



CANTERBURY DAIRY

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

KEY POINTS

- The 2011/12 season was noted by Canterbury dairy farmers as the “best season ever” for weather and grass growth. Milk production was at record levels as a result of the favourable season.
- Net cash income for 2011/12, at \$2 146 000, was 3 percent lower than 2010/11 due to a 5 percent drop in milk payout. A significant drop is forecast in 2012/13, to \$1 729 000, mainly as a result of a 19 percent drop in milk payout.
- Farm working expenses, at \$1 221 000, were up 4 percent in 2011/12 and are expected to remain stable in 2012/13. Although farmers have a relatively tight rein on expenditure, it is sufficient to allow production to continue at the present high rate.
- Farm profit before tax, at \$524 000 in 2011/12, was sufficient for significant expenditure on discretionary items such as repairs and maintenance. In 2012/13, this figure is expected to reduce to \$150 000. With reduced discretionary expenditure, a break-even cash position can be achieved.
- Farmer morale is high after such a good production season, with cow condition and feed position being good to start the 2012/13 season.

Table 1: Key parameters, financial results and budget for the Canterbury dairy model

Year ended 30 June	2008/09	2009/10 ¹	2010/11 ²	2011/12 actual	2012/13 budget
Effective area (ha)	210	210	210	210	210
Cows wintered (head)	733	739	750	769	769
Replacement heifers (head)	183	185	175	180	180
Cows milked 15th December (head)	705	711	711	711	715
Stocking rate (cows/ha)	3.4	3.4	3.4	3.4	3.4
Total milksolids (kg)	280 123	291 510	283 080	295 065	293 150
Milksolids per ha (kg/ha)	1 334	1 388	1 348	1 405	1 396
Milksolids per cow milked (kg/cow)	397	410	398	415	410
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 (\$)	1 575 300	1 912 826	2 212 648	2 145 968	1 728 766
Farm working expenses (\$)	1 133 600	1 058 141	1 173 594	1 221 485	1 230 227
Farm profit before tax(\$)	-45 500	376 866	605 039	524 052	149 703
Farm surplus for reinvestment ³ (\$)	-74 900	278 741	415 729	266 895	24 339

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 parameters have been updated as from 2010/11 using the latest dairy statistics. Caution should be used in comparing with earlier published material.

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: Canterbury 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	1 939 537	2 728	6.57	1 540 665	2 155	5.26
Dividend on wet shares	90 368	127	0.31	94 421	132	0.32
Cattle	114 898	162	0.39	93 760	131	0.32
Other farm income	8 245	12	0.03	5 800	8	0.02
Less:						
Cattle purchases	7 080	10	0.02	5 880	8	0.02
Net cash income	2 145 968	3 018	7.27	1 728 766	2 418	5.90
Farm working expenses	1 221 485	1 718	4.14	1 230 227	1 721	4.20
Cash operating surplus	924 483	1 300	3.13	498 539	697	1.70
Interest	360 000	506	1.22	330 000	462	1.13
Rent and/or leases	0	0	0.00	0	0	0.00
Stock value adjustment	0	0	0.00	16 945	24	0.06
Minus depreciation	40 431	57	0.14	35 780	50	0.12
Farm profit before tax	524 052	737	1.78	149 703	209	0.51
Income equalisation	0	0	0.00	0	0	0.00
Taxation	217 588	306	0.74	64 199	90	0.22
Farm profit after tax	306 464	431	1.04	85 504	120	0.29
Allocation of funds						
Add back depreciation	40 431	57	0.14	35 780	50	0.12
Reverse stock value adjustment	0	0	0.00	-16 945	-24	-0.06
Drawings	80 000	113	0.27	80 000	112	0.27
Farm surplus for reinvestment¹	266 895	375	0.90	24 339	34	0.08
Reinvestment						
Net capital purchases	24 905	35	0.08	16 069	22	0.05
Development	170 000	239	0.58	70 000	98	0.24
Principal repayments	0	0	0.00	0	0	0.00
Farm cash surplus/deficit	71 990	101	0.24	-61 729	-86	-0.21
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	60 000	84	0.20
Off-farm income	0	0	0.00	0	0	0.00
Net cash position	71 990	101	0.24	-1 729	-2	-0.01
Assets and Liabilities						
Farm, forest and building (opening)	9 022 000	12 689	30.58	9 022 000	12 618	30.78
Plant and machinery (opening)	204 542	288	0.69	173 861	243	0.59
Stock valuation (opening)	1 844 401	2 594	6.25	1 844 401	2 580	6.29
Dairy company shares	1 317 625	1 853	4.47	1 333 694	1 865	4.55
Other farm-related investments (opening)	0	0	0.00	0	0	0.00
Total farm assets	12 388 568	17 424	41.99	12 373 956	17 306	42.21
Total liabilities (opening)	5 550 000	7 806	18.81	5 500 000	7 692	18.76
Total equity (assets-liabilities)	6 838 568	9 618	23.18	6 873 956	9 614	23.45

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: Canterbury 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	212 589	299	0.72	216 645	303	0.74
Casual wages	24 885	35	0.08	19 305	27	0.07
ACC	8 023	11	0.03	7 172	10	0.02
Total labour expenses	245 497	345	0.83	243 122	340	0.83
Animal health	66 123	93	0.22	70 785	99	0.24
Breeding	32 706	46	0.11	32 175	45	0.11
Dairy shed expenses	14 220	20	0.05	16 445	23	0.06
Electricity	49 059	69	0.17	68 640	96	0.23
Feed (hay and silage)	132 000	186	0.45	124 440	174	0.42
Feed (feed crops)	0	0	0.00	0	0	0.00
Feed (grazing)	235 590	331	0.80	240 789	337	0.82
Feed (other)	25 000	35	0.08	25 009	35	0.09
Fertiliser	144 333	203	0.49	140 855	197	0.48
Lime	4 977	7	0.02	4 290	6	0.01
Freight (not elsewhere deducted)	10 665	15	0.04	9 295	13	0.03
Regrassing costs	14 220	20	0.05	12 155	17	0.04
Weed and pest control	6 399	9	0.02	6 435	9	0.02
Fuel	21 330	30	0.07	28 600	40	0.10
Vehicle costs (excluding fuel)	24 174	34	0.08	22 165	31	0.08
Repairs and maintenance	109 494	154	0.37	93 665	131	0.32
Total other working expenses	890 290	1 252	3.02	895 743	1 253	3.06
Communication costs (phone and mail)	4 977	7	0.02	5 005	7	0.02
Accountancy	4 977	7	0.02	5 005	7	0.02
Legal and consultancy	4 977	7	0.02	4 290	6	0.01
Other administration	2 133	3	0.01	2 145	3	0.01
Water charges (irrigation)	17 775	25	0.06	22 165	31	0.08
Rates	17 064	24	0.06	17 160	24	0.06
Insurance	18 486	26	0.06	20 020	28	0.07
ACC employer	4 686	7	0.02	5 019	7	0.02
Other expenditure ¹	10 622	15	0.04	10 553	15	0.04
Total overhead expenses	85 698	121	0.29	91 363	128	0.31
Total farm working expenses	1 221 485	1 718	4.14	1 230 227	1 721	4.20
Calculated ratios						
Economic farm surplus (EFS ²)	799 052	1 124	2.71	394 703	552	1.35
Farm working expenses/NCI ³	57%			71%		
EFS/total farm assets	6.4%			3.2%		
EFS less interest and lease/equity	6.4%			0.9%		
Interest+rent+lease/NCI	16.8%			19.1%		
EFS/NCI	37.2%			22.8%		
Wages of management	85 000	120	0.29	85 000	119	0.29

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 CANTERBURY DAIRY MODEL FARM IN 2011/12

REVENUE DOWN, DESPITE RECORD PRODUCTION

Total revenue was down by \$66 700 (3 percent) on the 2010/11 season, at \$2 146 000. Most of this change was caused by the 5 percent drop in milk payout from last year, leading to a drop in milk revenue of \$92 000. The drop in milk payout was partially offset by record milk production, up 4 percent over 2010/11.

“Best season ever” weather wise

The 2011/12 season was noted by many experienced Canterbury dairy farmers as the “best season ever” for weather and grass growth. The season was notable for its consistency of weather conditions. Stable soil temperatures, regular rainfall and relatively low air temperatures resulted in low evapotranspiration. This combination of factors created ideal conditions for grass growth.

After a wet start, the 2011 winter was dry underfoot with good feed utilisation on ample winter feed. The season started with favourable cow condition and feed covers. A cooler, dry spring ensured feed was well utilised once milking started. High-quality supplements were used by many farmers to get cows to a strong peak.

Strong growth rates in late spring challenged the skills of farmers to maintain feed quality. Many were forced to make silage on the milking platform for the first time ever to maintain feed quality. Some farmers dropped nitrogen use during this period, because more than enough feed was being produced.

Apart from a four-week period in late January, which challenged the irrigation schemes to supply sufficient moisture during lower river levels, it was a perfect season weather-wise.

Farmers were led into a false sense of security in April because of good pasture covers. This resulted in more than the usual number of cull cows being taken through further into the season and farmers not feeding enough autumn supplement. As a consequence, pasture covers came under pressure and cows were typically dried off five days early. Cow condition at drying off was excellent and has continued the desired

practice of achieving good cow condition going into winter. Winter feed reserves were sound, with high-quality winter feed crops on both dryland and irrigated properties.

Record seasonal production

As a result of the favourable season, production was up on the Canterbury dairy farm to 295 065 kilograms of milksolids. Production per cow lifted 4 percent from 398 kilograms of milksolids in 2010/11 to 415 kilograms of milksolids in 2011/12. This increase was achieved with a corresponding drop in expenses relating to the running cost of irrigation and, in some cases, reduced nitrogen use. Irrigation was used nearly half as much as in a “normal” season. There was an increase in supplementary feed costs however, associated with milking more cows for longer.

Dairy processors experienced an increase of production and achieved record milk throughput both in terms of peak and total seasonal production.

Lower payout

Total revenue was down \$66 700 (3 percent) on the 2010/11 season, at \$2 146 000. Most of this change was because of a 5 percent drop in milk payout from the 2010/11 year, leading to a drop in milk revenue of \$92 000. The drop in milk payout was partially offset by record production. The drop in revenue was also partially offset by a 12 percent increase in cattle sales. However, at a total of \$115 000, cattle sales are a small proportion of the total income.

The total 2011/12 payout received within the season (milksolids plus dividend) was \$6.88 per kilogram of milksolids, compared with \$7.46 per kilogram of milksolids received in the 2010/11 year. The 2011/12 payout experienced a significant decrease relatively late in the season, in mid-May 2012. Farmers had not anticipated this decrease for the 2011/12 season, as they were expecting it to occur in the following 2012/13 season. The late notice of the decrease meant farmers had little time to make material changes to their farm expenditure programme and cost structure towards the end of the season.

EXPENSES HELD IN CHECK

Farm working expenses for the 2011/12 season, of \$1 221 000 (\$4.14 per kilogram of milksolids), were maintained at similar levels (up 4 percent) to 2010/11, at \$1 174 000 (\$4.15 per kilogram of milksolids). This result is due in part to the slightly higher production per hectare. Maintaining farm working expenditure has been helped by a profitable season. Inflationary pressures on inputs and commodities were offset by lower input use, especially feed and irrigation power use.

Feed costs of \$552 per cow in 2011/12 were similar to 2010/11, at \$557 per cow. Grain and feed prices started below 2010/11 levels but rose steadily throughout the season, peaking at harvest. These price rises were offset by less supplementary feed use, especially through March with the favourable pasture growth. The types of farm feeding programmes and feed use are growing. Farms vary from 300 kilograms of dry matter of supplement per cow to above 1500 kilograms of dry matter per cow. This is having an impact on productivity and cost structures, with a wide range appearing between farms. On the monitored farms, total feed expenditure varied from \$193 to \$984 per cow.

Fertiliser expenses, at \$745 per hectare in 2011/12, were 8 percent higher than the 2010/11 result of \$691 per hectare. This was mainly due to the price of urea and super phosphate lifting 10 percent over the period, resulting in fertiliser usage being cut slightly with lower use of nitrogen. The use of Eco-N (a nitrification inhibitor) is increasing. It is coded to fertiliser usage and is expected to increase fertiliser costs in future seasons.

Regrassing continued with a slight lift in costs, and the area being regressed remained stable. Farmers recognise the benefits and target poor performing paddocks that will give them good returns under irrigation. Good irrigation systems are helping retain pasture vigour for longer, but catch-up regressing is still occurring on many farms.

Animal health and breeding costs continued to rise, up 6 percent during the 2011/12 season. With the rules on induction of cows tightening, farmers are seeking alternatives to improve reproductive performance of cows. The empty rates of cows varied significantly this season. Some farmers, who finished mating early to avoid induction, paid the price of a higher empty rate

and more culls. This will limit their ability to improve herd productivity.

Farmers are using more intervention products, especially around udder health, with a continued strong drive around improving milk quality.

Fuel costs remained stable for another year. Fuel use has dropped over the past three-to-four years, with farmers focusing on using high-concentrate feeds of grain and palm kernel extract. These do not have a high cost of on-farm feeding compared with traditional supplements. Power costs were 17 percent below last season, which was itself a low-cost year. This is due to the excellent growing conditions, improved awareness of soil moisture monitoring and improved decisions on when to irrigate. An increased proportion of irrigation infrastructure that can apply low rates of water is also contributing to a reduction in costs.

Repairs and maintenance of \$535 per hectare were higher than the 2010/11 result of \$450 per hectare. This category of spend remains the highest discretionary item on the farm. With a reasonable cash-flow year, farmers continued to maintain their farms to a high standard. The highest spend tends to be tracks and lanes, with lanes being capped with a crushed lime product and rolled to a firm surface. This is an expensive process that needs to be repeated every five to 10 years, depending on wear. Irrigation repairs and maintenance expenditure were also high, as farmers adopted a preventative maintenance policy.

STRONG NET RESULT

Farm profit before tax was \$524 000 due to good seasonal production and costs being kept under control. This good result follows the strong 2010/11 surplus of \$605 000.

Development expenditure, at \$170 000, was up 31 percent on the previous year. This expense included the upgrade of effluent systems to increase the amount of storage and irrigation monitoring technology.

Farms continue to focus on sustainable milk harvesting times, with very large farms being split into smaller units and additional cowsheds being built. Farms exceeding 1000 cows are often noting diseconomies of scale.

Spend in the household was maintained at \$80 000, which is up from \$78 600 in 2010/11.

Debt servicing costs continue to drop

Debt servicing has continued to drop, with this

season down 8 percent, at \$1.22 per kilogram of milksolids, compared with \$1.38 per kilogram of milksolids last season. This drop was partially due to a decrease in interest rates and slight debt reduction of \$150 000, the majority of this reducing the overdraft levels. The current debt for the Canterbury dairy model is \$18 per kilogram of milksolids.

By the close of the 2011/12 season, most of the lending was on a short-term basis, with many farmers considering fixing rates for the medium to long-term. This would secure their cost of funding to between 5.5 and 6.5 percent per annum, depending on bank margins and term of debt. With the lower expected payout and pressure on cash flow, this is one risk that farmers can manage.

BUDGET FINANCIAL PERFORMANCE OF THE CANTERBURY DAIRY MODEL FARM IN 2012/13

While monitored farmers are wary of the impact of a payout below \$6.00 per kilogram of milksolids, farmers with their debt under control regard the current Fonterra forecast payout of \$5.70 to \$5.80 per kilogram of milksolids as “liveable”. Many farmers will have to adjust the areas of discretionary expenditure to balance their budget in the coming season, however.

REVENUE EXPECTED TO BE DOWN

Revenue is budgeted to be \$1 729 000, down 19 percent, compared with \$2 146 000 in 2011/12. This comprises a 21 percent drop in milk income and an 18 percent drop in cattle sales income.

Production, at 293 150 kilograms of milksolids, is expected to be back slightly (1 percent) on the previous year. A small increase in the number of cows is expected to be offset by lower per cow production, of 410 kilograms of milksolids. Farmers are relatively confident they can achieve this level of production, based on present cow condition and pasture covers and the increasing use of high-quality feed supplements to achieve a good seasonal peak production.

Farmers are expecting the payout to be much lower in 2012/13. The advance payout to 20 June 2013, of \$4.40 per kilogram of milksolids, compares with \$5.20 per kilogram in 2011/12. It also compares with a much lower deferred payment from 2011/12 of 85 cents per kilogram of milksolids, compared with \$1.39 per kilogram from 2010/11. The result is expected to put pressure on cash flow early in the season, and many farmers may need to renegotiate their level of overdraft peak to trade through this period.

Farmers have budgeted for calf sales to remain stable, but have budgeted 10 percent less for cull cows, with an anticipated drop in the beef schedule.

Most farmers are optimistic about the 2012/13 year, coming off the back of a favourable season.

EXPENDITURE IS UNDER A TIGHT REIN

Farm working expenses for 2012/13 are budgeted to be similar in total (\$5841 per hectare) to 2011/12 (\$5850 per hectare). There will be a slight lift in farm working expenses per kilogram of milksolids from \$4.14 in 2011/12 to \$4.20 in 2012/13, as a result of lower production in 2012/13. This will allow for a satisfactory level of expenditure to maintain farm productivity.

Farmers are expecting irrigation power expenditure to rise back to 2010/11 levels. Fuel and oil costs are expected to be higher and further increases in insurance are expected. Farmers are budgeting for discretionary spending around repairs and maintenance to be tightened considerably.

Feed prices are expected to drop from 2011/12 levels, with grain easing from a peak of \$420 per tonne to an anticipated \$340 per tonne.

NET RESULT

The financial result will be a considerable 71 percent reduction in farm profit before tax, from \$524 000 last year, to an anticipated \$150 000 in 2012/13. This will result in farmers curtailing discretionary expenditure as much as possible.

Tax to be paid in 2012/13 will be back by 70 percent, to \$64 000; capital purchases will be back by 35 percent, to \$16 070; and development expenditure will be back by 59 percent to \$70 000. New borrowing of \$60 000 will allow the farm to break even in terms of cash for the year.

Figure 1: Canterbury dairy model profitability trends



INFORMATION ABOUT THE MODEL

The model represents nearly 1040 dairy farms throughout Canterbury and north Otago. It represents a farm with a mix of spray and border irrigation and that does not own a run-off. All off-farm winter grazing costs are included as feed costs.

The model is drawn from information from 30 monitored farms across the region and a wide cross section of agribusiness

representatives. The model's aim 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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