3.60	3.62	6.60	4.15	3.74
MS deferred payment (\$)	0.64	0.50	0.81	1.00	1.05
Net cash income (\$)	1 130 400	1 187 000	2 234 000	1 575 300	1 503 600
Farm working expenses (\$)	697 400	805 500	1 051 000	1 133 600	1 048 700
Farm profit before tax (\$)	174 000	99 000	873 000	-45 500	-40 500
Farm surplus for reinvestment <sup>2</sup> (\$)	73 200	-37 900	585 700	-74 900	-20 200

### 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: CANTERBURY 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 (\$)	
<b>REVENUE</b>							
Milksolids	1 448 500	2 055	5.17	1 394 200	1 978	4.74	-4
Cattle	115 500	164	0.41	103 900	147	0.35	-10
Other farm income	30 800	44	0.11	23 300	33	0.08	-24
<b>LESS:</b>							
Cattle purchases	19 500	28	0.07	17 800	25	0.06	-9
<b>Net cash income</b>	<b>1 575 300</b>	<b>2 234</b>	<b>5.62</b>	<b>1 503 600</b>	<b>2 133</b>	<b>5.11</b>	<b>-5</b>
<b>Farm working expenses</b>	<b>1 133 600</b>	<b>1 608</b>	<b>4.05</b>	<b>1 048 700</b>	<b>1 487</b>	<b>3.57</b>	<b>-7</b>
<b>Cash operating surplus</b>	<b>441 600</b>	<b>626</b>	<b>1.58</b>	<b>455 000</b>	<b>645</b>	<b>1.55</b>	<b>3</b>
Interest	414 800	588	1.48	409 200	580	1.39	-1
Rent and/or leases	0	0	0.00	0	0	0.00	..
Stock value adjustment	8 500	12	0.03	3 700	5	0.01	-57
Minus depreciation	80 800	115	0.29	89 900	128	0.31	11
<b>Farm profit before tax</b>	<b>-45 500</b>	<b>-65</b>	<b>-0.16</b>	<b>-40 500</b>	<b>-57</b>	<b>-0.14</b>	<b>-11</b>
Taxation	23 000	33	0.08	900	1	0.00	-96
<b>Farm profit after tax</b>	<b>-68 500</b>	<b>-97</b>	<b>-0.24</b>	<b>-41 400</b>	<b>-59</b>	<b>-0.14</b>	<b>-40</b>
Add back depreciation	80 800	115	0.29	89 900	128	0.31	11
Reverse stock value adjustment	-8 500	-12	-0.03	-3 700	-5	-0.01	-57
Off-farm income	0	0	0.00	0	0	0.00	..
<b>Discretionary cash</b>	<b>3 700</b>	<b>5</b>	<b>0.01</b>	<b>44 800</b>	<b>64</b>	<b>0.15</b>	<b>1098</b>
<b>APPLIED TO:</b>							
Net capital purchases	100 000	142	0.36	78 300	111	0.27	-22
Development	115 000	163	0.41	60 600	86	0.21	-47
Principal repayments	7 000	10	0.02	7 100	10	0.02	1
Drawings	78 600	111	0.28	65 000	92	0.22	-17
New borrowings	300 000	426	1.07	0	0	0.00	-100
Introduced funds	0	0	0.00	32 700	46	0.11	..
<b>Cash surplus/deficit</b>	<b>3 100</b>	<b>4</b>	<b>0.01</b>	<b>-133 400</b>	<b>-189</b>	<b>-0.45</b>	<b>-4343</b>
<b>Farm surplus for reinvestment<sup>2</sup></b>	<b>-74 900</b>	<b>-106</b>	<b>-0.27</b>	<b>-20 200</b>	<b>-29</b>	<b>-0.07</b>	<b>-73</b>
<b>ASSETS AND LIABILITIES</b>							
Farm, forest and building (opening) <sup>3</sup>	9 432 000	13 379	33.67	9 875 700	14 008	33.58	5
Plant and machinery (opening)	205 300	291	0.73	274 500	389	0.93	34
Stock valuation (opening)	1 035 100	1 468	3.70	1 043 700	1 480	3.55	1
Dairy company shares	1 593 000	2 260	5.69	1 292 700	1 834	4.40	-19
Other farm related investments (opening)	0	0	0.00	0	0	0.00	..
<b>Total farm assets</b>	<b>12 265 500</b>	<b>17 398</b>	<b>43.79</b>	<b>12 486 600</b>	<b>17 712</b>	<b>42.45</b>	<b>2</b>
<b>Total liabilities (opening)<sup>4</sup></b>	<b>5 176 200</b>	<b>7 342</b>	<b>18.48</b>	<b>5 569 200</b>	<b>7 900</b>	<b>18.93</b>	<b>8</b>
<b>Total equity (assets-liabilities)</b>	<b>7 089 200</b>	<b>10 056</b>	<b>25.31</b>	<b>6 917 400</b>	<b>9 812</b>	<b>23.52</b>	<b>-2</b>

**Notes**

1 Figures may not add to totals due to rounding.

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.

3 Farm, forest and building values have been adjusted up compared to 2007/08 to make the model farm more representative of the region.

4 Debt levels have been adjusted up compared to 2007/08 to make the model farm more representative of the region.

**Symbol**

.. Not applicable.

»» TABLE 3: CANTERBURY 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 (\$)	
<b>FARM WORKING EXPENSES</b>							
Permanent wages	179 400	254	0.64	177 700	252	0.60	-1
Casual wages	0	0	0.00	0	0	0.00	..
ACC	4 200	6	0.01	4 800	7	0.02	14
<b>Total labour expenses</b>	<b>183 600</b>	<b>260</b>	<b>0.66</b>	<b>182 400</b>	<b>259</b>	<b>0.62</b>	<b>-1</b>
Animal health	57 500	82	0.21	57 500	82	0.20	0
Breeding	29 700	42	0.11	29 700	42	0.10	0
Dairy shed expenses	13 700	19	0.05	13 200	19	0.04	-4
Electricity	60 000	85	0.21	66 300	94	0.23	10
Feed (hay and silage)	120 600	171	0.43	101 500	144	0.35	-16
Feed (feed crops)	0	0	0.00	0	0	0.00	..
Feed (grazing)	152 300	216	0.54	120 600	171	0.41	-21
Feed (other)	121 300	172	0.43	113 900	162	0.39	-6
Fertiliser	150 200	213	0.54	135 400	192	0.46	-10
Lime	4 200	6	0.02	4 200	6	0.01	0
Freight (not elsewhere deducted)	9 200	13	0.03	9 200	13	0.03	0
Regrassing costs	15 400	22	0.06	8 100	12	0.03	-47
Weed and pest control	6 800	10	0.02	6 800	10	0.02	0
Fuel	20 400	29	0.07	20 400	29	0.07	0
Vehicle costs (excluding fuel)	24 800	35	0.09	23 000	33	0.08	-8
Repairs and maintenance	81 500	116	0.29	74 700	106	0.25	-8
<b>Total other working expenses</b>	<b>867 700</b>	<b>1 231</b>	<b>3.10</b>	<b>784 400</b>	<b>1 113</b>	<b>2.67</b>	<b>-10</b>
Communication costs (phone and mail)	5 600	8	0.02	5 600	8	0.02	0
Accountancy	4 200	6	0.02	4 200	6	0.01	0
Legal and consultancy	3 500	5	0.01	3 500	5	0.01	0
Other administration	12 000	17	0.04	16 400	23	0.06	36
Water charges (irrigation)	13 900	20	0.05	14 000	20	0.05	2
Rates	13 400	19	0.05	13 400	19	0.05	0
Insurance	10 600	15	0.04	12 000	17	0.04	13
Other expenditure <sup>2</sup>	19 100	27	0.07	12 500	18	0.04	-35
<b>Total overhead expenses</b>	<b>82 400</b>	<b>117</b>	<b>0.29</b>	<b>81 800</b>	<b>116</b>	<b>0.28</b>	<b>-1</b>
<b>Total farm working expenses</b>	<b>1 133 600</b>	<b>1 608</b>	<b>4.05</b>	<b>1 048 700</b>	<b>1 487</b>	<b>3.57</b>	<b>-7</b>
Wages of management	85 000	121	0.30	85 000	121	0.29	0
Depreciation	80 802	115	0.29	89 900	128	0.31	11
<b>Total farm operating expenses</b>	<b>1 299 400</b>	<b>1 843</b>	<b>4.64</b>	<b>1 223 600</b>	<b>1 736</b>	<b>4.16</b>	<b>-6</b>
<b>CALCULATED RATIOS</b>							
Economic farm surplus (EFS <sup>3</sup> )	284 400	403	1.02	283 700	402	0.96	
Farm working expenses/NCI <sup>4</sup>	72%			70%			
EFS/total farm assets	2.3%			2.3%			
EFS less interest and lease/equity	-1.8%			-1.8%			
Interest+rent+lease/NCI	26.3%			27.2%			
EFS/NCI	18.1%			18.9%			

**Notes**

1 Figures may not add to totals due to rounding.

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

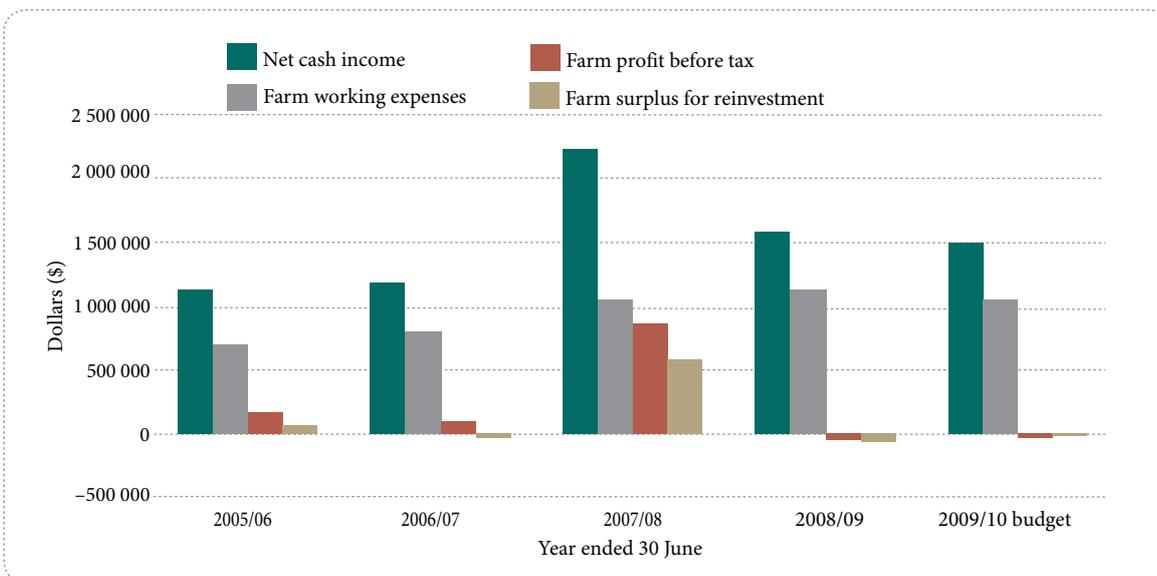
3 EFS (or earnings before interest and tax) is calculated as follows: net cash income plus change in livestock values less farm working expenses less depreciation less wages of management (WOM). WOM is calculated as follows: \$38 000 allowance for labour input plus 1 percent of opening total farm assets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

4 Net cash income.

**Symbol**

.. Not applicable.

»» FIGURE 1: CANTERBURY DAIRY MODEL PROFITABILITY TRENDS



## FINANCIAL PERFORMANCE OF THE CANTERBURY DAIRY MODEL FARM IN 2008/09

The cash operating surplus for the Canterbury dairy model fell a substantial 63 percent to \$441 600 in 2008/09, compared with the 2007/08 year. This reflects the lower payout for the 2008/09 season, coupled with a drop in production and higher farm working expenses.



### REVENUE PLUMMETS

The 2008/09 season was difficult with net cash income declining 29 percent (\$658 700), mainly due to the significantly lower milksolids payout. A wet winter in 2008 was followed by a dry spring, and then the season ended early when cool and very wet conditions arrived in May 2009. This meant lower than anticipated production, which further depressed farm income expenses.

### REDUCED PAYOUT

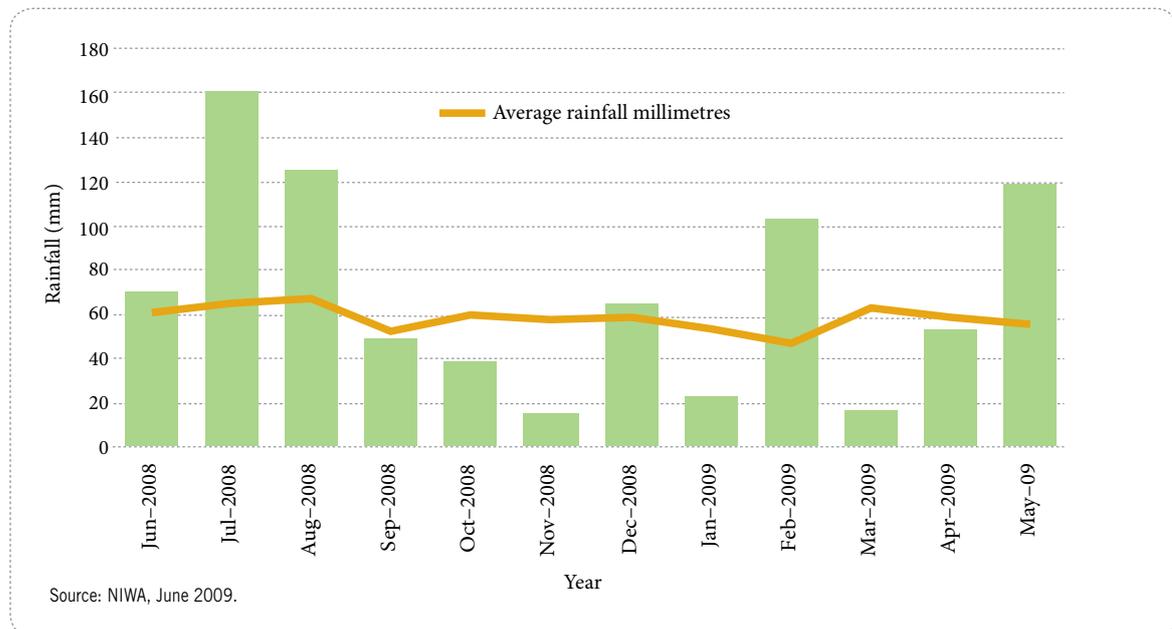
Commodity prices fell sharply on the back of the global economic crisis, resulting in an unprecedented series of reducing payout announcements during the year. This saw the June advance payout for the 2008/09 season fall to \$4.15 per kilogram of milksolids, \$2.45 per kilogram of milksolids lower than the previous season. The deferred payout for milk supplied in the previous season was \$1.00 per kilogram of milksolids in 2008/09, up 19 cents on 2007/08.

### WEATHER LOWERS PRODUCTION

Production for the model farm in 2008/09 fell by 2 percent (to 280 100 kilograms of milksolids) resulting from the atypical weather conditions occurring throughout the year. Overall milk production per cow was down 17 kilograms, to 397 kilograms of milksolids per cow.

The 2008 winter was extremely wet with more than double the long term average rainfall in July. This quickly proceeded into a dry and hot late spring/early summer. There were 13 additional soil moisture deficit days (to 25 days) in November and an additional eight soil moisture deficit days in January (to 27 days) compared to the long-term average.

»» FIGURE 2: LINCOLN RAINFALL 2008/09 ACTUAL VERSUS MEAN



Run-of-river irrigation schemes (excluding the Waitaki River) were restricted at times but not to a level causing significant concern. The exception was the Waimakariri irrigation scheme which had 38 days of no irrigation and two days' restriction, causing feed issues for farms solely dependent on this source.

Much relief was seen in February with more than double the average rainfall helping to increase the supply of feed in Canterbury. However, cooler temperatures and very wet weather returned in May, forcing the season to end seven to ten days prematurely compared with the previous year.

Compared with the 2007/08 season, production per cow declined for most of the monitored farms.

## EXPENDITURE CONTINUES TO CLIMB

Total farm working expenses rose 8 percent in 2008/09, up \$82 600 to \$1 133 600, compared with the previous season. The main contributors were expenditure on feed and fertiliser as a result of commitments made at the start of the season when the industry was expecting a milk payout of \$7.00. While electricity charges in the model budget also fell compared with 2007/08, some of this was due to reallocating irrigation expenses to the water charges expense category.

## FEED COSTS VOLATILE

Grazing and "other" supplementary feed expenditure continued to rise for the model farm while purchased hay and silage fell compared with 2007/08. Feed prices for the 2008/09 season were extremely volatile during the year mainly due to the reducing milk payout and changeable weather conditions.

Winter cow grazing prices were around \$23 to \$25 per head per week. Heifer grazing rates lifted by \$2 per head per week in the spring, before easing back down by the end of autumn 2009.

Maize was contracted in spring for up to 32 cents per kilogram of dry matter, but in the autumn maize silage prices dropped to 20 cents per kilogram of dry matter mainly due to the reduced payout and good supplies of palm kernel available. Many farmers however, were locked into higher priced contracts set in spring.

Barley prices also fluctuated, peaking at \$490 per tonne in October 2008, up from \$440 per tonne in May

2008. February saw some relief with the good growing conditions causing a drop in price to \$320 per tonne.

Industry commentators note that the hay and silage stocks were low at the close of the 2008/09 season.

#### FERTILISER EXPENDITURE SIGNIFICANTLY HIGHER

Despite prices for fertiliser falling during the 2008/09 year, fertiliser expenditure rose by 31 percent to \$150 200. Most fertiliser was applied in spring when fertiliser prices were at their peak and the milksolids payout prospect was good.

Overall application rates were down for the year, despite the price reprieve later in the season as this coincided with the reduction in milksolids payout. Regionally, fertiliser sale volumes were down by about a fifth for 2008/09, compared with 2007/08.

#### INTEREST RATE RELIEF

The model's interest payments rose compared with 2007/08, due to an adjustment of the model's mortgage value to better reflect debt levels on the 30 Canterbury monitored farms. Overall, interest rates have fallen for the model farm compared with the previous year.

#### SUBSTANTIAL DETERIORATION IN NET RESULT

Compared with 2007/08, farm profit before tax decreased by \$918 500 to a loss of \$45 500 in 2008/09. In addition to this, terminal tax from the previous year (\$23 000) led to an after tax loss of \$68 500 on the model farm.

#### CAPITAL AND DEVELOPMENT EXPENDITURE COMMITTED

Overall, the model showed a small cash surplus of \$3100 in 2008/09, compared with a surplus of \$311 800 in 2007/08. Committed capital and development expenditure planned at the start of the season was funded by new borrowings in order for the model to breakeven. In the absence of the new borrowing, the model would have finished the year with a cash deficit of approximately \$297 000.

The model's land and building valuation has been adjusted up for the 2008/09 year to better align with the monitored farms' information. This means that land and building valuations can not be compared between 2007/08 and 2008/09.

## BUDGET FINANCIAL PERFORMANCE OF THE CANTERBURY DAIRY MODEL FARM IN 2009/10

The Canterbury dairy model's cash operating surplus is expected to rise by 3 percent to \$455 000 for the 2009/10 year, despite an expected fall in revenue based on the payout forecast of \$4.55 per kilogram of milksolids for the 2009/10 season. The drop in revenue is expected to be more than offset by reductions in expenditure as farmers intend to cut expenses back based on the recent payout announcement.

#### REVENUE EXPECTED TO FALL

Net cash income is expected to fall by 5 percent (down \$71 600) in 2009/10, compared with 2008/09. All sources of revenue (milksolids, cattle income and other income) are expected to fall compared with 2008/09. Despite the drop in the milksolids payout, an anticipated rise in milksolids production of 5 percent (to 294 100 kilograms) is expected to soften the financial impact. However, the potential for feed shortages to



develop by the spring has led some commentators to note that this production increase may be difficult to achieve.

### **EXPENDITURE ANTICIPATED TO EASE**

Farm working expenses are expected to drop by 7 percent compared with 2008/09, to \$1 048 700, as farmers try and trim back expenses. Industry commentators note that while Canterbury dairy farmers will need to budget on lower expenditure in 2009/10, in practice this will be hard to accomplish unless a lower input system is adopted.

The model farm is budgeting mainly on reducing expenditure for feed, fertiliser, regrassing and repairs and maintenance, compared with 2008/09 expenditure levels.

#### **FEED PRICES FALL**

Overall, total feed expenditure is expected to drop by 15 percent (down \$58 200). A good supply of palm kernel is expected to help keep supplement and grazing prices down along with a surplus of winter grazing availability seen at the start of the season. Industry commentators warn, however, that while herds dried off earlier in May 2009, low stocks of feed stored by farmers from last season and continued variable climatic conditions could lead to a feed shortage by spring, forcing prices back up. In addition, a better performing sheep and beef sector could also add upward pressure on feed prices.

#### **FERTILISER EXPENDITURE EASES BACK**

Easing fertiliser prices mean that the model farm expects to reduce its fertiliser expenditure by 10 percent (down \$14 800) compared with 2008/09, even with slightly more urea being applied than last season. However, compared with two years ago (2007/08), fertiliser expenditure in 2009/10 is expected to be 18 percent higher, despite less fertiliser being applied. Farmers are expected to spread their fertiliser application more evenly between spring and autumn this year, with some farmers even planning to delay their spring application to help manage their cash flow. This differs from the 2008/09 year when the majority of fertiliser was applied in spring 2008.

To try and hold expenditure, the model farm also expects to cut back on regrassing and repairs and maintenance expenditure. Anecdotally, farmers plan to only regrass when required this year rather than carrying out routine regrassing as seen in previous years.

While interest rates have continued to soften, total interest expenditure rose slightly due to an increase in the model farm's long term debt. The principal payments shown in the model cover short term debt including hire purchases.

### **NET RESULT REMAINS NEGATIVE**

The Canterbury dairy model expects a farm loss before tax of \$40 500 in 2009/10. Discretionary cash is budgeted at \$44 800, after depreciation and the stock valuation adjustments are removed.

A cash deficit of \$133 400 is expected after allowing for capital and development expenditure and drawings. However, this deficit has been moderated by \$32 700 of introduced funds as the model farm plans to sell surplus shares.

Drawings for the model farm are budgeted to be down by \$13 600 or 17 percent to help the overall net position. While not all of the monitored farms plan to reduce drawings, none of the monitored farms are planning to increase them.

## CAPITAL AND DEVELOPMENT DOWN

Capital expenditure is expected to remain at a relatively high level for the model (compared with the fall in revenue for the year) as projects from the previous year are completed during 2009/10.

It is anticipated that the region will see a substantial reduction in development projects during the year. Development expenditure for the model farm is expected to reduce by almost half, compared with 2008/09.

Capital and development expenditure levels vary significantly between the monitored farms. Some farms plan to spend little if anything on capital and development while other monitored farms plan to spend substantially more than the model farm budget.

While the model farm land and building value has increased by 5 percent (up \$443 700) as at July 2009 when compared with the previous year, industry commentators note that a downward “correction” in farm valuations is likely to occur during 2009/10.

## INFORMATION ABOUT THE MODEL

The model represents approximately 770 dairy farms throughout Canterbury and north Otago. It represents a farm that has a mix of spray and border irrigation, and does not own a run-off. All off-farm winter grazing costs are included as feed costs.

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 Canterbury. 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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