



PASTORAL MONITORING REPORT

2008

A SHORT-TERM FINANCIAL AND PHYSICAL BUDGET
REFLECTING FARMER AND INDUSTRY PERCEPTIONS
OF FARMING TRENDS AND ISSUES



ACKNOWLEDGEMENTS

This report is produced by:

MAF Policy
PO Box 11016
Hastings 4158

Tel: 64 6 974 8814
Fax: 64 6 974 8801

Data collection services provided by Agriculture NZ Ltd and Meat & Wool New Zealand Ltd. Peter Ettema is the author of the chapter *Nitrate leaching and greenhouse gas emissions*.

FURTHER COPIES

This report can be downloaded from <http://www.maf.govt.nz>.

You can request hard copies from:

Policy Publications
MAF Policy
PO Box 2526
Wellington 6140
Tel: 64 4 894 0252
Email: policy.publications@maf.govt.nz

The *Horticulture and Arable Monitoring Report 2008* was published in October 2008, and covered the kiwifruit, pipfruit, viticulture, arable, vegetable, other export fruit, maize and apiculture sectors.

PUBLISHED BY

MAF Policy
Ministry of Agriculture and Forestry
Pastoral House
25 The Terrace
PO Box 2526
Wellington 6140
New Zealand
Tel: 64 4 894 0100
Fax: 64 4 894 0720
Web: www.maf.govt.nz

© Crown copyright – Ministry of Agriculture and Forestry 2008

ISSN 1178-4377 (Print)
ISSN 1178-4385 (Online)

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 their 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.

FOREWORD

The pastoral sector is of immense importance to New Zealand. It determines much of our land use and is vital for New Zealand's economy, providing almost half of our merchandise export revenue.

One of our core roles at the Ministry of Agriculture and Forestry (MAF) is to help create a prosperous, sustainable and innovative pastoral sector in New Zealand. *The Pastoral Monitoring Report 2008* is compiled annually by MAF to help the sector achieve this goal.

We've already seen that the call for greater environmental accountability around sustainable development is creating both challenges and opportunities for the pastoral sector. This report examines the relationship between the pastoral sector's financial results and its sustainability and productivity. It also provides general information about the production and financial status of dairy, deer, and sheep and beef farms as well as broader trends, issues and sector concerns.

A range of environmental and management indicators are also included in the farm monitoring programme. These indicators allow us to monitor trends over time and improve our understanding of sustainable development and productivity in the pastoral sector.

The models in this report were prepared between June and August 2008 and are based on farmer and industry expectations at that time. At the time of publication, there was significant uncertainty about the world economic situation. This makes the outlook for 2008/09 more difficult to predict. Global commodity prices have fallen and Fonterra has reduced its projected payout for the season. Exchange rates, interest rates and oil prices have also dropped, suggesting that both revenue and expenditure may be lower than initially expected. Seasonal factors will also have an impact on final returns to farmers. The one certainty is that farmers will continue to monitor their expenditure and defer discretionary expenditure until revenues are more certain.

For the first time the pastoral model budgets were released online this year prior to publishing the full report. Each web release highlighted the key points as well as model budget and expenditure for the 2007/08 and 2008/09 years. The feedback about the web releases has been positive so we intend to continue them in future years.

The Pastoral Monitoring Report 2008 is evolving to meet the needs of the sector and I look forward to future enhancements.



Paul Stocks
Deputy Director-General
MAF Policy

CONTENTS

FOREWORD	iii	BUDGET FINANCIAL PERFORMANCE OF THE WAIKATO/ BAY OF PLENTY DAIRY MODEL FARM IN 2008/09	45
LIST OF TABLES	viii	7 TARANAKI DAIRY	50
LIST OF FIGURES	x	KEY POINTS	50
1 ABOUT THE FARM MONITORING PROGRAMME	1	FINANCIAL PERFORMANCE OF THE TARANAKI DAIRY MODEL FARM IN 2007/08	51
2 OVERVIEW	2	BUDGET FINANCIAL PERFORMANCE OF THE TARANAKI DAIRY MODEL FARM IN 2008/09	54
FINANCIAL PERFORMANCE OF THE PASTORAL SECTOR	2	8 LOWER NORTH ISLAND DAIRY	59
KEY POINTS	2	KEY POINTS	59
2007/08 FINANCIAL PERFORMANCE VARIES MARKEDLY	3	FINANCIAL PERFORMANCE OF THE LOWER NORTH ISLAND DAIRY MODEL FARM IN 2007/08	60
OUTLOOK FOR 2008/09 UNCERTAIN	10	BUDGET FINANCIAL PERFORMANCE OF THE LOWER NORTH ISLAND DAIRY MODEL FARM IN 2008/09	62
PART 1 TRENDS AND ISSUES	19	9 CANTERBURY DAIRY	68
3 THE SUMMER OF DISCONTENT – DROUGHT 2007/08	20	KEY POINTS	68
DAIRY SECTOR	20	FINANCIAL PERFORMANCE OF THE CANTERBURY DAIRY MODEL FARM IN 2007/08	69
DEER SECTOR	21	BUDGET FINANCIAL PERFORMANCE OF THE CANTERBURY DAIRY MODEL FARM IN 2008/09	71
SHEEP AND BEEF SECTOR	21	10 SOUTHLAND DAIRY	76
4 NITRATE LEACHING AND GREENHOUSE GAS EMISSIONS	24	KEY POINTS	76
KEY POINTS	24	FINANCIAL PERFORMANCE OF THE SOUTHLAND DAIRY MODEL FARM IN 2007/08	77
BACKGROUND	24	BUDGET FINANCIAL PERFORMANCE OF THE SOUTHLAND DAIRY MODEL FARM IN 2008/09	80
NITRATE LEACHING	24	11 WEST COAST SOUTH ISLAND DAIRY	85
GREENHOUSE GAS EMISSIONS	26	KEY POINTS	85
MANAGEMENT AND ENVIRONMENTAL INDICATORS	30	FINANCIAL PERFORMANCE OF WEST COAST SOUTH ISLAND DAIRYING IN 2007/08	85
PART 2 DAIRY SECTOR	33	BUDGET FINANCIAL PERFORMANCE OF WEST COAST SOUTH ISLAND DAIRYING IN 2008/09	87
DAIRY PAYOUT CALCULATIONS FOR 2008/09	34	12 NATIONAL DAIRY BUDGET	89
5 NORTHLAND DAIRY	36	KEY POINTS	92
KEY POINTS	36	13 DAIRY SECTOR PERCENTILE ANALYSIS	93
FINANCIAL PERFORMANCE OF THE NORTHLAND DAIRY MODEL FARM IN 2007/08	37	DIFFERENCE BETWEEN HIGHEST AND LOWEST-DECILE FARMS	94
BUDGET FINANCIAL PERFORMANCE OF THE NORTHLAND DAIRY MODEL FARM IN 2008/09	38		
6 WAIKATO/BAY OF PLENTY DAIRY	42		
KEY POINTS	42		
FINANCIAL PERFORMANCE OF THE WAIKATO/ BAY OF PLENTY DAIRY MODEL FARM IN 2007/08	43		

14 DAIRY SECTOR ISSUES AND DEVELOPMENTS

FONTERRA CAPITAL RESTRUCTURING	95
NEW DAIRY FACTORIES	95
LABOUR	95
STOCK	96
SUPPLEMENTARY FEED	97
CONVERSIONS	98
ENVIRONMENTAL ISSUES	99
LAND PRICES	99
WATER ISSUES IN CANTERBURY CONTINUE	100
FARMER MORALE	100

PART 3 DEER SECTOR

15 NORTH ISLAND DEER

KEY POINTS	103
FINANCIAL PERFORMANCE OF THE NORTH ISLAND DEER MODEL FARM IN 2007/08	103
BUDGET FINANCIAL PERFORMANCE OF THE NORTH ISLAND DEER MODEL FARM IN 2008/09	107

16 SOUTH ISLAND DEER

KEY POINTS	112
FINANCIAL PERFORMANCE OF THE SOUTH ISLAND DEER MODEL FARM IN 2007/08	112
BUDGET FINANCIAL PERFORMANCE OF THE SOUTH ISLAND DEER MODEL FARM IN 2008/09	115

17 DEER SECTOR ISSUES AND DEVELOPMENTS

DAIRY INDUSTRY OFFERS DEER FARMERS A PROFITABLE ALTERNATIVE	120
LONG-TERM PROSPECTS FOR THE INDUSTRY	120
VELVET DEVELOPMENTS	121
DEER HEALTH INITIATIVES	121
LABOUR	121
CLOSURE OF VENISON PROCESSING PLANTS	122
ENVIRONMENTAL PRESSURES INCREASE	122

PART 4 SHEEP AND BEEF SECTOR

18 NORTHLAND SHEEP AND BEEF

KEY POINTS	125
FINANCIAL PERFORMANCE OF THE NORTHLAND SHEEP AND BEEF MODEL FARM IN 2007/08	125
BUDGET FINANCIAL PERFORMANCE OF THE NORTHLAND SHEEP AND BEEF MODEL FARM IN 2008/09	128

19 WAIKATO/BAY OF PLENTY INTENSIVE SHEEP AND BEEF

KEY POINTS	132
FINANCIAL PERFORMANCE OF THE WAIKATO/BAY OF PLENTY INTENSIVE SHEEP AND BEEF MODEL FARM IN 2007/08	132
BUDGET FINANCIAL PERFORMANCE OF THE WAIKATO/BAY OF PLENTY INTENSIVE SHEEP AND BEEF MODEL FARM IN 2008/09	134

20 CENTRAL NORTH ISLAND HILL COUNTRY SHEEP AND BEEF

KEY POINTS	139
FINANCIAL PERFORMANCE OF THE CENTRAL NORTH ISLAND HILL COUNTRY SHEEP AND BEEF MODEL FARM IN 2007/08	139
BUDGET FINANCIAL PERFORMANCE OF THE CENTRAL NORTH ISLAND HILL COUNTRY SHEEP AND BEEF MODEL FARM IN 2008/09	142

21 GISBORNE HILL COUNTRY SHEEP AND BEEF

KEY POINTS	147
FINANCIAL PERFORMANCE OF THE GISBORNE HILL COUNTRY SHEEP AND BEEF MODEL FARM IN 2007/08	147
BUDGET FINANCIAL PERFORMANCE OF THE GISBORNE HILL COUNTRY SHEEP AND BEEF MODEL FARM IN 2008/09	150

22 HAWKES BAY HILL COUNTRY SHEEP AND BEEF

KEY POINTS	156
------------	-----

FINANCIAL PERFORMANCE OF THE HAWKES BAY/ WAIRARAPA HILL COUNTRY SHEEP AND BEEF MODEL FARM IN 2007/08	156
--	-----

BUDGET FINANCIAL PERFORMANCE OF THE HAWKES BAY/WAIRARAPA HILL COUNTRY SHEEP AND BEEF MODEL FARM IN 2008/09	162
--	-----

23 EASTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF 168

KEY POINTS	168
------------	-----

FINANCIAL PERFORMANCE OF THE EASTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL FARM IN 2007/08	168
--	-----

BUDGET FINANCIAL PERFORMANCE OF THE EASTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL FARM IN 2008/09	173
---	-----

24 WESTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF 180

KEY POINTS	180
------------	-----

FINANCIAL PERFORMANCE OF THE WESTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL FARM IN 2007/08	180
--	-----

BUDGET FINANCIAL PERFORMANCE OF THE WESTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL FARM IN 2008/09	184
---	-----

25 SOUTH ISLAND HIGH COUNTRY SHEEP AND BEEF 189

KEY POINTS	189
------------	-----

FINANCIAL PERFORMANCE OF THE SOUTH ISLAND HIGH COUNTRY INTENSIVE SHEEP AND BEEF MODEL FARM IN 2007/08	189
---	-----

BUDGET FINANCIAL PERFORMANCE OF THE SOUTH ISLAND HIGH COUNTRY SHEEP AND BEEF MODEL FARM IN 2008/09	193
--	-----

NEW ZEALAND MERINO WOOL TRENDS	198
--------------------------------	-----

26 CANTERBURY/MARLBOROUGH HILL COUNTRY SHEEP AND BEEF 200

KEY POINTS	200
------------	-----

FINANCIAL PERFORMANCE OF THE CANTERBURY/ MARLBOROUGH HILL COUNTRY SHEEP AND BEEF MODEL FARM IN 2007/08	200
--	-----

BUDGET FINANCIAL PERFORMANCE OF THE CANTERBURY/MARLBOROUGH HILL COUNTRY SHEEP AND BEEF MODEL FARM IN 2008/09	204
--	-----

27 CANTERBURY/MARLBOROUGH BREEDING AND FINISHING SHEEP AND BEEF 210

KEY POINTS	210
------------	-----

FINANCIAL PERFORMANCE OF THE CANTERBURY/ MARLBOROUGH BREEDING AND FINISHING SHEEP AND BEEF MODEL FARM IN 2007/08	210
--	-----

BUDGET FINANCIAL PERFORMANCE OF THE CANTERBURY/MARLBOROUGH BREEDING AND FINISHING SHEEP AND BEEF MODEL FARM IN 2008/09	214
--	-----

28 OTAGO DRY HILL SHEEP AND BEEF 218

KEY POINTS	218
------------	-----

FINANCIAL PERFORMANCE OF THE OTAGO DRY HILL SHEEP AND BEEF MODEL FARM IN 2007/08	218
---	-----

BUDGET FINANCIAL PERFORMANCE OF THE OTAGO DRY HILL SHEEP AND BEEF MODEL FARM IN 2008/09	222
--	-----

29 SOUTHLAND/SOUTH OTAGO HILL COUNTRY SHEEP AND BEEF 226

KEY POINTS	226
------------	-----

FINANCIAL PERFORMANCE OF THE SOUTHLAND/ SOUTH OTAGO HILL COUNTRY SHEEP AND BEEF MODEL FARM IN 2007/08	226
---	-----

BUDGET FINANCIAL PERFORMANCE OF THE SOUTHLAND/SOUTH OTAGO HILL COUNTRY SHEEP AND BEEF MODEL FARM IN 2008/09	230
---	-----

30 SOUTHLAND/SOUTH OTAGO INTENSIVE SHEEP AND BEEF 234

KEY POINTS	234
------------	-----

FINANCIAL PERFORMANCE OF THE SOUTHLAND/SOUTH OTAGO INTENSIVE SHEEP AND BEEF MODEL FARM IN 2007/08	234
---	-----

BUDGET FINANCIAL PERFORMANCE OF THE SOUTHLAND/SOUTH OTAGO INTENSIVE SHEEP AND BEEF MODEL FARM IN 2008/09	237
--	-----

31 NATIONAL SHEEP AND BEEF 241

BUDGET	241
--------	-----

32 SHEEP AND BEEF SECTOR ISSUES AND DEVELOPMENTS	244
LAND USE CHANGE	244
SUPPLY OF STOCK	244
INCREASE IN COSTS	245
LAND VALUE	246
SUCCESSION	247
VIABILITY	247
MEAT INDUSTRY RESTRUCTURE	247
EMISSIONS TRADING SCHEME	248
COMPLIANCE WITH REGIONAL PLANS	248
MORALE	248
APPENDICES	251
APPENDIX 1 PASTORAL MONITORING TEAM	253
FARM MONITORING PROGRAMME MANAGER	253
PUBLICATION EDITORS	253
SECTOR CONTROLLERS	253
MODEL CONTROLLERS	253
COMMENTARY	253
APPENDIX 2 MODEL INFORMATION	254
HOW THE MODELS WERE CREATED	254
CALCULATIONS USED IN THE MODELS	254
DAIRY MODELS	256
DEER MODELS	258
SHEEP AND BEEF MODELS	259
APPENDIX 3 SUPPORTING INFORMATION	263
ASSUMPTIONS IN THE DAIRY MODELS	263
ASSUMPTIONS IN THE SHEEP AND BEEF MODELS	264
ASSUMPTIONS IN THE DEER MODELS	265

LIST OF TABLES

2.1: TRENDS IN KEY FINANCIAL PARAMETERS	4	9.2: CANTERBURY DAIRY MODEL BUDGET	74
2.2: FARM EXPENSES PRICE INDEX (ALL FARMS)	8	9.3 CANTERBURY DAIRY MODEL EXPENDITURE	75
2.3: COMPARISON OF DAIRY MODEL FARM RESULTS	12	10.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE SOUTHLAND DAIRY MODEL	76
2.4: COMPARISON OF NORTH ISLAND SHEEP AND BEEF MODEL FARM RESULTS	13	10.2: FEED PRICES IN SOUTHLAND	79
2.5: COMPARISON OF SOUTH ISLAND SHEEP AND BEEF MODEL FARM RESULTS	14	10.3: SOUTHLAND DAIRY MODEL BUDGET	82
2.6: COMPARISON OF DEER MODEL FARM RESULTS	16	10.4 SOUTHLAND DAIRY MODEL EXPENDITURE	83
3.1: LAMBING PERCENTAGES, NUMBER OF BREEDING EWES, AND NUMBER OF LAMBS BORN	22	12.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE NATIONAL DAIRY MODEL	89
4.1: NITRATE LEACHING LOSSES FOR PASTORAL MODELS	25	12.2: NATIONAL DAIRY MODEL BUDGET	90
4.2: NITRATE LEACHING LOSSES FOR DAIRY MODELS	25	12.3: NATIONAL DAIRY MODEL EXPENDITURE	91
4.3: GREENHOUSE GAS EMISSIONS FOR PASTORAL MODELS	27	13.1: PERCENTILE ASSESSMENT OF FINANCIAL DATA FROM DAIRY MONITORING FARMS	93
4.4: GREENHOUSE GAS EMISSIONS FOR DAIRY MODELS	28	13.2: PERCENTILE ASSESSMENT OF PRODUCTION DATA FROM DAIRY MONITORING FARMS	94
4.5: ESTIMATED EMISSIONS FROM NEW ZEALAND DAIRY FARM	29	13.3: COMPARISON BETWEEN LOW AND HIGH-DECILE FARMS	94
4.6: GREENHOUSE GAS EMISSIONS FOR SHEEP AND BEEF MODELS, 2006/07	29	15.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR NORTH ISLAND DEER MODEL	104
4.7: NITRATE LEACHING RATES AND GREENHOUSE GAS EMISSIONS FOR DEER MODELS	30	15.2: NORTH ISLAND DEER MODEL BUDGET	110
4.8: ENVIRONMENTAL AND MANAGEMENT INDICATORS COLLECTED	31	15.3: NORTH ISLAND DEER MODEL EXPENDITURE	111
4.9: LEVEL OF UNDERSTANDING OF INDIVIDUAL DAIRY FARM NUTRIENT BUDGETS	31	16.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR SOUTH ISLAND DEER MODEL	113
4.10 SOURCES OF INFORMATION FOR MONITORED FARMERS, 2006/07	32	16.2: SOUTH ISLAND DEER MODEL BUDGET	118
PAYOUT CALCULATIONS	35	16.3: SOUTH ISLAND DEER MODEL EXPENDITURE	119
COMPARISON OF FONTERRA'S INITIAL AND REVISED PAYOUT	35	18.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR NORTHLAND SHEEP AND BEEF MODEL	126
5.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE NORTHLAND DAIRY MODEL FARM	36	18.2: NORTHLAND SHEEP AND BEEF CASH FARM INCOME	127
5.2: NORTHLAND DAIRY MODEL BUDGET	40	18.3: NORTHLAND SHEEP AND BEEF MODEL BUDGET	130
5.3: NORTHLAND DAIRY MODEL EXPENDITURE	41	18.4: NORTHLAND SHEEP AND BEEF MODEL EXPENDITURE	131
6.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE WAIKATO/BAY OF PLENTY DAIRY MODEL FARM	42	19.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR WAIKATO/BAY OF PLENTY SHEEP AND BEEF MODEL FARM	133
6.2: WAIKATO/BAY OF PLENTY DAIRY MODEL BUDGET	48	19.2: WAIKATO/BAY OF PLENTY INTENSIVE SHEEP AND BEEF CASH FARM INCOME	134
6.3: WAIKATO/BAY OF PLENTY DAIRY MODEL EXPENDITURE	49	19.3: WAIKATO/BAY OF PLENTY INTENSIVE SHEEP AND BEEF MODEL BUDGET	136
7.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE TARANAKI DAIRY MODEL FARM	50	19.4: WAIKATO/BAY OF PLENTY INTENSIVE SHEEP AND BEEF MODEL EXPENDITURE	137
7.2: TARANAKI DAIRY MODEL BUDGET	56	20.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR CENTRAL NORTH ISLAND SHEEP AND BEEF MODEL FARM	140
7.3: TARANAKI DAIRY MODEL EXPENDITURE	57	20.2: CENTRAL NORTH ISLAND HILL COUNTRY SHEEP AND BEEF CASH FARM INCOME	141
8.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE LOWER NORTH ISLAND DAIRY MODEL FARM	59	20.3: CENTRAL NORTH ISLAND HILL COUNTRY SHEEP AND BEEF MODEL BUDGET	144
8.2: LOWER NORTH ISLAND DAIRY MODEL BUDGET	66	20.4: CENTRAL NORTH ISLAND HILL COUNTRY SHEEP AND BEEF MODEL EXPENDITURE	145
8.3: LOWER NORTH ISLAND DAIRY MODEL EXPENDITURE	67	21.1: KEY PARAMETERS, FINANCIAL RESULTS AND	
9.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE CANTERBURY DAIRY MODEL	68		

BUDGET FOR GISBORNE HILL COUNTRY SHEEP AND BEEF MODEL FARM	148	26.4: CANTERBURY/MARLBOROUGH HILL COUNTRY SHEEP AND BEEF MODEL EXPENDITURE	209
21.2: GISBORNE HILL COUNTRY SHEEP AND BEEF CASH FARM INCOME	149	27.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR CANTERBURY/MARLBOROUGH BREEDING AND FINISHING SHEEP AND BEEF MODEL FARM	211
21.3: SHEEP PRICES	151	27.2: CANTERBURY/MARLBOROUGH BREEDING AND FINISHING SHEEP AND BEEF CASH FARM INCOME	213
21.4: CATTLE PRICES	152	27.3: CANTERBURY/MARLBOROUGH BREEDING AND FINISHING SHEEP AND BEEF MODEL BUDGET	216
21.5: GISBORNE HILL COUNTRY SHEEP AND BEEF MODEL BUDGET	154	27.4: CANTERBURY/MARLBOROUGH BREEDING AND FINISHING SHEEP AND BEEF MODEL EXPENDITURE	217
21.6: GISBORNE HILL COUNTRY SHEEP AND BEEF MODEL EXPENDITURE	155	28.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR OTAGO DRY HILL SHEEP AND BEEF MODEL FARM	219
22.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE HAWKES BAY/WAIRARAPA HILL COUNTRY SHEEP AND BEEF MODEL FARM	157	28.2: OTAGO DRY HILL SHEEP AND BEEF CASH FARM INCOME	220
22.2 CHANGES IN TOTAL STOCK UNIT NUMBERS	158	28.3: OTAGO DRY HILL SHEEP AND BEEF MODEL BUDGET	224
22.3: HAWKES BAY/WAIRARAPA HILL COUNTRY SHEEP AND BEEF CASH FARM INCOME	159	28.4: OTAGO DRY HILL SHEEP AND BEEF MODEL EXPENDITURE	225
22.4: HAWKES BAY/WAIRARAPA HILL COUNTRY SHEEP AND BEEF MODEL BUDGET	166	29.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR SOUTHLAND/SOUTH OTAGO HILL COUNTRY SHEEP AND BEEF MODEL FARM	227
22.5: HAWKES BAY/WAIRARAPA HILL COUNTRY SHEEP AND BEEF MODEL EXPENDITURE	167	29.2: SOUTHLAND/SOUTH OTAGO BILL COUNTRY CASH FARM INCOME	228
23.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR EASTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL FARM	169	29.3: SOUTHLAND/SOUTH OTAGO HILL COUNTRY SHEEP AND BEEF MODEL BUDGET	232
23.2: EASTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF CASH FARM INCOME	171	29.4: SOUTHLAND/SOUTH OTAGO HILL COUNTRY SHEEP AND BEEF MODEL EXPENDITURE	233
23.3: EASTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL BUDGET	178	30.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR SOUTHLAND/SOUTH OTAGO INTENSIVE SHEEP AND BEEF MODEL FARM	235
23.4: EASTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL EXPENDITURE	179	30.2: SOUTHLAND/SOUTH OTAGO INTENSIVE SHEEP AND BEEF CASH FARM INCOME	236
24.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE WESTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL FARM	181	30.3: SOUTHLAND/SOUTH OTAGO INTENSIVE SHEEP AND BEEF MODEL BUDGET	238
24.2: WESTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF CASH FARM INCOME	182	30.4: SOUTHLAND/SOUTH OTAGO INTENSIVE SHEEP AND BEEF MODEL EXPENDITURE	239
24.3: WESTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL BUDGET	186	31.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE NATIONAL SHEEP AND BEEF MODEL FARM SUMMARY	241
24.4: WESTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL EXPENDITURE	187	31.2: NATIONAL SHEEP AND BEEF MODEL BUDGET	242
25.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR SOUTH ISLAND HIGH COUNTRY SHEEP AND BEEF MODEL FARM	190	31.3: NATIONAL SHEEP AND BEEF MODEL EXPENDITURE	243
25.2: SOUTH ISLAND HIGH COUNTRY SHEEP AND BEEF CASH FARM INCOME	191	32.1: SHEEP AND BEEF FARM EXPENSES PRICE INDEX	245
25.3: SOUTH ISLAND HIGH COUNTRY SHEEP AND BEEF MODEL BUDGET	196	32.2: KEY INCOME AND EXPENSES PER STOCK UNIT FOR NATIONAL SHEEP AND BEEF MODEL	249
25.4: SOUTH ISLAND HIGH COUNTRY SHEEP AND BEEF MODEL EXPENDITURE	197	A3.1: WEIGHTINGS FOR NATIONAL AVERAGES	264
26.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR CANTERBURY/MARLBOROUGH HILL COUNTRY SHEEP AND BEEF MODEL FARM	201	A3.2: WEIGHTINGS FOR NATIONAL AVERAGES	264
26.2: CANTERBURY/MARLBOROUGH HILL COUNTRY SHEEP AND BEEF CASH FARM INCOME	202		
26.3: CANTERBURY/MARLBOROUGH HILL COUNTRY SHEEP AND BEEF MODEL BUDGET	208		

LIST OF FIGURES

2.1: PASTORAL SECTORS' FARM PROFIT BEFORE TAX TRENDS	4	BEEF MODEL FARM PROFITABILITY TRENDS	195
2.2: SEASONAL TRENDS IN VENISON PRICES	7	25.2: SOUTH ISLAND MERINO WOOL VOLUME	198
2.3: NORTH ISLAND PASTORAL PRODUCTION STATISTICS	17	25.3: SOUTH ISLAND MERINO WOOL PRICES AT AUCTION (CLEAN)	199
2.4: SOUTH ISLAND PASTORAL PRODUCTION STATISTICS	18	26.1: CANTERBURY/MARLBOROUGH HILL COUNTRY SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS	207
5.1: NORTHLAND DAIRY MODEL FARM PROFITABILITY TRENDS	39	27.1: MONTHLY RAINFALL FOR WAIPARA AND TIMARU	212
6.1: RAINFALL RECORDED AT RUAKURA	43	27.2: CANTERBURY/MARLBOROUGH BREEDING AND FINISHING SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS	215
6.2: WAIKATO/BAY OF PLENTY DAIRY MODEL FARM PROFITABILITY TRENDS	47	28.1: OTAGO DRY HILL SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS	223
7.1: RAINFALL RECORDED AT HAWERA	51	29.1: SOUTHLAND/SOUTH OTAGO HILL COUNTRY SHEEP AND BEEF MODEL FARM PROFITABILITY TREND	231
7.2: TARANAKI DAIRY MODEL FARM PROFITABILITY TRENDS	58	30.1: SOUTHLAND/SOUTH OTAGO INTENSIVE SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS	240
8.1: LOWER NORTH ISLAND DAIRY MODEL FARM PROFITABILITY TRENDS	65	31.1: NATIONAL SHEEP AND BEEF PROFITABILITY TRENDS	241
9.1: CANTERBURY DAIRY MODEL FARM PROFITABILITY TRENDS	73		
10.1: WOODLANDS SEASONAL RATE OF PASTURE GROWTH 2007/2008	78		
10.2: SOUTHLAND DAIRY MODEL FARM PROFITABILITY TRENDS	84		
12.1: NATIONAL DAIRY BUDGET PROFITABILITY TRENDS	92		
14.1: PALM KERNEL IMPORTS BY VOLUME AND PRICE	98		
15.1: NORTH ISLAND DEER MODEL FARM PROFITABILITY TRENDS	109		
16.1: SOUTH ISLAND DEER MODEL FARM PROFITABILITY TRENDS	117		
18.1: NORTHLAND SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS	129		
19.1: WAIKATO/BAY OF PLENTY INTENSIVE SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS	138		
20.1: CENTRAL NORTH ISLAND HILL COUNTRY SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS	146		
21.1: GISBORNE HILL COUNTRY SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS	153		
22.1: HAWKES BAY/WAIRARAPA HILL COUNTRY SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS	165		
23.1: EASTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS	177		
24.1: WESTERN LOWER NORTH ISLAND SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS	188		
25.1: SOUTH ISLAND HIGH COUNTRY SHEEP AND			

ABOUT THE

FARM MONITORING PROGRAMME

1

The Farm Monitoring Programme provides a short term view of the financial and production status of a range of farms types throughout New Zealand. It examines revenue and expenditure for the past season and outlines what farmers are budgeting for the year ahead.

The Programme collects data from a range of farm types throughout New Zealand and is supplemented with farmer and industry expectations. One use of this data is to produce the models in this *Pastoral Monitoring Report 2008*. Each model is representative of a farm type in a given region and is modelled on how a real farm would operate, as opposed to using an average of results from the monitored farms. Each model is then augmented with feedback gathered from regional industry meetings and other information sources to best represent the current situation and expectations in each region.

In July 2008, the dairy and deer model budgets were released on the web, and the sheep and beef models followed in September 2008. The *Pastoral Monitoring Report 2008* identifies the drivers behind the budgets and expectations at the time of populating the farm models. It provides information on the issues and trends facing the sectors, and farmers' thinking and intentions in response to those issues.

As this report goes to press there is significant uncertainty about the world economic situation, and consequently farmer and industry expectations are likely to have changed since the models were compiled. Price expectations for most of New Zealand's agricultural commodities in export markets are lower than initially anticipated due to the widening economic downturn emanating from the global financial crisis. The falling exchange rate in October and November 2008 may have offset some of the weakening in international market prices but may also lead to increased costs for some expenditure items. In addition, interest rates and fuel prices have eased over the past few months. Faced with such uncertainty, farmers are expected to take a more cautious approach in the year ahead and where possible defer decisions until their likely returns become clear.

For more information on the Farm Monitoring Programme please see Appendix 1 for contact details and Appendix 2 for model information.

OVERVIEW

2

»» FINANCIAL PERFORMANCE OF THE PASTORAL SECTOR

The *Pastoral Monitoring Report 2008* compares the financial performance of the three monitored pastoral sectors – dairy, deer, and sheep and beef – and contrasts the variation in actual and expected profitability of each sector between 2007/08 and 2008/09¹. The model information was compiled between June and August 2008 and is based on farmer and industry expectations at that time. It should be noted that since then, the global situation has changed markedly and become more volatile, making it difficult to predict the financial outcome for 2008/09. For example, the exchange rate and fuel prices have dropped along with global dairy prices and Fonterra has revised its forecast payout downwards as a result. As the season progresses and prices and production levels become more certain, it will be very important, especially this year, for farmers to continue to review their situation.

»» KEY POINTS

The 2007/08 year was dominated by drought and relatively poor prices apart from the significantly improved dairy payout. For the coming season, farmers were expecting improvements in sheep, beef and deer returns, with dairy farming facing a declining payout. Even with better prices expected, low stock numbers and increased expenditure mean profit on the sheep and beef model farm is expected to be lean.

The current global financial uncertainty affects the economic outlook as reflected in decreasing commodity prices. As always, climatic factors will influence production and therefore farm profitability.

» DROUGHT DEFINES THE 2007/08 YEAR

- › Widespread drought caused by La Niña weather conditions affected many regions, in particular those that usually have reliable summer rainfall². Pasture growth and production were severely reduced in Waikato, southern Taranaki, the central North Island, northern Manawatu, Tararua, Wairarapa and northern Southland. Many other regions were also affected by dry conditions during the year.
- › Dairy farmers, with the incentive of a steadily increasing payout for 2007/08, were able to mitigate much of the drought impact by buying in supplementary feed to maintain milk production.
- › The widespread nature and duration of the drought meant supplementary feed reserves were lower than usual and, as the drought continued, the prices of hay, silage and grain increased steadily.
- › Most sheep and beef farmers were unable to afford the increasingly expensive feed, so had to quit stock onto an oversupplied store market. This situation severely depressed prices for lambs and cattle as few areas had the feed available to finish animals.
- › Prime lamb schedules and, to a lesser extent, prime beef schedules improved in 2007/08 compared with 2006/07, but many farms were unable to take full advantage of this. Stock was often sent for slaughter at light weights because the store market was not an option as feed supplies dwindled. Farmers struggled to quit ewes in a timely fashion because of limited processing capacity.
- › Sheep and beef farm incomes fell as a result, compared with 2006/07, but dairy farmers enjoyed a record season financially, despite the production constraints.

¹ Years referred to in this report are years ending 30 June.

² National Climate Centre (2008) *National climate summary: Summer 2007/08*. NIWA: Auckland. http://niwa.co.nz/ncc/cs/seasonal/sclimsum_08_summer. Accessed 14 October 2008.

› RECORD DAIRY INCOMES

- › Fonterra's record payout of \$7.90 per kilogram of milksolids (before retentions) dramatically increased dairy farm profits in 2007/08. The payout increased 71 percent (after retentions) compared with the 2006/07 payout. Despite the drought, farm profit before tax on the national dairy model rose 449 percent to \$384 000 in 2007/08.

› OTHER SECTORS SUBDUED

- › By comparison, the sheep and beef sector continued to experience relatively low prices, particularly for lamb and wool, which kept incomes low and led farmers to change land use and reduce sheep numbers. Over 2007/08, sheep numbers fell 4.3 million (11 percent) as a result of drought and land use change to dairy, dairy support and cropping.
- › Net cash income on sheep and beef farms was boosted by the drought destocking and on the national model fell only 2 percent, but farm working expenses increased by an average 4 percent and interest costs by 20 percent. Consequently, farm profit before tax and farm surplus for reinvestment fell to low levels (\$19 000 and –\$15 000 respectively) on the national sheep and beef model.
- › Deer farmers' profitability improved in 2007/08 with higher prices for venison despite velvet prices falling by around a quarter compared with 2006/07. Deer farmer confidence is rebuilding, although incomes and drawings continue to be modest on these mostly small farms.

› OUTLOOK IMPROVES FOR 2008/09 BUT STILL LOOKS VERY LEAN

- › When compiling their budgets, farmers were expecting higher prices for lamb, wool and beef compared with last year. This will help offset reduced production because of the drought, increasing net cash income on the national sheep and beef model by an estimated 13 percent. However, rising expenses mean that the farm surplus for reinvestment at \$12 000 is very lean.
- › Farmers were budgeting on further increases in farm working expenses (8 percent) and interest costs (5 percent). Based on these expectations, farm profit before tax on the national sheep and beef model is expected to increase to \$58 000 in 2008/09, the highest since 2005/06 but still much less than levels prevailing from 2002/03 to 2004/05.
- › Dairy farmers were expecting profitability to drop back in 2008/09. The expected higher production compared with last season will be offset by a lower payout. Despite this, expected profitability was still strong compared with three years earlier.
- › Deer farmers expect improved venison prices and revenue in 2008/09. The North Island model budgeted a farm profit before tax of \$53 000 in 2008/09, up 127 percent on 2007/08, while the South Island model budgeted \$64 000, up 20 percent on 2007/08.

›› 2007/08 FINANCIAL PERFORMANCE VARIES MARKEDLY

While dairy farm profits reached record highs in 2007/08, sheep and beef sector incomes have fallen because of the drought and its impact on prices. Farmers' outlook for 2008/09 was for improvements in lamb, beef and wool prices. Reduced numbers of stock for sale, because of the widespread drought, and expected increased costs will offset many of the expected gains, leaving many farmers concerned about their cashflows.

FIGURE 2.1: PASTORAL SECTORS' FARM PROFIT BEFORE TAX TRENDS, 1999/00 TO 2008/09

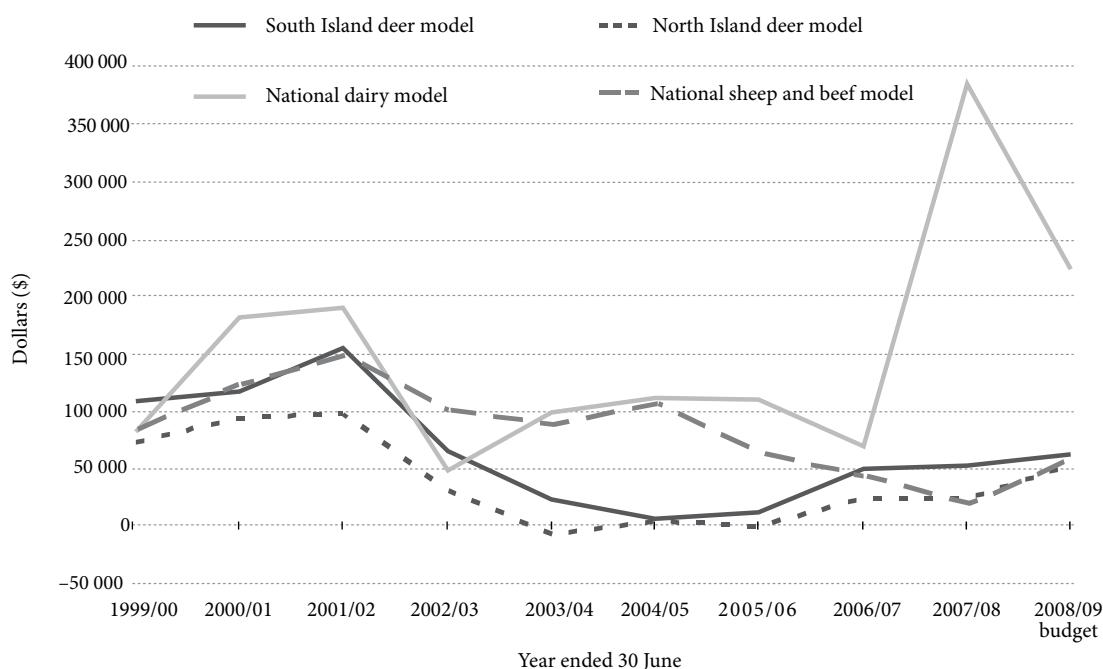


TABLE 2.1: TRENDS IN KEY FINANCIAL PARAMETERS, 2006/07 TO 2008/09

	SHEEP AND BEEF INDUSTRY			DAIRY INDUSTRY		
	2006/07 ^a	2007/08	2008/09 BUDGET	2006/07 ^a	2007/08	2008/09 BUDGET ^a
National model effective area (hectares)	708	705	705	131	131	131
National model stock units or cows milked	4 588	4 484	4 286	360	380	383
Net cash income (\$)	293 543	287 803	326 139	577 858	1 021 886	921 104
Farm working expenses (\$)	172 783	180 002	193 851	369 084	468 449	514 507
Cash operating surplus (\$)	120 760	107 801	132 288	208 774	553 437	406 597
Farm profit before tax (\$)	43 849	19 268	58 308	70 014	384 034	223 680
Farm surplus for reinvestment ¹ (\$)	3 158	-15 410	12 047	1 677	263 472	90 804
Farm assets (\$)	4 394 494	4 468 186	5 322 422	4 801 561	5 942 256	7 017 786
Farm debt (\$)	508 538	515 178	547 042	1 242 813	1 574 948	1 579 916
Equity ratio ² (%)	88.4	88.5	89.7	74.1	73.5	77.5
Return on equity ³ (%)	-0.7	-0.3	0.4	-0.3	7.0	3.0

Note

1 Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on the farm or for repaying principal. It is calculated as discretionary cash less off-farm income and drawings.

2 Ratio of farm assets less debt (i.e. equity) to farm assets.

3 Economic farm surplus less interest and lease as a percentage of equity.

4 The 2008/09 budget figures are based on a final total payout of \$7.00 per kilogram of milksolids.

Symbol

R The 2006/07 model has been revised.

Dairy farm operating surpluses climbed dramatically in 2007/08, after a period of moderate returns. This provides an opportunity for dairy farmers to restructure their finances and improve productivity. Many will look to invest in dairy support land to help protect them from the impact of high supplementary feed costs.

For a second successive year, the deer industry experienced a modest improvement in its fortunes in 2007/08 after a string of difficult seasons when many deer farmers exited the industry. Deer farmers' outlook for 2008/09 was similar to last year.

➤ FACTORS AFFECTING PERFORMANCE IN 2007/08

The most significant factors affecting the financial performance of the pastoral sectors in 2007/08 are detailed below.

MARKET DEMAND AND PRICES

- › While prime lamb prices improved, store lamb prices tumbled in 2007/08 in the wake of widespread drought, and cattle prices were generally weaker as a result of cattle being sold at lighter weights onto a lower market.
- › Dairy payouts rose to record highs on the back of rising world commodity prices.
- › Venison prices improved substantially while velvet prices fell 25 percent.

PRODUCTION

- › Seasonal conditions were challenging for most farmers with a cool, dry spring suppressing pasture growth, milk production, and sheep and beef growth rates.
- › Low rainfall in November heralded a summer drought that affected much of New Zealand.
- › Recovery in autumn varied with some areas experiencing good feed growth, but others struggling to rebuild pasture covers.

COSTS

- › Rising input prices forced expenditure up across the pastoral sector despite below-maintenance levels of many inputs being purchased.
- › The dairy sector increased inputs of nitrogen and feed supplements in particular to maximise production in 2007/08 and take advantage of the improved payout.
- › Significant increases in capital expenditure occurred in the dairy sector.
- › The sheep and beef sector cut discretionary spending and reduced fertiliser inputs.

EXCHANGE RATES

- › The strength of the New Zealand dollar constrained returns, but this result was more noticeable in the sheep and beef sector than in the dairy sector as the large increase in dairy payouts masked exchange rate-related constraints.

➤ ANOTHER TOUGH YEAR FOR SHEEP AND BEEF FARMERS

Low product prices in 2007/08, particularly for lamb and wool, kept incomes low and led farmers to change land use and reduce sheep numbers. Severe drought over most of the country also caused a reduction in sheep numbers. The

combined effects of land use change and drought led to a 4.3 million (11 percent) decline in sheep numbers in 2007/08. The decline was greatest in those regions with alternative land use options.

Many sheep and beef farmers supported restructuring the meat industry, considering it essential for the industry to have a viable long-term future. At the same time, these farmers sought to increase income by changing land use from sheep to dairy support, dairy conversions and cropping. Some farmers have not arranged markets (or contracted) with dairy farmers or cropping firms for their products, but were determined that change was required.

On average, sheep and beef farm net cash income fell 2 percent to \$288 000 and would have been lower without \$15 000 released from destocking 197 stock units (mainly sheep). The average lamb price lifted by just 77 cents, but some farmers increased their average price by \$4 to \$5 per head, while those who were forced by the drought to sell store lambs suffered a \$3 to \$7 decrease. Farmers with feed made good trading margins on cheap store lambs. Wool income dropped 4 percent because of a drop of 5 cents per kilogram in wool price and a slight drop in wool weights compared with 2006/07. Wool weights were down in some areas because of the drought and in others because of a change from six to eight-monthly shearing as farmers sought to reduce shearing costs.

Cattle income increased 4 percent to \$136 000. Cattle prices fell for many farmers because of farmers selling cattle at lighter weights onto a lower market. However, some farmers took advantage of the lower store market and increased their trading margins. Some sold high-value three-year-old bulls and steers and replaced them with younger, cheaper animals later in the season. This will flow into cattle income in 2008/09 when the usual numbers of older cattle will not be available for sale.

With a reduced income and increased farm working expenses, farm profit before tax on the national sheep and beef model farm has fallen to \$19 000 and farm surplus for reinvestment has fallen to a deficit of \$15 000.

Spending on capital purchases, development and principal payments was reduced, but drawings increased 4 percent. New borrowing increased by \$12 000, to \$34 000 as farmers refinanced hard-core overdraft to give a small cash surplus of \$7000.

► RECORD RETURNS FOR MILKSOLIDS BUT DROUGHT CONSTRAINS DAIRY FARM INCOME IN 2007/08

The widespread drought throughout the country affected milk production to varying degrees with Waikato/Bay of Plenty being worst hit. Milksolids production in this region was down 12 percent on average; in Taranaki and northern Southland it was down 7 percent. Regions such as the lower North Island managed to buy sufficient feed, so production dropped only 1 percent. However, these regional averages conceal significant variation, with some farms in all regions down 20 percent or more.

Despite the effects of the drought in many regions, farm profitability improved dramatically in 2007/08 compared with 2006/07. The cash operating surpluses on the dairy farm models have increased between 100 and 200 percent, while farm profit before tax increased around 400 to 500 percent.

In 2007/08, on a gross payout basis for the main co-operative companies, Tatua recorded the highest payout per kilogram of milksolids at \$8.37, Westland followed at \$8.29, and Fonterra at \$7.90.

After allowing for retentions and DairyNZ levies, the relevant payouts for each kilogram of milksolids were \$7.97 from Tatua, \$7.96 from Westland, and \$7.63 from Fonterra.

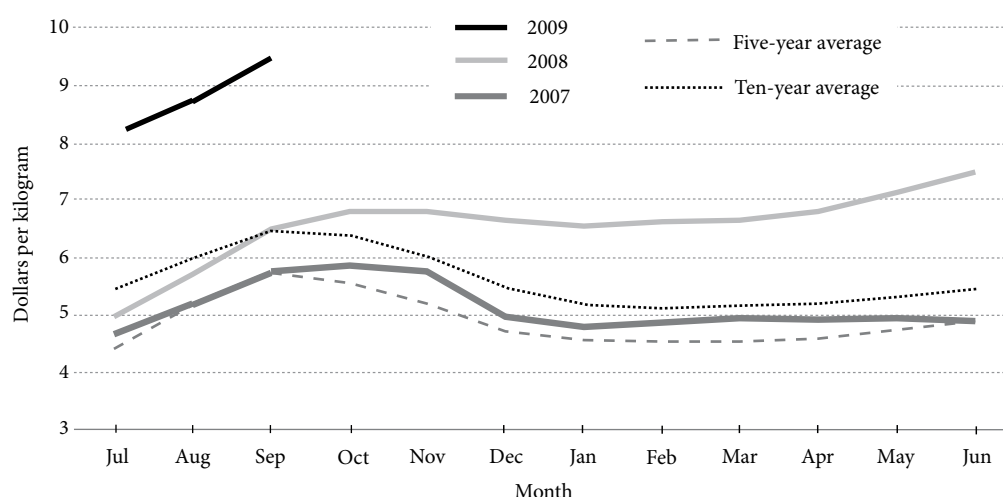
When the average payout is weighted by milksolids collected, farmers received \$7.64 per kilogram of milksolids.

Together these three co-operatives accounted for 98 percent of milksolids production for the year ended 31 May 2008. (Note that this comparison ignores the complications with Fonterra of contract supplies, colostrum payments and payouts based on a 14-month period to 31 July 2008.)

The main driver for the increase in profitability has been the significant increase in the payout to \$7.90 per kilogram of milksolids (before retentions). While the projected payout for 2008/09 has dropped back to \$6.00 per kilogram, the expected production increases compared with 2007/08 will help profitability, particularly in those regions recovering from the drought.

The increase in the 2007/08 payout compared with the previous year, combined with the increased deferred payment from 2006/07, dramatically lifted dairy farm profitability. Net cash income increased 77 percent on the national dairy model farm, despite a 4.3 percent reduction in production. Farm working expenses increased around 27 percent, largely fuelled by significant spending on supplementary feed as farmers sought to combat the drought. Total feed costs jumped an average \$43 000 or 44 percent. The remaining increase in income flowed through to the bottom line: the cash operating surplus increased 165 percent, farm profit before tax increased 449 percent, and farm surplus for reinvestment increased from \$2000 in 2006/07 to \$263 000.

»» FIGURE 2.2: SEASONAL TRENDS IN VENISON PRICES, 2007 TO 2009



Source
Agrifax, weighted by North Island and South Island kill.

► IMPROVING VENISON PRICES OUTSHINE VELVET PRICES IN 2007/08

Improved revenue from venison offset lower velvet prices in 2007/08, and resulted in increases of 4 percent (\$6000) and 24 percent (\$44 000) in the net cash income of North and South Island deer farms respectively compared with 2006/07. During the season, venison prices tracked between 13 percent and 38 percent higher than 2006/07 schedule prices. Average velvet prices fell 25 percent and 21 percent for North and South Island deer model farms respectively.

Rising expenditure almost completely offset the increases in net cash income, resulting in farm profit before tax in 2007/08 being at similar levels as in 2006/07 for North and South Island deer model farms.

Improved prices for venison resulted from a continuing reduction in the number of deer processed and effective marketing strategies. In 2007/08, the number of deer processed decreased 5 percent (to 638 000) compared with 2006/07. The number of deer processed had peaked at around 745 000 in 2004/05 then fell 7 percent to 722 000 in 2005/06.

In 2007/08, the number of hinds processed increased 3 percent compared with 2006/07, while the number of stags

►►► TABLE 2.2: FARM EXPENSES PRICE INDEX (ALL FARMS), FOR THE QUARTER ENDED JUNE 2008

	CHANGE FROM JUNE 2007 QUARTER (%)	CHANGE FROM JUNE 2006 QUARTER (%)
Administration	3.0	7.5
Animal health and breeding	4.0	8.7
Dairy shed expenses	3.3	8.0
Electricity	11.4	15.9
Feed, grazing, cultivation and harvesting	14.9	19.3
Fertiliser, lime and seeds	13.9	17.7
Freight	6.3	13.5
Fuel	39.5	24.9
Insurance premiums	7.7	8.3
Rent and hire	4.1	4.0
Repairs, maintenance and motor vehicle repairs	7.7	10.1
Packaging costs	1.1	3.1
Shearing	1.4	5.5
Weed and pest control	3.1	4.3
Subtotal excluding livestock	10.5	12.5
Livestock purchases	-1.1	-1.5
Subtotal including livestock	8.4	10.0
Local and central government rates and fees	5.9	11.3
Interest rates	9.1	12.1
Wages and salaries	2.8	5.4
All inputs excluding livestock	9.2	11.5
All inputs including livestock	7.9	9.9

Source
Statistics New Zealand

processed decreased 13 percent. This shows the deer herd is contracting and fewer deer will be available for processing in 2008/09.

➤ FARM WORKING EXPENDITURE RISES

Farm working expenditure rose significantly during 2007/08 – the main cause being higher prices for feed, fertiliser and fuel. Although farmers purchased lower volumes, these did not offset the increase in prices. Table 2.2 shows the movements in farm expenses for all farm types.

SHEEP AND BEEF EXPENDITURE UP DESPITE FALL IN INPUTS

In 2007/08, sheep and beef farmers held or reduced spending where they could. Despite this, farm working expenses increased an average 4 percent. Rising prices increased expenditure on electricity, freight, fuel and vehicles, administration, rates and insurance. Feed costs increased 4 percent as the cost of bought-in feed to get through the drought more than offset the savings from the smaller amounts of hay and baleage made on farm. Sheep and beef farmers bought minimal amounts of supplementary feed as there was a shortage of feed in the market and they could not compete with the prices dairy farmers were able to pay.

Labour, shearing, weed and pest control, and repairs and maintenance were reduced as farmers cut inputs on discretionary items. Some farmers moved to doing their own shearing or crutching and used less casual labour to reduce costs, so were working harder than ever. This has contributed to farmers moving out of sheep. Shearing costs still represent 45 percent of wool income.

Farmers bought less high-analysis fertiliser such as urea and di-ammonium phosphate and less superphosphate, but still spent an average 16 percent more on fertiliser than in 2006/07.

Many farmers have refinanced overdraft debt onto term loans over the past year and this is expected to continue in 2008/09 as farmers reach overdraft limits before income comes in. Refinancing reduces the interest cost in the short term but does not solve long-term profitability problems. Interest costs increased 20 percent in 2007/08 compared with 2006/07 because of increased debt and higher interest rates. At \$10.89 per stock unit and 17 percent of net cash income on the average farm, this interest cost is still sustainable. Fortunately, farmers still have plenty of equity to borrow against, as the value of land has increased significantly.

DROUGHT INCREASES DAIRY EXPENDITURE

Dairy farm working expenses increased significantly, up by 15 to 30 percent in 2007/08 compared with 2006/07. While a significant portion of this increase was due to extra spending because of the drought, it continues to be a worrying trend. Farmers are budgeting on an overall increase in costs of 5 to 10 percent for 2008/09, especially in the face of major increases in fertiliser and fuel costs during the 2007/08 season.

The Farm Expenses Price Index for dairy farms, as collated by Statistics New Zealand, shows that prices in June 2008 were 11 percent higher overall compared with June 2007. Included in this figure are increases in feed costs

(17 percent), fertiliser, lime and seed costs (16 percent), and fuel costs (40 percent).

From the national budget based on the farm monitoring models, farm working expenses are expected to increase to an estimated \$3.72 per kilogram of milksolids in 2008/09 from \$2.77 per kilogram of milksolids in 2005/06 (an expected 34 percent increase over three years).

There are concerns that farm expenditure is rising faster than production or productivity, so if payouts drop back to around \$5.00 per kilogram of milksolids, farms will face a significant financial squeeze.

DEER FARMS NOT IMMUNE FROM PRICE INCREASES

Deer farm working expenses increased 6 percent and 18 percent in 2007/08 for the North and South Island model farms respectively. Significant price rises for fuel (23 percent and 24 percent in the North and South Islands respectively) and feed costs (25 percent and 37 percent in the North and South Islands respectively, due to the drought) were largely responsible for the increased expenditure. The doubling of fertiliser prices led to a compensating reduction in inputs. Electricity costs also increased, and repairs and maintenance were cut to help balance the budget.

»» OUTLOOK FOR 2008/09 UNCERTAIN

The current economic uncertainty makes the outlook for 2008/09 more difficult to predict than usual. The falling exchange rate in October and November 2008 may offset some of the weakening in international market prices; at the same time this is likely to push up input costs. On the other hand, in October and November 2008 the cost of fuel continued to fall as some international commodity prices declined at a greater rate than the exchange rate dropped. Interest rates have also eased. Faced with such uncertainty, farmers are expected to defer decisions where this is possible until their likely returns become clear.

Although Fonterra's forecast payout has dropped to \$6.00 per kilogram of milksolids from initial estimates of around \$7.00, this still represents a better-than-average return for dairy farmers. Sheep and beef, and deer farmers were expecting higher product prices to improve their financial situation in 2008/09. However, the recent drought (which continued for a second consecutive year in parts of Wairarapa, Tararua and Central Hawkes Bay) reduced the number of stock being carried and fewer animals will be available for sale in 2008/09 as farmers rebuild cattle herds and sheep flocks.

It is unusual to have a declining projected milksolids payout. Because the dairy model reflects a financial year ending 30 June, the payout within a year is a combination of the advance payment for the current season and the deferred payment from the preceding season.

» DAIRY INCOME FALLS FROM RECORD LEVELS

The carry-over effects of the drought will be felt for some time. Pasture covers and cow condition going into the 2008 spring were less than ideal on many dairy farms, which will negatively affect production. The likelihood of increased

deaths and problems getting cows back in calf is high. Many farmers will have to feed increased levels of supplements over the spring to ensure cows are well fed, which will add to farm operating costs. As a result, it is likely that farms will take more than one year to recoup the production losses suffered during 2007/08.

A long-term impact of the 2008 drought is that many young replacement stock have not grown to target bodyweights, returning from grazing in relatively poor condition.

International dairy commodity prices have fallen from the peaks achieved in early 2008. Prices in New Zealand dollars are expected to continue to fall in 2008/09 as the weakening of the New Zealand dollar is unlikely to compensate for falls in international dairy commodity prices. In November 2008, Fonterra revised its original forecast payout for 2008/09 from \$7.00 to \$6.00 per kilogram of milksolids. The uncertainty will result in more cautious decision-making. Combined with the crisis in international financial markets, the payout reduction will dampen farmers' enthusiasm for expansion and encourage them to repay debt to hedge against leaner times ahead. Farmers are still expected to convert land to dairy farming, but may face obstacles if they are relying on significant debt funding.

Dairy farm profitability was budgeted to drop in 2008/09, with farm profit before tax expected to be down 42 percent; the expected higher production being offset by a lower payout. A payout of \$6.00 will decrease the national dairy model farm's milksolids revenue by \$113 000 or 13 percent compared with the original budgets (that were based on a final payout of \$7.00). Despite this, profitability is still strong compared with three years earlier when the price was \$4.46.

Table 2.3 compares the regional dairy farm models on various parameters, based on a budgeted payout of \$7.00 per kilogram of milksolids. The table shows that farm profit before tax in 2008/09 was expected to fall by between about \$72 000 (Taranaki model farm) and \$367 000 (Canterbury), despite increases in milksolids production of 10 percent in Taranaki and 5 percent in Canterbury. On a per cow basis, the farm surplus for reinvestment was expected to fall by between about 51 percent (Taranaki) and 82 percent (Southland).

Farmers were budgeting total farm working expenses per cow to increase by between 6 percent (Waikato/Bay of Plenty) and 18 percent (Southland). In terms of milksolids, this corresponds to a reduction in expenditure of 1 percent in the Waikato/Bay of Plenty farm model and an increase of 13 percent in Southland.

Farm working expenses per kilogram of milksolids in 2007/08 ranged from \$3.22 (Northland) to \$3.75 (Waikato/Bay of Plenty). Much of the range in 2007/08 can be attributed to the impact of the drought. In 2008/09, farm working expenses per kilogram of milksolids were expected to range from \$3.53 (Taranaki, reflecting lower costs and increased milk production without a drought) to \$3.96 (lower North Island). If the cost of interest is added in, farm working expenses per kilogram of milksolids will range from \$4.21 (Taranaki) to \$5.18 (lower North Island), indicating the pressure that falling future milk revenue might bring.

»» TABLE 2.3: COMPARISON OF DAIRY MODEL FARM RESULTS, 2007/08 AND 2008/09

	NORTHLAND	WAIKATO/ BAY OF PLENTY	TARANAKI	LOWER NORTH ISLAND	CANTERBURY	SOUTHLAND
Effective area (hectares)	121	106	96	130	210	178
Number of cows milked (as at 15 December 2008)	268	300	267	360	691	522
Milksolids 2007/08 (kilograms)	79 400	88 900	81 900	113 500	286 000	194 600
Milksolids per cow 2007/08 (kilograms)	296	296	307	315	414	373
Percentage increase in milksolids budgeted in 2008/09 (%)	2.0	8.0	9.9	2.2	4.5	5.3
FARM PROFIT BEFORE TAX (\$)						
2007/08	293 755	231 426	271 042	310 850	873 044	605 737
2008/09 budget	182 401	132 390	198 787	159 740	506 001	329 339
Decrease in profit	111 354	99 036	72 255	151 110	367 043	276 398
FARM SURPLUS FOR REINVESTMENT PER COW						
2007/08 (\$)	776	470	746	647	848	886
2008/09 budget (\$)	231	139	363	143	400	159
Percentage reduction (%)	70	70	51	78	53	82
FARM WORKING EXPENSES PER KILOGRAM OF MILKSOLIDS (\$)						
2007/08	3.22	3.75	3.57	3.72	3.68	3.31
2008/09 budget	3.61	3.69	3.53	3.96	3.82	3.73
FARM WORKING EXPENSES PLUS INTEREST PER KILOGRAM OF MILKSOLIDS (\$)						
2007/08	3.96	4.93	4.33	5.00	4.67	4.58
2008/09 budget	4.35	4.85	4.21	5.18	4.93	5.02
Equity ratio ¹ 2007/08 (%)	79	80	85	71	65	73
Return on equity ² 2007/08 (%)	9.5	3.3	4.5	5.7	13.2	12.3
Return on assets ³ 2007/08 (%)	9.4	4.6	5.1	6.7	11.6	10.7

Notes

1 Ratio of farm assets less debt (equity) to farm assets.

2 Economic farm surplus less interest and lease as a percentage of equity.

3 Economic farm surplus divided by total farm assets.

» SHEEP AND BEEF FARMERS' REVENUE IMPROVES – BETTER PRICES BUT FEWER STOCK

Prices for lamb, wool and beef were expected to increase due to reduced supply and a significant drop in the exchange rate. Some of the benefit of these improved expected prices will be offset by reduced production, the need to rebuild stock numbers following the drought, and increased expenses. The cash operating surplus on the national sheep and beef model in 2008/09 was expected to increase 23 percent (to \$132 000).

Farmers were expecting a falling exchange rate and reduced sheep numbers to lead to an increase in farm gate prices for lamb and wool. Lambs were expected to reach an average price of \$70 in 2008/09 (an increase of \$19 or 38 percent) and wool to increase 13 percent (to an average \$2.76 per kilogram). Beef prices were also expected to increase, but the increase in revenue was expected to be smaller because fewer older cattle (which have a higher value) are for sale following the drought.

Farm working expenses were budgeted to increase a further 8 percent despite farmers' intention to hold expenditure, at least until revenues are known with more certainty. Feed costs were expected to increase 15 percent as farmers rebuild feed stocks and face higher costs from feed contractors. Farmers were budgeting fertiliser expenditure to increase a further 12 percent despite their intention to cut fertiliser applications even further. Many farmers were expected to apply below-maintenance rates of fertiliser and most have cut back on high-analysis fertilisers. These cut-backs are likely to reduce farm production in the future.

»» TABLE 2.4: COMPARISON OF NORTH ISLAND SHEEP AND BEEF MODEL FARM RESULTS, 2007/08 AND 2008/09

	NORTHLAND	WAIKATO /BAY OF PLENTY INTENSIVE	CENTRAL NORTH ISLAND HILL	GISBORNE HILL	HAWKES BAY /WAIRARAPA HILL	EASTERN LOWER NORTH ISLAND INTENSIVE	WESTERN LOWER NORTH ISLAND INTENSIVE
Effective area (hectares)	314	300	635	821	624	347	208
Stock units (as at 1 July 2007)	3 216	3 094	5 399	7 022	5 621	3 348	2 670
Sheep to cattle ratio	24 : 76	51 : 49	63 : 37	55 : 45	73 : 27	63 : 37	64 : 36
LAMBING PERCENTAGE (%)							
2007/08	123	126	121	113	109	116	121
2008/09 budget	126	111	109	109	107	114	110
FARM PROFIT BEFORE TAX (\$)							
2007/08	48 577	59 837	-12 108	18 029	-35 122	7 709	49 158
2008/09 budget	67 103	102 461	12 174	84 999	46 736	48 902	49 833
Increase in profit	18 526	42 624	24 282	66 970	81 858	41 193	675
FARM SURPLUS FOR REINVESTMENT PER STOCK UNIT (\$)							
2007/08	0.44	-6.02	-4.88	-10.07	-11.40	-23.75	14.57
2008/09 budget	8.77	-14.91	-6.94	2.82	-2.23	-4.37	5.15
Change	8.34	-8.89	-2.05	12.89	9.17	19.38	-9.42
TOTAL NET CASH INCOME PER STOCK UNIT (\$)							
2007/08	67.05	84.35	57.37	44.19	49.30	63.21	88.03
2008/09 budget	76.34	104.56	62.69	54.55	63.98	79.08	96.23
FARM WORKING EXPENSES PER STOCK UNIT (\$)							
2007/08	36.71	50.66	36.39	32.82	37.52	47.32	47.82
2008/09 budget	39.39	53.22	42.14	32.08	40.25	47.90	59.26
FARM WORKING EXPENSES PLUS INTEREST PER STOCK UNIT (\$)							
2007/08	47.38	63.36	47.70	40.89	48.55	62.50	52.75
2008/09 budget	50.26	65.50	55.45	40.79	52.55	63.34	65.42
Equity ratio ¹ 2007/08 (%)	91	90	86	89	86	87	97
Return on equity ² 2007/08 (%)	-0.5	-0.4	-2.2	-1.1	-2.7	-1.5	-0.6
Return on assets ³ 2007/08 (%)	0.6	0.7	-0.4	0.2	-0.9	-0.2	-0.2

Notes

1 Ratio of farm assets less debt (equity) to farm assets.

2 Economic farm surplus less interest and lease as a percentage of equity.

3 Economic farm surplus divided by total farm assets.

Farmers were budgeting fuel costs to increase a further 20 percent over 2008/09, and higher fuel prices were expected to flow on to other expenses, including higher freight costs. Rates, insurance and administration costs were also expected to increase around 5 percent over the next year. Shearing costs were expected to decrease, but only because fewer sheep will be shorn.

»» TABLE 2.5: COMPARISON OF SOUTH ISLAND SHEEP AND BEEF MODEL FARM RESULTS, 2007/08 AND 2008/09

	SOUTH ISLAND HIGH COUNTRY	CANTERBURY MARLBOROUGH HILL COUNTRY	CANTERBURY MARLBOROUGH BREEDING AND FINISHING	OTAGO DRY HILL	SOUTHLAND SOUTH OTAGO HILL	SOUTHLAND SOUTH OTAGO INTENSIVE
Effective area (hectares)	10 212	1 397	365	2 000	723	194
Stock units (as at 1 July 2007)	10 788	5 566	3 755	6 546	6 067	2 646
Sheep to cattle ratio	80 : 20	62 : 38	74 : 26	86 : 14	87 : 13	97 : 03
LAMBING PERCENTAGE (%)						
2007/08	90	112	124	120	123	134
2008/09 budget	91	109	124	117	121	132
FARM PROFIT BEFORE TAX (\$)						
2007/08	3 921	23 187	46 428	800	62 929	15 047
2008/09 budget	62 321	50 866	68 022	76 792	108 312	57 630
Increase in profit	58 400	27 679	21 594	75 992	45 383	42 583
FARM SURPLUS FOR REINVESTMENT PER STOCK UNIT (\$)						
2007/08	1.49	1.18	8.65	-0.95	3.02	-3.29
2008/09 budget	-1.64	2.05	14.59	7.51	6.66	7.61
Change	-3.13	0.87	5.94	8.45	3.64	10.90
TOTAL NET CASH INCOME PER STOCK UNIT (\$)						
2007/08	57.69	57.30	86.00	58.61	65.79	77.85
2008/09 budget	61.41	66.06	108.60	68.93	77.75	94.78
FARM WORKING EXPENSES PER STOCK UNIT (\$)						
2007/08	37.12	36.78	49.45	38.56	36.47	43.07
2008/09 budget	41.98	43.70	61.67	44.51	42.73	51.01
FARM WORKING EXPENSES PLUS INTEREST PER STOCK UNIT (\$)						
2007/08	44.70	44.57	59.42	46.32	41.26	57.22
2008/09 budget	50.23	52.10	73.62	53.36	48.49	67.12
Equity ratio ¹ 2007/08 (%)	91	91	91	82	86	91
Return on equity ² 2007/08 (%)	-0.8	-1.0	-0.6	-2.1	-0.3	-0.6
Return on assets ³ 2007/08 (%)	0.4	-0.1	0.3	-0.4	1.1	0.3

Notes

1 Ratio of farm assets less debt (equity) to farm assets.

2 Economic farm surplus less interest and lease as a percentage of equity.

3 Economic farm surplus divided by total farm assets.

Interest costs were budgeted to increase a further 5 percent as a result of increased indebtedness and a slight rise in interest rates. With the official cash rate falling, this may ease the pressure on seasonal finance and any term loans up for renewal.

Sheep and beef farmers are concerned that they only have the ability to control expenses in a few areas. Expenditure in areas such as animal health, feed, fertiliser, weed and pest control, regrassing, and repairs and maintenance can potentially be cut back, but will have a direct effect on production and future income, as farmers have been constraining spending in these areas for several years now.

The farm surplus for reinvestment on the national sheep and beef model was budgeted to move back into positive territory at just \$12 000 in 2008/09 compared with a deficit of \$15 000 in 2007/08. In many cases this is only achieved by holding expenditure to the minimum, and is of concern to farmers. New borrowings of \$34 000 are needed to keep the national sheep and beef model afloat. The amount of tax paid has fallen substantially since 2005/06 and is expected to be minimal in 2008/09. Generally, cash deficits are reflected in increased overdrafts, which are then refinanced into term loans. This process may come under scrutiny in the wake of the current international credit crisis.

Sheep and beef farmers are in a finely balanced situation after the previous year's drought with less stock available for sale and low levels of supplementary feed supplies. Expectations are for a decreasing exchange rate, average climatic conditions, and better live weights for lambs resulting in increased prices. If any of these expectations alter, then the anticipated profitability (which is already very lean) will deteriorate.

Tables 2.4 and 2.5 highlight the variations between the sheep and beef farm models on a range of parameters. Note that Gisborne, Hawkes Bay/Wairarapa and the eastern lower North Island intensive models were also affected by drought in 2006/07.

► CONFIDENCE RETURNING TO DEER INDUSTRY

Deer farmers expect improved venison prices and revenue. The North Island model budgeted a farm profit before tax of \$53 000 in 2008/09, up 127 percent compared with 2007/08; while the South Island model budgeted \$64 000 (up 20 percent) in the same period.

North Island deer farmers were more bullish about rising prices than their South Island counterparts, expecting venison prices to increase around \$1.00 per kilogram over the season (compared with around 50 cents for South Island deer farmers); and velvet prices are expected to increase to a season average of \$80 per kilogram (compared with \$78 for the South Island in 2007/08).

North Island deer farmers were also optimistic about their ability to keep expenditure under control, budgeting an increase of around 4 percent. South Island deer farmers were budgeting an increase of around 7 percent.

Table 2.6 compares the smaller North Island deer farm with its larger South Island counterpart on a range of parameters.

»» TABLE 2.6: COMPARISON OF DEER MODEL FARM RESULTS, 2007/08 AND 2008/09

	NORTH ISLAND	SOUTH ISLAND
Effective area (hectares)	140	180
Deer stock units (as at 1 July 2007)	2 197	2 848
FARM PROFIT BEFORE TAX (\$)		
2007/08	23 523	53 222
2008/09 budget	53 280	63 697
Increase in profit	29 757	10 475
FARM SURPLUS FOR REINVESTMENT PER STOCK UNIT		
2007/08 (\$)	-6.71	9.92
2008/09 budget (\$)	7.56	9.78
Percentage change (%)	213	-1
NET CASH INCOME PER STOCK UNIT (\$)		
2007/08	70.56	79.92
2008/09 budget	84.37	85.24
FARM WORKING EXPENSES PER STOCK UNIT (\$)		
2007/08	47.26	38.33
2008/09 budget	49.29	42.54
LAND AND BUILDINGS PER STOCK UNIT (\$)		
2007/08	1 167	790
2008/09 budget	1 167	1 638
Equity ratio ¹ 2007/08 (%)	93	83
Return on equity ² 2007/08 (%)	0.9	2.3
Return on assets ³ 2007/08 (%)	1.4	3.4

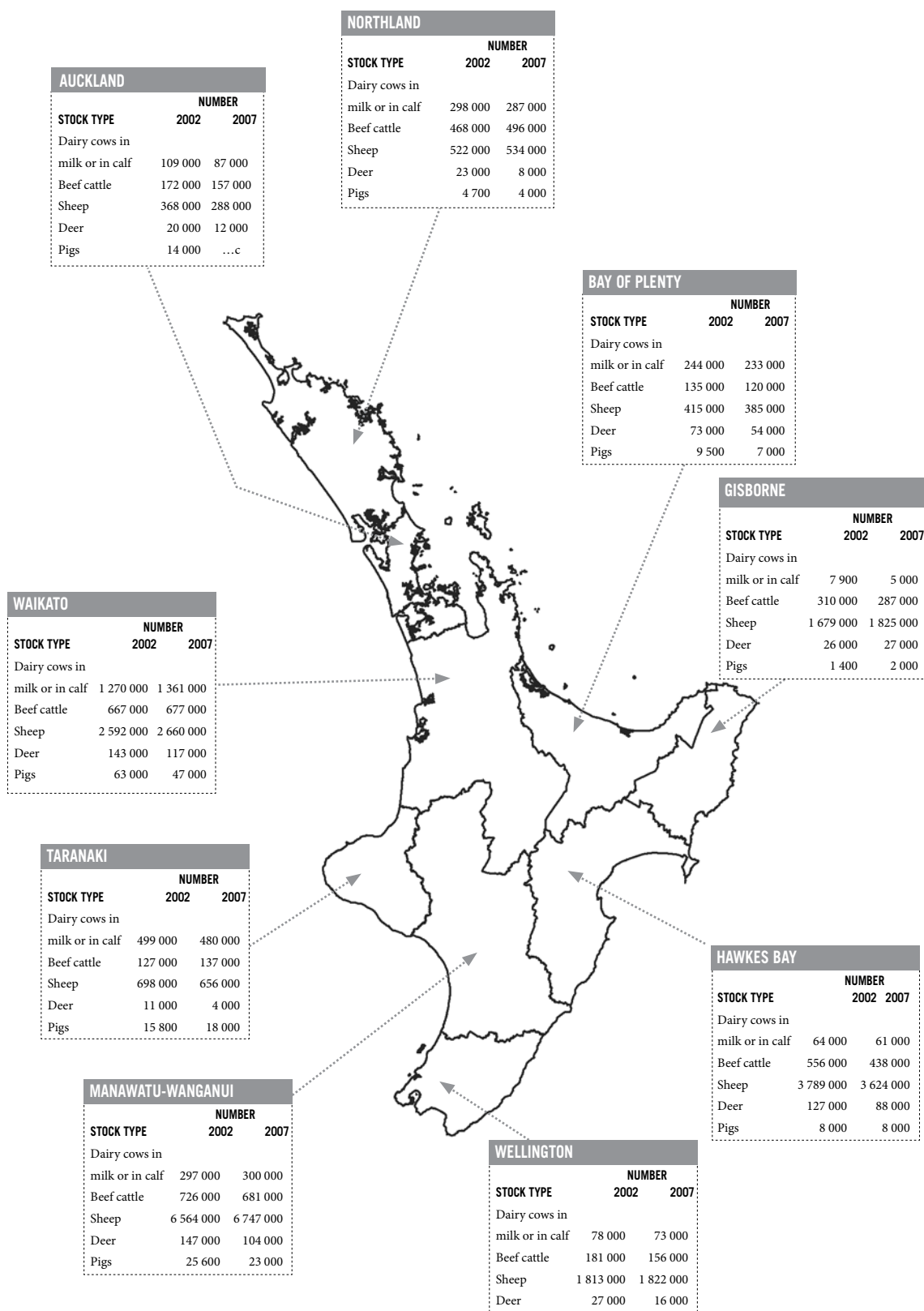
Notes

1 Ratio of farm assets less debt (equity) to farm assets.

2 Economic farm surplus less interest and lease as a percentage of equity.

3 Economic farm surplus divided by total farm assets.

»» FIGURE 2.3: NORTH ISLAND PASTORAL PRODUCTION STATISTICS, JUNE 2002 AND 2007



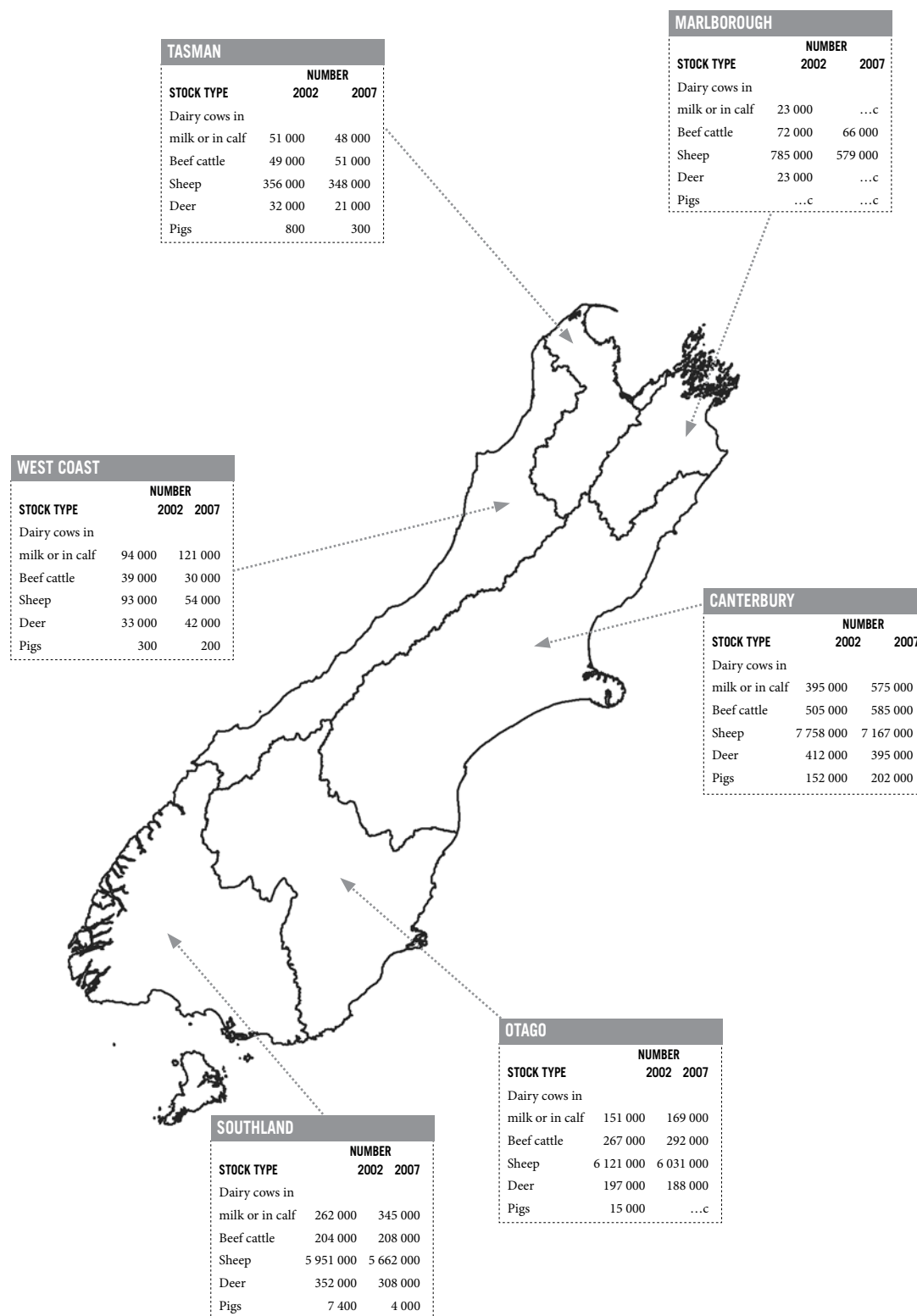
Sources

Statistics New Zealand Agricultural Production Census; 2003 and 2007.

Symbol

...c Confidential.

»»» FIGURE 2.4: SOUTH ISLAND PASTORAL PRODUCTION STATISTICS, JUNE 2002 AND 2007



Sources

Statistics New Zealand Agricultural Production Census; 2003 and 2007.

Symbol

...c Confidential.

PART 1

TRENDS AND ISSUES

The New Zealand pastoral sector is grappling with a range of issues as it works to ensure a sustainable future and remain ahead of major competitors. Many issues are common across the dairy, deer, and sheep and beef sectors, impacting on large and small industries alike.

The first chapter looks at the effects of the widespread and severe drought during 2007/08.

The second chapter calculates nitrate leaching and greenhouse gas emissions from the model pastoral farms. The chapter also summarises a range of environmental and management indicators collected from farmer panels as part of the farm monitoring programme.

The trends and issues specific to the individual pastoral sectors are covered in more detail in the sector issues and developments chapters in Parts 2, 3 and 4.

THE SUMMER OF DISCONTENT –

DROUGHT 2007/08

The most significant feature of the 2007/08 season was a widespread and severe drought over much of the country during summer and autumn. The only regions to escape the worst effects were Northland, Gisborne and Westland. The weather turned dry in December, and then gradually intensified, with drought-breaking rain not falling in most areas until mid-to-late April.

NIWA noted that summer temperatures were at least 1°C above average in the western North Island, Nelson and inland South Island areas, while the eastern North Island and Canterbury were up to 0.5°C above average. Meanwhile rainfall over summer was less than 50 percent of the usual amount in the Waikato and less than 75 percent in most other North Island areas, Southland and Otago. By March 2008, severe soil moisture deficits (more than 130 millimetres) existed in much of the North Island and Marlborough, with significant soil moisture deficits (more than 110 millimetres) in Nelson and eastern and southern South Island.³

The effects of the drought on farms were significant and widespread, with supplementary feed shortages and reduced production, and many sheep and beef farmers forced to sell off capital stock. The effects of this drought will take some years to dissipate.

»» DAIRY SECTOR

In the dairy sector, the drought had a variable impact on different dairying regions. The Waikato/Bay of Plenty was generally the worst hit region, with milksolids production down an average 12 percent. The regions next most affected were Taranaki and northern Southland (down an average 7 percent). Production in the lower North Island fell an average 1 percent. However, these average figures conceal significant variation among farms, with production on some farms in all regions falling 20 percent or more. At a national level, milksolids production fell 4.3 percent.

The carry-over effects of the drought will be felt for some time. Pasture covers and cow condition going into the 2008 spring were less than ideal on many farms, which will negatively affect production in 2008/09. The likelihood of increased deaths and problems getting cows back in calf is high. Many farmers will have to feed increased levels of supplements over the spring to ensure cows are well fed, which will add to farm operating costs. As a result, farms will take more than one year to recoup the production losses suffered during 2007/08.

A long-term impact of the drought is that many young replacement stock have not grown to target bodyweights. Many returned from grazing in relatively poor condition.

Generally, younger (less-experienced) farmers found the dry weather more difficult to handle than older (more-experienced) farmers did. Most farmers considered a drought of this extent to be an infrequent event, so do not plan to change farm management or farm systems to increase resilience for future droughts. Farmers, however, will probably make a concerted effort to replenish their supplementary feed inventories in 2008/09. With the dairy industry's current good profitability, farmers are not hesitating to buy in feed if required.

³ http://niwa.co.nz/_data/assets/pdf_file/0006/67506/sclimsum_08_summer.pdf. Accessed 14 October 2008.

MAF is analysing the cost of the drought to the dairy industry, and early estimates indicate a \$1.4 billion cost: a production loss of \$900 million over the two seasons 2007/08 and 2008/09; extra feed costs of \$437 million; and “hidden” costs, including cows not getting back in calf, increased deaths, and the life-time effect on young stock, of around \$100 million.

In many respects, the record payout of \$7.90 per kilogram of milksolids lessened the impact of the drought by allowing farmers to buy in significant quantities of supplementary feed, especially palm kernel. If the payout had been down around \$5.00, it would have been a different story.

»» DEER SECTOR

The drought was also a major issue for North Island and South Island deer farmers in 2007/08. Drought-affected farmers in the North Island tried hard not to sell capital stock, with even better venison returns expected for 2008/09 than received in 2007/08. However, some farmers did reduce stock numbers, with the industry reporting a higher-than-expected kill over the autumn. Dry conditions throughout the South Island also affected production in 2007/08, and are expected to negatively affect reproductive rates in 2008/09.

The drought caused poorer-than-average hind condition going into winter 2008, low pasture covers, and no contingency feed for future adverse events. Farmers’ ability to source additional feed is of concern as national stocks are low. One-third of the usual quantity of silage was made in 2007/08, and high demand for additional supplementary feed helped to drive up farm operating expenses.

The average age of deer farmers (over 50) may have worked in their favour as many had experienced droughts before and were generally proactive in managing the effects of this drought.

The impact of the drought is estimated to average \$68 000 per deer farm over 2007/08 and 2008/09, based on the North Island deer model.

»» SHEEP AND BEEF SECTOR

The overall cost of the drought to the sheep and beef sector is less than that to the dairy sector, but the drought had a more severe impact on the sheep and beef sector due to its more fragile economic situation, its lesser ability to buy in supplements, and its limited response alternatives (apart from selling stock). For the southern areas of the east coast of the North Island, this drought was back to back with the 2007 drought.

Farmers in all areas were forced to sell off stock throughout the drought period, particularly as supplementary feed for purchase was scarce and expensive, and competition for feed from the dairy industry was strong. The widespread nature of the drought meant few areas could finish the usual number of animals (or had more profitable options for selling their grass, mainly to dairy operations), and the flood of lambs and cull ewes onto the store market was met with very few buyers. Prices collapsed and, while the price for store lambs averaged \$25 to \$35 per head, some sold at the worst time for less than \$20 per head.

While farmers were unhappy at the time it took to get cull ewes processed, it must be acknowledged that the meat industry processed 1.4 million more ewes in 2007/08 than in 2006/07. Farmers are concerned that future reductions in processing capacity will make these delays in processing more common and that farm management will need to adapt to this trend. Many lambs were also killed at light weights, due to the depressed nature of the store market.

While the drought broke in most areas through April, the weather remained relatively dry and cold, so pastures did not recover sufficiently. Many farms went into winter facing a very tight feed situation. With ewes going to the ram in relatively poor condition, scanning percentages were 20 to 30 percentage points less than in previous years.

Winter 2008 was mild in many areas and with above-average winter soil moisture levels farmers expected above-average spring growth. This growth would allow farmers to replenish reserves of hay and silage, which have been eroded of the past three winters.

Ironically, it is likely many farmers will have a surplus of feed through the late spring-summer period, and will have difficulty controlling this with lower stock numbers than usual.

One of the main impacts of the drought will be a significant decrease in the number of lambs born in 2008/09 compared with 2007/08 – a combination of fewer ewes and lower lambing percentages (as outlined in Table 3.1).

»» TABLE 3.1: LAMBING PERCENTAGES, NUMBER OF BREEDING EWES, AND NUMBER OF LAMBS BORN, 2007/08 AND 2008/09

MODEL FARM	LAMBING (%)		OPENING NUMBER OF BREEDING EWES ON MODEL FARM		FORECAST REDUCTION IN LAMBS BORN ON MODEL FARM IN 2008/09
	2007/08	2008/09 ²	2007/08	2008/09 ²	
Northland	123	126	614	572	35
Waikato/Bay of Plenty intensive	126	111	1 014	1 009	165
Central North Island hill country	121	109	2 727	2 509	566
Gisborne hill country ¹	113	109	2 990	3 000	109
Hawkes Bay/Wairarapa hill country ¹	109	107	3 140	2 965	250
Eastern lower North Island intensive ¹	116	114	1 615	1 562	93
Western lower North Island intensive	121	110	1 213	1 029	339
South Island high country	90	91	5 491	5 051	345
Canterbury/Marlborough hill country	112	109	2 614	2 486	218
Canterbury/Marlborough breeding and finishing	124	124	2 368	2 043	403
Otago dry hill	120	117	4 675	4 155	749
Otago/Southland hill country	123	121	4 374	4 110	407
Southland/South Otago intensive	134	132	2 165	2 061	181
National model (weighted averages)	120	116	2 591	2 408	322

Note

1 The number of breeding ewes and lambing percentages were less than usual in 2007/08 because of the 2007 autumn drought (see footnotes 5 also).

2 The 2008/09 figures used are budgeted rather than actual figures.

If the difference in the number of lambs born is multiplied up by the number of farms each model represents, the total equals 3.97 million⁴ fewer lambs for 2008/09 than in 2007/08. If this figure is then multiplied by the average price farmers are budgeting for lambs in 2008/09, the total loss will be \$269 million.⁵ (Note that this reduction in the number of lambs born does not take into account further reductions due to very few hoggets being mated and fewer absolute numbers due to sheep farms being converted to dairy.)

In addition to the decrease in lambs, the opening number of ewes between 2007/08 and 2008/09 is expected to fall 2.25 million⁶.

Where possible, farmers chose to reduce sheep numbers rather than cattle. However, some hill country farms did significantly reduce cattle numbers. The Central North Island hill country model farm decreased the number of breeding cows by 6 percent, and the Hawkes Bay/Wairarapa hill country and Canterbury/Marlborough hill country models both decreased the number of breeding cows by 8 percent. This will reduce the number of beef weaners coming forward for finishing in future.

One of the flow-on impacts of the drought is that fewer store animals, both lambs and beef, are expected to be available in the summer and autumn. With lower stocking rates and fewer lambs born, hill country farms are expected to try to finish a larger proportion of their lambs rather than selling them store, and some are planning to plant summer feed crops to make this possible. This is expected to be a long-term adaptation to drought. Further long-term impacts will come from poorly grown replacement heifers and ewe hoggets. Two-tooth lamb scanning rates on the east coast of the North Island were lower in 2007/08 than in 2006/07, reflecting the impact of the 2007 drought.

It is noticeable that farmers who reacted quickly to the drought and stuck with their plans for selling off stock have seen their farms come through the winter in much better condition.

Farmers will look to rebuild stock numbers after the drought, but their ability to do so will be constrained by their need to maintain cash flow, especially when faced with significant increases in fertiliser prices.

Overall, the sector's profitability outlook is poor, especially in the hill country where farmers have fewer options for diversification or intensification. As the model budgets show, many farms made a loss in 2007/08 and are expected to make a loss again in 2008/09. Many farms are surviving by increasing borrowing against equity and raising off-farm income. Morale in the sector is low.

⁴ The number of farms, 12 340, multiplied by an average reduction of 322 lambs (weighted national figure).

⁵ The reductions in the numbers of lambs expected to be born on the east coast of the North Island in Table 3.1 in 2008 are in addition to reductions that occurred in 2007 because of the autumn 2007 drought. In 2007, compared with a year earlier, 500 fewer lambs were born on the Gisborne hill country model farm, 700 fewer on the Hawkes Bay/Wairarapa hill country model farm, and 400 fewer on the eastern lower North Island intensive model farm.

⁶ The number of farms, 12 340, multiplied by the 183 weighted average reduction in opening ewes (2591 – 2408).

NITRATE LEACHING AND GREENHOUSE GAS EMISSIONS

4

»» KEY POINTS

- › Nitrate leaching and greenhouse gas emissions are generally higher when stocking rates, application rates of nitrogen fertiliser, and/or volumes of purchased feed are higher.
- › Nationally, nitrogen losses through nitrate leaching averaged 39 kilograms of nitrogen per hectare per year (kgN/ha/yr) for the dairy models, 12 kgN/ha/yr for the deer models, and 8 kgN/ha/yr for the sheep and beef models.
- › Greenhouse gas emissions on model dairy farms averaged about 10 400 kilograms of carbon dioxide equivalents per hectare per year (kgCO₂-e/ha/yr), on model deer farms 5900 kgCO₂-e/ha/yr, and on model sheep and beef farms 3600 kgCO₂-e/ha/yr.

»» BACKGROUND

Estimates of farm productivity have expanded beyond economic performance to include social and environmental factors. To better understand environmental outputs, MAF analysed the farm monitoring pastoral models⁷ using AgResearch's nutrient budget model *Overseer*⁸. In particular, *Overseer* was used to estimate greenhouse gas emissions and losses of nitrogen in the soil through nitrate leaching.

Overseer is a tool for examining the impact of nutrient use and flows on a farm. It looks at nutrient use efficiency and possible environmental impacts. *Overseer* can also be used to assess options for reducing the environmental impact of nutrients.

The models provided insufficient information for *Overseer*, so assumptions had to be made about land use practices⁹. Given these assumptions and that *Overseer* was applied to models rather than individual farms,¹⁰ a degree of caution needs to be applied when interpreting the results.

In addition to this analysis, MAF measures a range of environmental and management indicators from individual farms. This information is summarised in the second part of this chapter.

»» NITRATE LEACHING

Nitrate leaching rates reflect the variation in the range of inputs (particularly the use of nitrogen fertilisers and imported supplementary feed), stocking rates and livestock policies across the different MAF models (Table 4.1).

At a national level, nitrate-leaching rates on dairy farms was 39 kgN/ha/yr and on deer farms was 12 kgN/ha/yr in both 2006/07 and 2007/08. The rate for sheep and beef farms was 8 kgN/ha/yr in 2006/07¹¹.

⁷ The analysis was completed for dairy and deer models for 2006/07 and 2007/08 and for sheep and beef models for 2006/07.

⁸ *Overseer* version 5.3.6.1 was used for this report.

⁹ For further information, see Appendix 3.

¹⁰ MAF is collecting *Overseer* data from each monitored farm, so it can undertake further research into the impacts of different variables on greenhouse gas emissions and nitrate outputs.

¹¹ For information about the weightings used to compile the national models, see Appendix 3.

»» TABLE 4.1: NITRATE LEACHING LOSSES FOR PASTORAL MODELS, 2006/07 AND 2007/08

MODEL	YEAR	NATIONAL AVERAGE NITROGEN LEACHING (KGN/HA/YR)	RANGE OF NITROGEN LEACHING FOR ALL MODELS (KGN/HA/YR)	EXPECTED RANGE FOR AVERAGE FARM ¹ (KGN/HA/YR)
Dairy	2006/07	39	17–51	30–50
	2007/08	39	19–54	
Deer	2006/07	12	11–13	5–20
	2007/08	12	11–13	
Sheep and beef	2006/07	8	3–11	5–20

Notes

kgN/ha/yr = kilograms of nitrogen per hectare per year

¹ This information provided in Overseer.

There was little variation in leaching rates in the deer and sheep and beef models. However, the dairy models varied considerably, although the difference between years was not large (Table 4.2).

»» TABLE 4.2: NITRATE LEACHING LOSSES FOR DAIRY MODELS, 2006/07 AND 2007/08

	NATIONAL AVERAGE	NORTHLAND	WAIKATO/BAY OF PLENTY	TARANAKI	LOWER NORTH ISLAND ¹	CANTERBURY	SOUTHLAND ¹
2006/07							
Stocking rate (cows/ha)	2.83	2.26	2.83	2.76	2.77	3.36	2.75
Production (kgMS/ha)	962	600	931	916	880	1 324	1 101
Nitrogen fertiliser applied (kgN/ha)	144	94	134	134	110	249	146
Nitrate leaching loss (kgN/ha/yr)	39	17	43	39	31	51	30
Nitrate leaching loss (gN/kgMS)	4.0	2.8	4.7	4.3	3.5	3.9	2.7
2007/08							
Stocking rate (cows/ha)	2.84	2.21	2.83	2.78	2.77	3.29	2.93
Production (kgMS/ha)	933	656	839	853	873	1 362	1 093
Nitrogen fertiliser applied (kgN/ha)	136	95	108	134	142	241	132
Nitrate leaching loss (kgN/ha/yr)	39	19	39	44	34	54	31
Nitrate leaching loss (gN/kgMS)	4.2	2.9	4.7	5.2	3.9	4.0	2.8

Notes

gN/kgMS = grams of nitrogen per kilogram of milksolids; ha = hectare; kgMS/ha = kilograms of milksolids per hectare; kgN/ha = kilograms of nitrogen per hectare; yr = year.

¹ Lower North Island and Southland models have a run-off. The stocking rates and nitrate leaching rates are calculated across both the run-off and milking platform.

Over 2006/07 and 2007/08, average nitrate losses per hectare for the dairy models ranged from 18 kgN/ha/yr (Northland) to 53 kgN/ha/yr (Canterbury). When nitrate-leaching rates are compared on a milksolids production basis, the models ranged from 2.7 to 5.2 grams of nitrogen per kilogram of milksolids.

More-intensive farms, that is, those farms with higher stocking rates and nitrogen fertiliser inputs had higher nitrate leaching rates. The use of supplements with high crude protein percentages can also increase nitrogen leaching rates. Lower winter nitrogen fertiliser application rates and grazing stock off-farm (replacements and winter grazing) reduced leaching rates.

All of the dairy models, except the Waikato/Bay of Plenty model, had small increases in leaching rates per hectare between 2006/07 and 2007/08 with an average increase of 6 percent and increases ranging from 3 percent to 13 percent.

The Waikato/Bay of Plenty model's decrease in leaching losses largely reflected the impact of the severe summer drought with lower pasture production and intake, and lower total milksolids production. Management changes as a result of the drought included less nitrogen fertiliser applied than in the previous year and a proportion of the herd wintered off. An additional 47 tonnes of dry matter was also purchased as maize silage. The maize silage would have had lower crude protein content than the pasture consumed resulting in reduced nitrogen intakes and less nitrogen in the urine. This would have further reduced nitrate leaching rates and emissions. In addition, although *Overseer* does not use changes in annual rainfall to model leaching, reduced leaching could also be expected in a drought year, as leaching is rainfall dependent¹².

The largest increase in nitrate-leaching rates occurred in the Taranaki model. This was also due to the drought with an additional 105 tonnes of dry matter purchased (mainly palm kernel). Palm kernel is likely to have had a higher metabolisable energy and crude protein content than the drought-affected pastures. This would have resulted in higher nitrogen intakes, increased nitrogen leaching, and more nitrous oxide emissions.

»» GREENHOUSE GAS EMISSIONS

Greenhouse gases are atmospheric gases that help to trap heat within the Earth's atmosphere. Agricultural emissions make up almost half of New Zealand's total emissions¹³. The term "agricultural emissions" refers to the non-carbon dioxide greenhouse gas emissions from agricultural production: methane from livestock (about two-thirds) and nitrous oxide from animal excrement and the use of nitrogen fertiliser (about one-third). (See the definitions of methane and nitrous oxide below.)

METHANE

Microbial activity in the rumen of sheep, cattle and deer allows these animals to digest fibrous foods. The microbial activity also produces methane, which is lost to the atmosphere through belching. It is estimated that ruminant livestock account for 97 percent of New Zealand's agricultural methane emissions and 88 percent of New Zealand's total methane production.

One unit of methane is equivalent to 21 units of carbon dioxide.

NITROUS OXIDE

Nitrous oxide is produced as a natural by-product of the nitrogen cycle, when nitrogen, principally from urine patches but also from nitrogen fertiliser, is converted by a series of chemical reactions into nitrate, and the nitrate is then converted back to inert nitrogen gas.

One unit of nitrous oxide is equivalent to 310 units of carbon dioxide.

Source:

Fert Research (2007) Impact of fertiliser on greenhouse gas emissions. Code of practice for nutrient management. Fact sheet 10. <http://www.fertresearch.org.nz/code-of-practice/fact-sheets>. Fert Research; Auckland. Accessed 24 October 2008.

¹² *Overseer* does not vary its measure of rainfall to actual yearly values when modelling leaching.

¹³ Ministry for the Environment (2008) *Factsheet 21: Agriculture in the emissions trading scheme*. Ministry for the Environment; Wellington. <http://www.mfe.govt.nz/publications/climate/emissions-factsheets/factsheet-21.html>. Accessed 24 October 2008.

Overseer estimates four different components of greenhouse gases, including:

- › methane from animals;
- › nitrous oxide emissions from excreta, effluent and nitrogen fertiliser;
- › carbon dioxide emissions from lime, electricity, fuel, and nitrogen fertiliser;
- › capital development, which are the indirect carbon dioxide emissions associated with the production of capital items such as tractors, machinery, buildings, fences, and races (which are not included in this report)¹⁴.

› GREENHOUSE GAS EMISSIONS FOR PASTORAL MODELS

The different models have a wide range of greenhouse gas emissions, particularly in the dairy and sheep and beef sectors (Table 4.3). At a national level, across both 2006/07 and 2007/08, greenhouse gas emissions from the dairy models averaged about 10 400 kilograms of carbon dioxide equivalents per hectare per year (kgCO₂-e/ha/yr) and the deer models averaged about 5850 kgCO₂-e/ha/yr. The average emissions for the sheep and beef models in 2006/07 were about 3600 kgCO₂-e/ha/yr.

»» TABLE 4.3: GREENHOUSE GAS EMISSIONS FOR PASTORAL MODELS, 2006/07 AND 2007/08

MODEL	YEAR	NATIONAL AVERAGE GREENHOUSE GAS EMISSIONS ¹ (kgCO ₂ -e/ha/yr)	RANGE OF GREENHOUSE GAS EMISSIONS FOR ALL MODELS (kgCO ₂ -e/ha/yr)
Dairy	2006/07	10 513	8 144–14 385
	2007/08	10 309	8 604–14 158
Deer	2006/07	5 801	5 596–6 001
	2007/08	5 916	5 848–5 988
Sheep and beef	2006/07	3 581	368–4 882

Notes

kgCO₂-e/ha/yr = kilograms of carbon dioxide equivalents per hectare per year.

¹ This is weighted across the different farm-monitoring models.

As with nitrate leaching, emission levels per hectare varied considerably between the different farming sectors and between models within the same sector. In general, higher stocking rates, higher nitrogen fertiliser applications and more protein-rich supplements result in higher emissions. Grazing stock off the main property reduced emission rates per hectare (for example, as in the Southland dairy model).

Emissions per hectare for each dairy model varied little between seasons, but the range of emissions between the different models was wide: from a two-year average of about 8400 kgCO₂-e/ha/yr (Northland) to about 14 300 kgCO₂-e/ha/yr (Canterbury) (Table 4.4).

However, when compared against milksolids production (as measured by kilograms of carbon dioxide equivalents per kilogram of milksolids or kgCO₂-e/kgMS), Canterbury is slightly below and Northland is slightly above the national average of 11 kgCO₂-e/kgMS. Note that the MAF farm monitoring models do not capture electricity and

¹⁴ For further information see Appendix 3.

fuel use or capital items for calculating greenhouse gas emissions. If these items were included emissions would be expected to increase for all models, but especially Canterbury because of the high irrigation use in the region.

Methane makes up almost two-thirds (64 percent) of the animal-sourced emissions for each dairy model (nitrous oxide plus methane). This is closely related to dry matter intake and hence production. There was little variation in methane emissions between models or across years.

►► TABLE 4.4: GREENHOUSE GAS EMISSIONS FOR DAIRY MODELS, 2006/07 AND 2007/08

	NATIONAL AVERAGE	NORTHLAND	WAIKATO/BAY OF PLENTY	TARANAKI	LOWER NORTH ISLAND ¹	CANTERBURY	SOUTHLAND ¹
2006/07							
Stocking rate	2.83	2.26	2.83	2.76	2.77	3.36	2.75
Production (kgMS/ha)	962	600	931	916	880	1 324	1 101
Nitrogen fertiliser applied (kgN/ha)	144	94	134	134	110	249	146
Greenhouse gas emissions per hectare (kgCO ₂ -e/ha/yr)	10 513	8 144	10 466	10 006	9 719	14 385	9 419
Greenhouse gas emissions per kilogram milksolids (kgCO ₂ -e/kgMS)	11.1	13.6	11.2	11.0	11.0	10.9	8.6
2007/08							
Stocking rate	2.84	2.21	2.83	2.78	2.77	3.29	2.93
Production (kgMS/ha)	933	656	839	853	873	1 362	1 093
Nitrogen fertiliser applied (kgN/ha)	136	95	108	134	142	241	132
Greenhouse gas emissions per hectare (kgCO ₂ -e/ha/yr)	10 309	8 604	9 765	10 117	9 907	14 158	9 298
Greenhouse gas emissions per kilogram milksolids (kgCO ₂ -e/kgMS)	11.2	13.1	11.6	11.9	11.3	10.4	8.5

Notes

kgCO₂-e/ha = kilograms of carbon dioxide equivalents per hectare; kgMS/ha = kilograms of milksolids per hectare; kgN/ha = kilograms of nitrogen per hectare; yr = year.

¹ Lower North Island and Southland models have a run-off. The stocking rates and nitrate leaching rates are calculated across both the run-off and milking platform.

The emissions estimated in Table 4.4 are similar to the recently published estimates from New Zealand dairy farms in Table 4.5. New Zealand dairy farms typically have lower emissions per kilogram of milk (emissions intensity) than European dairy farms, largely due to a favourable temperate climate and perennial ryegrass and white clover pasture. However, the intensification of New Zealand dairy farms tends to increase emissions intensity¹⁵.

Across the sheep and beef models (Table 4.6), the range on a per hectare basis was from 370 kgCO₂-e/ha/yr (South Island high country) to 4900 kgCO₂-e/ha/yr (Southland/south Otago intensive). However, when viewed on a per-stock-unit basis, the models varied little with emissions averaging 390 kilograms carbon dioxide equivalent per stock unit (kgCO₂-e/su), and ranging from 350 to 440 kgCO₂-e/su. This is largely due to the proportion of emissions attributed to methane, which is directly linked to the quantity of dry matter consumed by each stock unit and does not vary much between farm models.

¹⁵ C Basset-Mens, S Ledgard and M Boyes (2007) *Eco-efficiency of intensification scenarios for milk production in New Zealand*, Ecological Economics doi:10.1016/j.ecolecon.2007.11.017.

Emissions between the two deer models varied little (Table 4.7), reflecting similar stocking rates and similar low inputs of supplements and nitrogen fertiliser.

Across the deer and sheep and beef models, 72 percent of animal-sourced emissions are from methane compared with 64 percent in the dairy models.

»» TABLE 4.5: ESTIMATED EMISSIONS FROM NEW ZEALAND DAIRY FARM

SOURCE OF ESTIMATE	KILOGRAMS OF CARBON DIOXIDE EQUIVALENTS PER HECTARE	KILOGRAMS OF CARBON DIOXIDE EQUIVALENTS PER TONNE OF MILKSOLIDS
Basset-Mens et al (2007) ¹	11 320	11 185
Ministry of Agriculture and Forestry, Sustainable Farming Fund project ²	10 340	9 920
Lincoln University dairy farm – no eco-n ^{2,3}	17 700	8 875
Lincoln University dairy farm – with eco-n ^{2,3}	15 645	7 845

Notes

1 C Basset-Mens, S Ledgard and M Boyes (2007) *Eco-efficiency of intensification scenarios for milk production in New Zealand*, Ecological Economics doi:10.1016/j.ecolecon.2007.11.017. Note that these figures are taken from the Sustainable Farming Fund project report referenced below and do not deduct 15 percent of emissions allocated to farm meat outputs.

2 Ministry of Agriculture and Forestry. Project L07 057: Lincoln University Dairy Farm (LUDF) *Resource Inventory and Carbon Footprint Final Report*.

<http://www.maf.govt.nz/sff/about-projects/search/L07-057/final-report.htm>. Accessed 20 October 2008. Note that this report includes emissions associated with capital and energy use.

3 Eco-n is a nitrification inhibitor (dicyandiamide).

»» TABLE 4.6: GREENHOUSE GAS EMISSIONS FOR SHEEP AND BEEF MODELS, 2006/07

	NATIONAL WEIGHTED AVERAGE	NORTHLAND	WAIKATO/ BAY OF PLENTY INTENSIVE	CENTRAL NORTH ISLAND	GISBORNE HILL COUNTRY	HAWKES BAY/ WAIRARAPA HILL COUNTRY	LOWER NORTH ISLAND EAST	SOUTH NORTH ISLAND WEST	SOUTH ISLAND HIGH COUNTRY	CANTERBURY/ MARLBOROUGH HILL COUNTRY	CANTERBURY/ MARLBOROUGH BREEDING & FINISHING	OTAGO DRY HILL COUNTRY	SOUTHLAND SOUTH OTAGO HILL COUNTRY	SOUTHLAND SOUTH OTAGO INTENSIVE
Stock units per hectare	9.2	10.0	11.2	8.5	9.1	9.6	11.7	11.8	0.9	3.9	9.7	3.3	8.3	13.9
Leaching loss (kgN/ha/yr)	8	10	11	8	8	7	11	10	3	5	9	3	5	8
Total greenhouse gas emissions (kgCO ₂ -e/ha/yr)	3 581	4 380	4 210	3 282	3 650	3 858	4 626	4 447	368	1 540	3 774	1 228	2 896	4 882
Nitrate losses per stock unit (kgN/su)	0.9	1.0	1.0	0.9	0.9	0.7	0.9	0.8	3.5	1.3	0.9	0.9	0.6	0.6
Emissions per stock unit (kgCO ₂ -e/su)	390	436	375	385	401	403	394	376	429	400	387	376	348	352

Notes

kgCO₂-e/ha = kilograms of carbon dioxide equivalents per hectare;

kgN/su = kilograms of nitrogen per stock unit;

kgN/ha = kilograms of nitrogen per hectare; yr = year.

»»» TABLE 4.7: NITRATE LEACHING RATES AND GREENHOUSE GAS EMISSIONS FOR DEER MODELS, 2006/07 AND 2007/08

MODEL	OUTPUT	2006/07	2007/08
North Island deer	Stock units per hectare ¹	15.7	15.7
	Leaching loss (kgN/ha/yr)	13	13
	Greenhouse gas emissions (kgCO ₂ -e/ha/yr)	6 001	5 988
South Island deer	Stock units per hectare	15.3	15.8
	Leaching loss (kgN/ha/yr)	11	11
	Greenhouse gas emissions (kgCO ₂ -e/ha/yr)	5 596	5 848

Notes

kgCO₂-e/ha = kilograms of carbon dioxide equivalents per hectare; kgN/ha = kilograms of nitrogen per hectare; yr = year.

1 Stocking rates for both deer models are based on opening numbers and do not take into account flows of animals in and out of the farm system.

»»» MANAGEMENT AND ENVIRONMENTAL INDICATORS

In 2007, MAF began collecting environmental and management indicators through its farm monitoring programme. The indicators (outlined in Table 4.8), help to provide a broader picture of on-farm activities and their usefulness will increase as the data is collected over successive years.

» LEVEL OF NUTRIENT BUDGETING

The Dairying and Clean Streams Accord and strong industry support for the accord are reflected in the large proportion of dairy farms (97 percent) having completed a nutrient budget. However, the level of understanding of what the nutrient budget means varied considerably (Table 4.9). Sixty-two percent of monitored farmers said they fully or mostly understood the budget, but 38 percent said they had only a slight or no understanding.

In most cases, farmers rely on the expertise of advisers such as fertiliser representatives and farm consultants to develop nutrient budgets.

In 2006/07, 60 percent of monitored dairy farmers reported changing their fertiliser policies because of the nutrient budget completed for their farm. In 2007/08, this proportion rose to 71 percent. Policy changes included reducing nitrogen fertiliser rates, increasing and/or decreasing application rates of other elements, using lime, and reducing or stopping the application of fertiliser to effluent areas on the farm where dairy shed effluent is spread.

Several farmers commented that the nutrient budget had improved their decision-making in relation to fertiliser use.

Thirty-five percent of monitored deer farmers in 2007/08 (14 out of 40 farms) had completed a nutrient budget. Most of these deer farmers said they mostly or fully understood it.

► USE OF NITRIFICATION INHIBITORS

The use of nitrification inhibitors was monitored in 2007/08: an average of 17 percent of monitored dairy farmers used them. Taranaki reported the highest use at 38 percent with Canterbury the second highest at 33 percent. This compares with an average 10 percent use in the other regions¹⁶, ranging from 2 percent to 16 percent. Care should be taken in interpreting these figures, as the programme monitors relatively few farmers who were not randomly selected.

► SOURCES OF INFORMATION

In 2006/07, farmers were asked where they source their information. Rural and industry publications provided the most information for farmers across all farm types (Table 4.10). Merchants were also an important source of information. The use of consultants, discussion groups, field days, toolkits and the Internet was higher for dairy farmers than for sheep and beef farmers and deer farmers. Field days and workshops were also important sources for deer farmers and sheep and beef farmers.

»» TABLE 4.8: ENVIRONMENTAL AND MANAGEMENT INDICATORS COLLECTED

ENVIRONMENTAL INDICATORS

Soil type and fertility

Use of nutrient budgets

Effluent management (system used, area applied)

Off-paddock wintering systems

FARM MANAGEMENT PRACTICES

Irrigation (quantity, type used, technologies used)

Fertiliser application rates

Supplements purchased (including winter grazing)

Staff turnover

Information sources

»» TABLE 4.9: LEVEL OF UNDERSTANDING OF INDIVIDUAL DAIRY FARM NUTRIENT BUDGETS

	NORTHLAND	WAIKATO/BAY OF PLENTY	TARANAKI	LOWER NORTH ISLAND	CANTERBURY	SOUTHLAND	TOTAL RESPONSES (%)
Fully	3	3	3	3	17	9	22
Mostly	6	20	15	10	4	15	40
Slightly	8	21	7	10	1	6	30
None	8	4	0	1	0	0	8

¹⁶ Northland, Waikato/Bay of Plenty, lower North Island and Southland.

»» TABLE 4.10 SOURCES OF INFORMATION FOR MONITORED FARMERS, 2006/07

	RESPONSES FROM DAIRY FARMERS (%)	RESPONSES FROM SHEEP AND BEEF FARMERS (%)	RESPONSES FROM FROM DEER FARMERS (%)
Discussion groups	57	18	42
Rural publications	92	85	92
Industry publications	92	85	96
Field days	76	39	63
Workshops	38	39	13
Toolkits	30	3	4
Internet search	48	15	21
Merchants	83	53	54
Consultants	69	18	38
Other	–	40	–

PART 2

DAIRY SECTOR

This section provides information on the production and financial status of dairy farmers from different regions throughout New Zealand, as well as commentary on dairy sector issues and developments.

The dairy farm models typify an average dairy farm within a region. Each model presents actual figures for 2007/08 and a budget for 2008/09. Budgets are based on farmer views collected in May 2008, augmented with input from those servicing the sectors. The budgets have been calculated using Fonterra's payout announcement of \$7.00 on 30 May 2008. See Appendix 2 for information on the dairy payout calculations.

The information for the dairy models has been collected from 189 seasonal supply dairy farms that supply to Fonterra. All the monitored farms are owner-operated.

This year, a Taranaki dairy model has been reintroduced. A Taranaki model existed until 2000, when it was incorporated into the lower North Island model.

The West Coast South Island chapter, which covers dairy farms supplying to Westland Milk Products, does not contain a model but includes financial information in the commentary. For more information on the models, see Appendix 2.

STOP PRESS

As this report went to press Fonterra's forecast final payout for the 2008/09 season was \$6.00 per kilogram of milksolids. This is lower than the \$7.00 forecast used to prepare these dairy farm model budgets in June 2008 for this publication. A deteriorating economic outlook has seen commodity prices fall significantly since the onset of the current phase of the credit crisis in September 2008 and uncertainty remains as to what the actual final payout will be.

If the national dairy model budget (Table 12.1) is adjusted using the revised forecast final payout of \$6.00, milksolids revenue falls nearly \$113 000 for the 2008/09 season compared with the original forecast.

	ORIGINAL 2008/09 BUDGET (\$)	SEPTEMBER REVISED 2008/09 BUDGET (\$)	NOVEMBER REVISED 2008/09 BUDGET (\$)	CHANGE FROM ORIGINAL TO NOVEMBER REVISED BUDGET (%)
Total payout	7.00	6.60	6.00	-14
Milksolids revenue	872 558	827 922	759 218	-13
Net cash income	921 104	876 476	807 764	-12
Farm profit before tax	223 680	179 045	110 340	-51

»» DAIRY PAYOUT CALCULATIONS FOR 2008/09

The MAF dairy models work on a financial year of 1 July to 30 June. The payout within the year is a combination of the advance payment to 20 June for the current year and the deferred payment from the preceding season, payment of which is spread over July to October.

» DEFERRED PAYMENT

The deferred payment of \$1.00 per kilogram of milksolids supplied in the 2007/08 season was paid from July to October 2008. It brings the total payment for supply in the 2007/08 season to \$7.62 per kilogram of milksolids (\$7.90 less 28 cents retention). The advance payment for 2007/08 was calculated as \$6.62 per kilogram¹.

» ADVANCE PAYMENT

The advance payment for milk produced in the 2008/09 season is based on payments made up to 20 June 2009. Fonterra pays for milk delivered each month based on a schedule of advance payment rates which generally increase during the season. If the payment rate increases, farmers also receive a top-up on milk delivered earlier in the season which was paid at a lower advance payment rate.

The 2008/09 budgets include an advance payment calculated as \$5.41 per kilogram of milksolids. This is made up of \$5.30 commodity milk price (Fonterra's 30 May 2008 forecast advance payment rate for milk to 20 June 2009), plus 11 cents per kilogram of milksolids value-added payment.

The 11 cents value-added payment was calculated as representing approximately two-thirds of the forecast value-added payment of 15 cents per kilogram of milksolids that was previously paid in February for milk produced by 31 December².

As this report went to press Fonterra's forecast final payout for the 2008/09 season was \$6.00 per kilogram of milksolids (down from \$7.00). The new advance payment for milk to 20 June 2009 was \$4.45 per kilogram of milksolids, compared with the \$5.30 earlier announced. The advance value-added payment was increased to 20 cents to be paid on 20 April 2009. Therefore, the total advance payment in 2008/09 would be \$4.58 per kilogram of milksolids.

With a total forecast payout of \$6.00, an advance of \$4.58 leaves a deferred payment of \$1.42 per kilogram of milksolids to be paid in the first quarter 2009/10 (down from \$1.59 forecast deferred payment when the total forecast payout was \$7.00).

1 The advance payment for 2007/08 was calculated as \$6.62 per kilogram, made up of \$6.55 commodity milk price, plus 7 cents value-added payment. In February 2008, Fonterra paid 10 cents (value added) per kilogram of milksolids on production through to 31 December. Assuming that an average of two-thirds of production is achieved by 31 December, the 10 cents per kilogram of milksolids would be equivalent to 7 cents per kilogram of milksolids over the whole season.

2 The exception to this is Canterbury, which produces approximately 50 percent of production pre- and post-December. For the Canterbury model, the advance value-added payment in 2008/09 is equivalent to 8 cents per kilogram of milksolids, 50 percent of 15 cents, giving a total advance to 20 June 2009 of \$5.38 per kilogram of milksolids.

»»» COMPARISON OF FONTERRA'S INITIAL AND REVISED PAYOUT

	MAY 2008 FORECAST \$/KG MILKSOLIDS	NOVEMBER 2008 REVISION \$/KG MILKSOLIDS
Total payout for 2008/09	7.00	6.00
Made up of:		
Advance to 20 June	5.30	4.45
Added value proportion of April 2009 payment ¹	0.11	0.13
Total Advance payment	5.41	4.58
Deferred payment (to be made in July to October 2009)	1.59	1.42

Notes

1 Assuming that the April portion of the value-added payment is paid on an average of two-thirds of production is achieved by 31 December, the 15 and revised 20 cents per kilogram of milksolids would be equivalent to 11 and 13 cents per kilogram of milksolids respectively over the whole season.

»»» PAYOUT CALCULATIONS

YEAR ENDED 30 JUNE	2004/05	2005/06	2006/07	2007/08	2008/09 EXPECTED ¹	2008/09 REVISED ²
Season Payout (\$/kg)	4.59	4.10	4.46	7.62	7.00	6.60
Milksolids advance to 20 June (\$/kg)	3.95	3.60	3.65	6.62	5.41	5.08
Previous season's deferred payment (\$/kg)	0.30	0.64	0.50	0.81	1.00	1.00

Notes

1 The 2008/09 expected figures used in the model budgets are based on a final total payout of \$7.00 per kilogram of milksolids.

2 Fonterra revised its 2008/09 forecast payout to \$6.00 per kilogram of milksolids in November 2008.

NORTHLAND

DAIRY

5

The Northland model represents approximately 1200 spring calving dairy herds north of Auckland city.

KEY POINTS

- › The record payout for the 2007/08 season and a 2 percent increase in milksolids production to 79 000 kilograms resulted in an 86 percent increase in milksolids income (to \$588 000) compared with 2006/07.
- › A 27 percent increase in farm working expenses in 2007/08, followed by a further expected increase of 14 percent in 2008/09 will be of concern to farmers, who expect the payout to decrease in coming years.
- › The net cash income for the model farm was up 74 percent to \$627 000 in 2007/08 compared with \$360 000 in 2006/07. This income is expected to reduce 11 percent to \$556 000 in 2008/09 due to an anticipated drop in milksolids payout.
- › The higher-than-expected milksolids payout will require effective tax planning in 2008/09, especially for those farmers who did not plan ahead in 2007/08.
- › The widespread drought of 2007/08 had a minimal impact on Northland, with only the most southern areas moderately affected.

TABLE 5.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE NORTHLAND DAIRY MODEL FARM

	2004/05	2005/06	2006/07 ^R	2007/08	2008/09 BUDGET ²
YEAR ENDED 30 JUNE					
Effective area (ha)	108	108	121	121	121
Cows wintered (head)	242	250	278	275	275
Replacement heifers (head)	66	66	66	73	69
Cows milked 15th December (head)	233	237	268	268	268
Stocking rate (cows/ha)	2.2	2.2	2.2	2.2	2.2
Total milksolids (kg)	63 520	64 790	77 816	79 372	80 960
Milksolids per ha (kg/ha)	588	600	643	656	669
Milksolids per cow milked (kg/cow)	273	273	290	296	302
MS advance to end June (\$/kg)	3.95	3.60	3.65	6.62	5.41
MS deferred payment (\$)	0.50	0.64	0.50	0.81	1.00
Net cash income (\$)	312 328	311 489	359 583	626 895	555 914
Farm working expenses (\$)	136 839	127 735	200 464	255 522	292 195
Farm profit before tax(\$)	105 657	92 258	75 678	293 755	182 401
Farm surplus for reinvestment ¹ (\$)	58 971	29 530	28 005	208 096	61 982

Notes

¹ Farm surplus for reinvestment represents the cash available from the farming 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.

² The 2008/09 budget figures are based on a final total payout of \$7.00 per kilogram of milksolids. See Appendix 2 for information on the dairy payout calculation.

Symbol

^R The model parameters have been revised, so the data for 2006/07 will not match that published in *Pastoral Monitoring Report 2007*.

»» FINANCIAL PERFORMANCE OF THE NORTHLAND DAIRY MODEL FARM IN 2007/08

The cash operating surplus for the Northland dairy model farm was up 133 percent to \$371 000 in 2007/08. This reflects both the record price paid for milksolids and a 2 percent increase in milksolids production to 79 000 kilograms. See Tables 5.2 and 5.3 for details of the model's budget and expenditure in 2007/08.

» SUBSTANTIAL INCREASE IN REVENUE

The first half of the season to December 2007 was a difficult period for Northland dairy farmers, being mostly wet and cold with below-average pasture growth. In contrast, summer and autumn delivered more favourable growing conditions. The north-eastern coastal areas had periods of exceptional pasture growth, with some farmers saying they were the best in living memory.

Fonterra announced a record payout of \$7.90 per kilogram of milksolids for 2007/08, including a proposed retention of 28 cents. The payout was higher than expected and has driven an 86 percent lift in milksolids revenue to \$588 000. An 11 percent decrease in cattle revenue to \$39 000 had a small impact on the net cash income position, which increased 74 percent to \$627 000.

» EXPENDITURE CLIMBS SUBSTANTIALY

Marked increases in the unit cost of fertiliser, feed, fuel and electricity contributed to a 27 percent increase (to \$256 000) in the model farm's working expenses. Generally costs increased compared with 2006/07. Farm working expenses on the model farm equated to \$953 per cow, while working expenses on the monitored farms ranged from \$635 to \$1540 per cow.

Much of the increased spending on repairs and maintenance (up 81 percent to \$35 000), development (up 150 percent to \$13 000) and regressing (up 122 percent to \$5000) occurred in the latter half of the season as farmers' bank balances improved.

The model farm has continued to make ongoing principal repayments and, as a result, interest expenditure was down almost 11 percent, or \$26 per cow, to \$59 000 for the season. However, among the monitored farms, debt management strategies varied considerably depending on factors such as farm size, expansion options and the age of the owners. For example, in general, older farmers with smaller farms are aiming to reduce debt, while larger farms, those expanding or farms with younger owners are more likely to be taking on debt.

» NET RESULT EXTREMELY PLEASING

Farm profit after tax for the Northland dairy model farm was \$244 000 or \$912 per cow. This represents an increase of 349 percent on 2006/07, despite a decision to prepay \$28 000 of the expected 2008/09 tax liability.

Reflecting the strong financial position of the model farm, drawings increased from \$44 000 to \$55 000. Capital purchases were up 222 percent to \$63 000 and development expenditure increased 150 percent to \$13 000. Despite these increases, the model farm was still able to achieve a cash surplus of \$117 000, well up on the \$6000 cash deficit

of 2006/07. Much of this surplus was earmarked for tax payments, debt reduction, further capital purchases or off-farm investment.

»» BUDGET FINANCIAL PERFORMANCE OF THE NORTHLAND DAIRY MODEL FARM IN 2008/09

On the back of an expected strong milk price, the Northland dairy model's cash operating surplus in 2008/09 is expected to be \$264 000. Though this represents a 29 percent drop on the actual result in 2007/08, it is still 66 percent up on the 2006/07 result. See Tables 5.2 and 5.3 for details of the model's income and expenditure in 2008/09. This budget was compiled in June 2008 and is based on farmer and industry expectations at that time.

» REVENUE HOLDING

Northland dairy farmers approached the winter with good pasture covers, although a cold and wet late May markedly slowed pasture growth. The good growing conditions through the previous summer and autumn meant that cow condition heading into winter was also good. These favourable factors are offset by the disappointing mating results of 2007/08, which will likely constrain production growth. As a result, milksolids production for the model farm is expected to grow by 2 percent in 2008/09 to about 81 000 kilograms. The milk price of \$7.00 per kilogram of milksolids, as signalled in May 2008, results in expected milksolids revenue for the season of \$517 000, down 12 percent on 2007/08.

» EXPENDITURE CONTINUES TO RISE

Farm working expenses are expected to increase by 14 percent to \$1090 per cow (or \$292 000 for the model farm) for the 2008/09 season.

Higher international energy prices are a primary driver of this increase, and are expected to flow through to farm expenditure in 2008/09. Affected items include electricity (up 20 percent to \$50 per cow) and fuel (up 20 percent to \$58 per cow).

Fertiliser prices are also being driven up but, despite unit prices almost doubling over the past 12 months, on-farm spending is expected to increase by only 40 percent to \$214 per cow. This is due to the model farm stockpiling nitrogen products in response to earlier price signals, and the potential for "mining" existing farm fertility in the short-term without a loss of production. Increasing (although still poor) understanding of potential nutrient losses through farm-level nutrient budgeting is also contributing to better targeted fertiliser applications and consequent cost savings.

The model farm expects labour expenditure increases of 33 percent in 2008/09. This is due to many Northland farms having continuing trouble sourcing and retaining quality labour and because their strong financial position allows farm owners more flexibility around time off.

Milk and cow prices remaining near historical highs are good incentives for farmers to maintain herd health. The model farm is expected to increase spending on animal health by 21 percent to \$75 per cow.

Following substantial repairs and maintenance, regrassing and development during the autumn of 2007/08, expenditure on these items is expected to decrease in 2008/09, while remaining substantially higher than expenditure on these items in 2006/07.

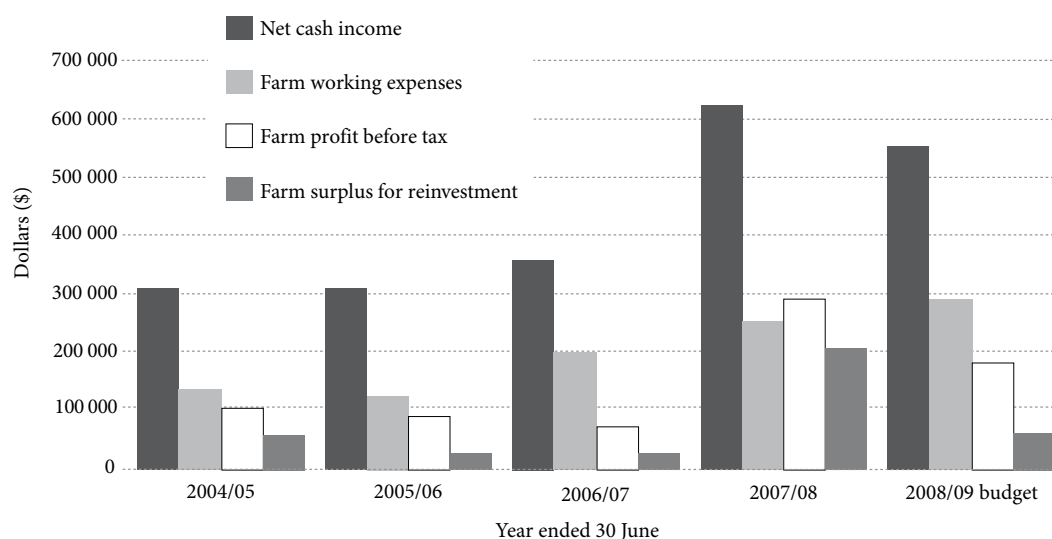
➤ NET RESULT DETERIORATES

Farm profit before tax is expected to decline 38 percent to \$182 000 in the 2008/09 season. This decline is due to revenue decreasing and expenditure increasing compared with 2007/08, and a sharp increase in depreciation because of the increase in plant and machinery expenditure in 2007/08 (up 50 percent to \$22 000). A 77 percent increase in tax expenditure is expected to reduce the farm profit after tax to \$95 000.

Drawings are expected to remain steady at their increased 2007/08 level of \$55 000. Expenditure on capital items continues near last year's high levels as farmers take advantage of the expected high payout to invest in technologies to either improve output or reduce labour requirements.

These factors, along with an ongoing strategy of principal repayments, result in an overall expected cash deficit of \$20 000 for 2008/09.

➤➤ FIGURE 5.1: NORTHLAND DAIRY MODEL FARM PROFITABILITY TRENDS



Source
MAF Monitoring Reports; 2005 to 2008.

»» TABLE 5.2: NORTHLAND DAIRY MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS ² (\$)
REVENUE						
Milksolids	588 476	2 196	7.41	517 365	1 930	6.39
Cattle	38 519	144	0.49	38 649	144	0.48
Other farm income	1 000	4	0.01	1 000	4	0.01
LESS:						
Cattle purchases	1 100	4	0.01	1 100	4	0.01
Net cash income	626 895	2 339	7.90	555 914	2 074	6.87
Farm working expenses	255 522	953	3.22	292 195	1 090	3.61
Cash operating surplus	371 373	1 386	4.68	263 718	984	3.26
Interest	58 986	220	0.74	59 631	223	0.74
Rent and/or leases	0	0	0.00	0	0	0.00
Stock value adjustment	-4 148	-15	-0.05	0	0	0.00
Minus depreciation	14 484	54	0.18	21 686	81	0.27
Farm profit before tax	293 755	1 096	3.70	182 401	681	2.25
Taxation	49 290	184	0.62	87 104	325	1.08
Farm profit after tax	244 465	912	3.08	95 296	356	1.18
Add back depreciation	14 484	54	0.18	21 686	81	0.27
Reverse stock value adjustment	4 148	15	0.05	0	0	0.00
Off-farm income	15 000	56	0.19	12 000	45	0.15
Discretionary cash	278 096	1 038	3.50	128 982	481	1.59
APPLIED TO:						
Net capital purchases	62 500	233	0.79	53 669	200	0.66
Development	12 500	47	0.16	12 000	45	0.15
Principal repayments	31 162	116	0.39	28 400	106	0.35
Drawings	55 000	205	0.69	55 000	205	0.68
New borrowings	0	0	0.00	0	0	0.00
Introduced funds	0	0	0.00	0	0	0.00
Cash surplus/deficit	116 935	436	1.47	-20 087	-75	-0.25
Farm surplus for reinvestment¹	208 096	776	2.62	61 982	231	0.77
ASSETS AND LIABILITIES						
Farm, forest and building (opening)	1 751 380	6 535	22.07	1 926 518	7 189	23.80
Plant and machinery (opening)	96 559	360	1.22	144 575	539	1.79
Stock valuation (opening)	650 439	2 427	8.19	646 291	2 412	7.98
Dairy company shares	528 371	1 972	6.66	442 104	1 650	5.46
Other farm related investments	0	0	0.00	0	0	0.00
Total farm assets (opening)	3 026 749	11 294	38.13	3 159 488	11 789	39.03
Total liabilities (opening)	647 620	2 416	8.16	608 270	2 270	7.51
Total equity (assets-liabilities)	2 379 129	8 877	29.97	2 551 218	9 519	31.51

Note

¹ Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, that is available for investment on the farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

² This figure may slightly differ between regional models due to being derived from rounded milksolids production values.

»» TABLE 5.3: NORTHLAND DAIRY MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)
FARM WORKING EXPENSES						
Permanent wages	0	0	0.00	0	0	0.00
Casual wages	15 000	56	0.19	20 000	75	0.25
ACC	270	1	0.00	357	1	0.00
Total labour expenses	15 270	57	0.19	20 357	76	0.25
Animal health	16 500	62	0.21	20 000	75	0.25
Breeding	9 112	34	0.11	9 500	35	0.12
Dairy shed expenses	7 504	28	0.09	7 800	29	0.10
Electricity	11 256	42	0.14	13 507	50	0.17
Feed (hay and silage)	10 800	40	0.14	13 400	50	0.17
Feed (feed crops)	6 000	22	0.08	7 000	26	0.09
Feed (grazing)	14 820	55	0.19	18 460	69	0.23
Feed (other)	15 275	57	0.19	16 580	62	0.20
Fertiliser	41 000	153	0.52	57 280	214	0.71
Lime	3 950	15	0.05	4 300	16	0.05
Freight (not elsewhere deducted)	2 144	8	0.03	2 400	9	0.03
Regrassing costs	4 824	18	0.06	3 800	14	0.05
Weed and pest control	4 288	16	0.05	4 200	16	0.05
Fuel	12 864	48	0.16	15 437	58	0.19
Vehicle costs (excluding fuel)	13 400	50	0.17	12 000	45	0.15
Repairs and maintenance	35 000	131	0.44	30 000	112	0.37
Total other working expenses	208 737	779	2.63	235 664	879	2.91
Communication costs (phone and mail)	2 948	11	0.04	2 950	11	0.04
Accountancy	3 886	15	0.05	4 300	16	0.05
Legal and consultancy	2 680	10	0.03	2 680	10	0.03
Other administration	2 144	8	0.03	1 400	5	0.02
Water charges (irrigation)	0	0	0.00	0	0	0.00
Rates	5 896	22	0.07	6 190	23	0.08
Insurance	5 896	22	0.07	6 000	22	0.07
Other expenditure ¹	8 065	30	0.10	12 654	47	0.16
Total overhead expenses	31 515	118	0.40	36 174	135	0.45
Total farm working expenses	255 522	953	3.22	292 195	1 090	3.61
Wages of management	68 267	255	0.86	69 595	260	0.86
Depreciation	14 484	54	0.18	21 686	81	0.27
Total farm operating expenses	338 273	1 262	4.26	383 477	1 431	4.74
CALCULATED RATIOS						
Economic farm surplus (EFS ²)	284 473	1 061	3.58	172 437	643	2.13
Farm working expenses/NCI ³	41%			53%		
EFS/total farm assets	9.4%			5.5%		
EFS less interest and lease/equity	9.5%			4.4%		
Interest + rent + lease/NCI	9.4%			10.7%		
EFS/NCI	45.4%			31.0%		

Notes

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

2 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% of opening total farm assets to a maximum of \$85 000.

3 Net cash income.

WAIKATO/BAY OF PLENTY

DAIRY

6

The Waikato/Bay of Plenty dairy model represents about 5140 dairy farms in the Waikato and Bay of Plenty regions.

»» KEY POINTS

- › The 2007/08 season saw the worst drought on record, which significantly affected most parts of the region.
- › Overall milksolids production dropped 12 percent to 88 900 kilograms compared with 2006/07.
- › Despite the drought and resulting increased expenditure, farm profit before tax lifted by around 400 percent to \$231 000 due to the record payout.
- › Farms were not in a good physical position entering the 2008/09 season, with pasture covers and cow condition well below optimal level.
- › The record payout in 2007/08 and the prospect of a good payout in 2008/09 have buoyed farmers' morale, despite the carry-over effects of the drought.

»» **TABLE 6.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE WAIKATO/BAY OF PLENTY DAIRY MODEL FARM**

	2004/05	2005/06	2006/07 ^R	2007/08	2008/09 BUDGET ²
YEAR ENDED 30 JUNE					
Effective area (ha)	102	103	106	106	106
Cows wintered (head)	290	295	304	304	304
Replacement heifers (head)	52	53	55	55	55
Cows milked 15th December (head)	285	292	300	300	300
Stocking rate (cows/ha)	2.8	2.8	2.8	2.8	2.8
Total milksolids (kg)	89 000	95 000	101 000	88 900	96 000
Milksolids per ha (kg/ha)	873	922	953	839	906
Milksolids per cow milked (kg/cow)	331	325	337	296	320
MS advance to end June (\$/kg)	3.95	3.60	3.65	6.62	5.41
MS deferred payment (\$)	0.30	0.64	0.50	0.81	1.00
Net cash income (\$)	420 205	428 378	453 056	702 271	632 070
Farm working expenses (\$)	235 879	263 096	278 909	332 969	354 171
Farm profit before tax(\$)	105 918	75 633	45 906	231 426	132 390
Farm surplus for reinvestment ¹ (\$)	24 310	13 685	2 095	140 862	41 708

Notes

1 Farm surplus for reinvestment represents the cash available from the farming 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.

2 The 2008/09 budget figures are based on a final total payout of \$7.00 per kilogram of milksolids. See Appendix 2 for information on the dairy payout calculation.

Symbol

R The model parameters have been revised, so the data for 2006/07 will not match that published in *Pastoral Monitoring Report 2007*.

»» FINANCIAL PERFORMANCE OF THE WAIKATO/BAY OF PLENTY DAIRY MODEL FARM IN 2007/08

The cash operating surplus for the Waikato/Bay of Plenty dairy model in 2007/08 lifted an appreciable 112 percent (to \$369 000) compared with 2006/07. This is due to the record payout and despite the significantly higher costs due to the drought.

A more direct reflection of the cash profitability of dairy farming is the “farm surplus for reinvestment”, which is up a staggering 67 times over 2006/07 to \$141 000. See Tables 6.2 and 6.3 for details of the model’s budget and expenditure in 2007/08.

» MAJOR RISE IN REVENUE

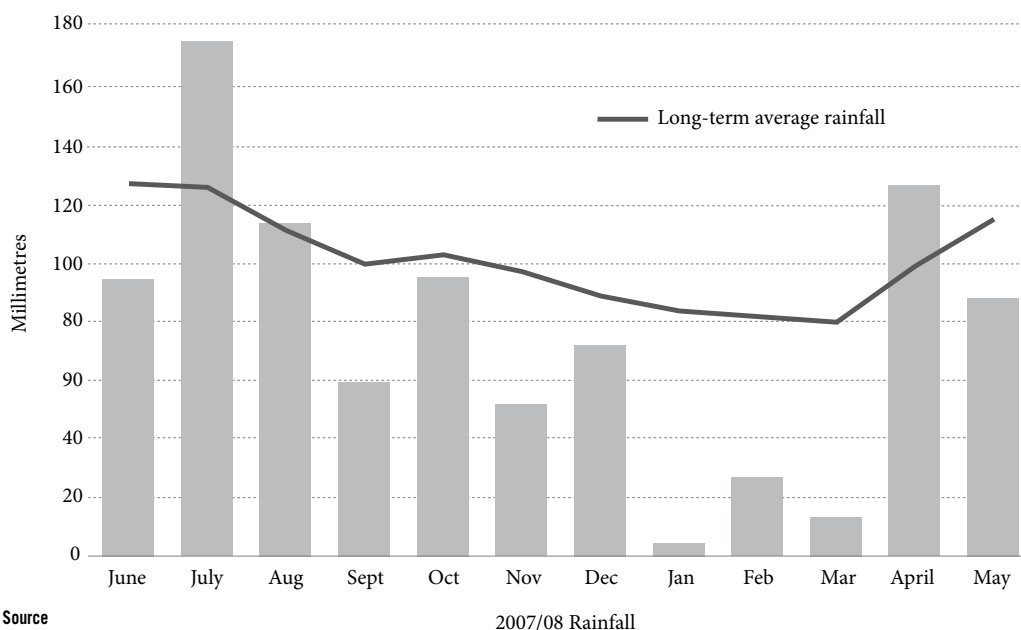
The two defining factors for revenue in the 2007/08 season were the significant lift in the Fonterra payout and the decreased production due to the drought.

DROUGHT CUTS PRODUCTION BY 12 PERCENT ON AVERAGE

The 2007/08 season turned out to be one of the most difficult. The cool, dry spring saw limited supplements conserved. This turned into a major drought over the summer and autumn period. Some farms had dried off by the end of February, most by the end of March and almost all by the end of April. On the 50 farms monitored, average production was down 12 percent compared with 2006/07, and many individual farms were down 20–30 percent.

In June 2007, many farms were budgeting for a 2 to 3 percent increase in production through 2007/08. So as well as the decrease in average production, the drought also had an opportunity cost to farmers who were not able to increase their production and maximise the benefits of the season’s high payout.

»» FIGURE 6.1: RAINFALL RECORDED AT RUAKURA



RECORD PAYOUT ANNOUNCED

The lift in the Fonterra payout throughout the season buoyed farmers' spirits in the face of the drought. In May 2008, Fonterra announced a record payout of \$7.90 per kilogram of milksolids for the 2007/08 season, with an expected retention of 28 cents. This higher payout significantly increased farm profitability, with farm profit before tax lifting over 400 percent to \$231 000 compared with the 2006/07 season.

CATTLE INCOME VARIES

The average sale price for cull cows was \$593, compared with \$499 in 2006/07 (an increase of 19 percent). While the boner cow price to the meat works increased moderately, the main reason for the increase in the average sale price is attributed to farmers selling surplus stock to other dairy farmers for next season.

Calf income declined for dairy farmers: the average calf price in 2007/08 from the monitored farms was \$40, compared with \$54 in 2006/07. This figure comprises both bobby calves (sold for an average of \$8 to \$15 per head) and bull calves for rearing for beef farming (sold for an average of \$60 to \$80 per head), plus surplus replacement heifer calves (sold for an average of \$200 to \$400 per head).

► EXPENDITURE INCREASES

Farm working expenses increased 19 percent to \$333 000 compared with 2006/07, although a significant proportion of this rise is due to increased costs as a result of the drought. On a per hectare basis, the costs increased from \$2631 to \$3141 compared with 2006/07. On a per kilogram of milksolids basis, farm working expenses were \$3.75, although this is distorted due to the drop in production as a result of the drought. Farm working expenditure varied hugely on the monitored farms (from \$1.88 to \$5.62 per kilogram of milksolids).

FEED COSTS UP 64 PERCENT

The biggest increase in costs was in the feed category, as most farmers bought in feed to combat the drought. The model farm's total expenditure on feed, including grazing, increased by 64 percent or \$38 000 compared with 2006/07. This represents increased spending of \$195 million across the Waikato/Bay of Plenty regions. The total average feed cost for the 50 monitored farms was \$325 per cow (varying from \$43 to \$880 per cow), and a number of farms spent several hundred thousand dollars on bought-in feed.

Feed costs were also affected by significant increases in the unit costs of supplementary feed. For example, maize silage rose from a range of 20 to 25 cents per kilogram of dry matter to 30 to 40 cents per kilogram of dry matter. Baled silage prices rose from around \$80 per bale up to \$200 per bale. In addition to the increased feed costs for 2007/08, there has been a noticeable decrease in feed inventory, with fewer feed supplements on hand at 1 June 2008 compared with 1 June 2007.

OTHER COSTS INCREASE

Other costs also rose during the year. Breeding costs increased 17 percent to \$12 000 as a result of both increased unit costs and an increase in intervention practices to maximise lactation length and reproductive performance.

Electricity costs increased 21 percent to \$11 000. Regrassing costs increased 90 percent to about \$5000 in 2007/08 compared with about \$2000 in 2006/07 as farmers increased the total area regressed after the drought. Spending on fertiliser increased 4 percent to \$44 000. While prices rose throughout the year, farmers have applied less autumn fertiliser and nitrogen due to the conditions being too dry. Overhead expenses increased 6 percent to \$34 000 – a 9 percent rise in local council rates contributed significantly. While the effects of the drought imposed additional costs, farm expenses continue to rise faster than the rate of inflation, negatively affecting any productivity gains.

➤ NET RESULT

Farm profit before tax rose 404 percent to \$231 000 compared with 2006/07 – a direct effect of the record payout. Taxation payments lifted 277 percent to \$58 000. Many farms were looking at paying a similar amount of taxation as in 2006/07. However, when faced with a massive increase in taxation liabilities in 2008/09, many reassessed their final taxation payment in May, effectively paying “forward provisional tax” and thereby significantly reducing the amount of terminal taxation due in 2008/09. The increased cash flow has also meant that the model farm has resumed principal repayments, which had been suspended in previous years due to the lack of income.

Overall, the model farm finishes the year with a cash surplus of \$65 000. Many farms have this potentially destined for such things as taxation payments, debt reduction or off-farm investment.

➤➤ BUDGET FINANCIAL PERFORMANCE OF THE WAIKATO/BAY OF PLENTY DAIRY MODEL FARM IN 2008/09

The Waikato/Bay of Plenty dairy model farm's cash operating surplus is expected to fall 25 percent to \$278 000 in 2008/09 as the expected increase in production is offset by a decrease in the milksolids payout and rising farm working expenses. See Tables 6.2 and 6.3 for details of the model's budget and expenditure in 2008/09. This budget was compiled in June 2008 and is based on farmer and industry expectations at that time.

➤ REVENUE EXPECTED TO FALL 10 PERCENT

At the start of winter 2008, farms throughout the region had not recovered well from the drought. By mid-winter pasture covers were down by 10 to 20 percent on optimal levels. Cow condition was also lighter than desirable (most were in the low- to mid-condition score four). Ground conditions were cold and dry so farmers were still feeding a lot of bought-in supplement.

Surprisingly, the monitored farmers were budgeting for an average 17 percent increase in production in 2008/09, in essence recovering all of the drought loss plus 2 to 3 percent. Given the low winter pasture covers, low cow condition score, slow pasture growth, the probability of a higher death rate at calving, and problems getting cows back in calf, the model is budgeting on a modest 8 percent increase in production to 96 000 kilograms of milksolids compared with 2007/08. This leaves the model 5 percent down (5000 kilograms of milksolids) on the 2006/07 production.

With the May 2008 expected advance payment to 30 June 2009 of \$5.41 per kilogram of milksolids and lower income from cattle sales (budgeting less cull cows due to a higher death rate and lower prices), the net cash income is expected to drop 10 percent, to \$632 000 compared with 2007/08.

Farmers originally expected the 2008/09 payout to be \$6.50 per kilogram of milksolids, so Fonterra's initial forecast of \$7.00 per kilogram of milksolids in May 2008 was a pleasant surprise. Consequently, many farmers expected a rise in both the advance payout throughout the year and the final total payout. In November 2008, Fonterra revised its forecast payout to \$6.60 per kilogram of milksolids, and again in November 2008 to \$6.00 per kilogram of milksolids. This is expected to cause some farmers to revise their final payout expectations downwards.

► EXPENDITURE CONTINUES TO INCREASE

Farmers are budgeting on an overall 6 percent increase to \$354 000 in farm working expenses in 2008/09. In terms of per kilogram of milksolids, expenditure is expected to drop from \$3.75 in 2007/08 to \$3.69 in 2008/09, due to the distortion of the drought-induced drop in production in 2007/08.

Labour expenses are anticipated to increase 7 percent to \$53 000 due to increased wage rates and increased use of casual labour. Feed expenses are expected to drop by only 10 percent to \$87 000. This is due to a combination of continual feeding of bought-in supplements over the winter and spring, increased grazing costs and many farms looking to rebuild their supplementary feed inventory.

FERTILISER COSTS RISE

Fertiliser expenditure is expected to jump 34 percent to \$59 000, due to significant increases in fertiliser prices. Farmers are budgeting on spending up to a set dollar figure on fertiliser. This means the model farm will apply a similar amount of nitrogen per hectare but a third less potassic superphosphate. Most farmers are likely to revisit this in the autumn, once income levels and any further price changes are known.

Expenditure on fuel is budgeted to be up 15 percent to \$11 000, following recent rises in fuel prices. However, the recent variability in fuel prices makes it difficult to anticipate what the actual expenditure will be in 2008/09. Repairs and maintenance expenditure is budgeted at very similar levels to 2007/08.

► NET RESULT REDUCED

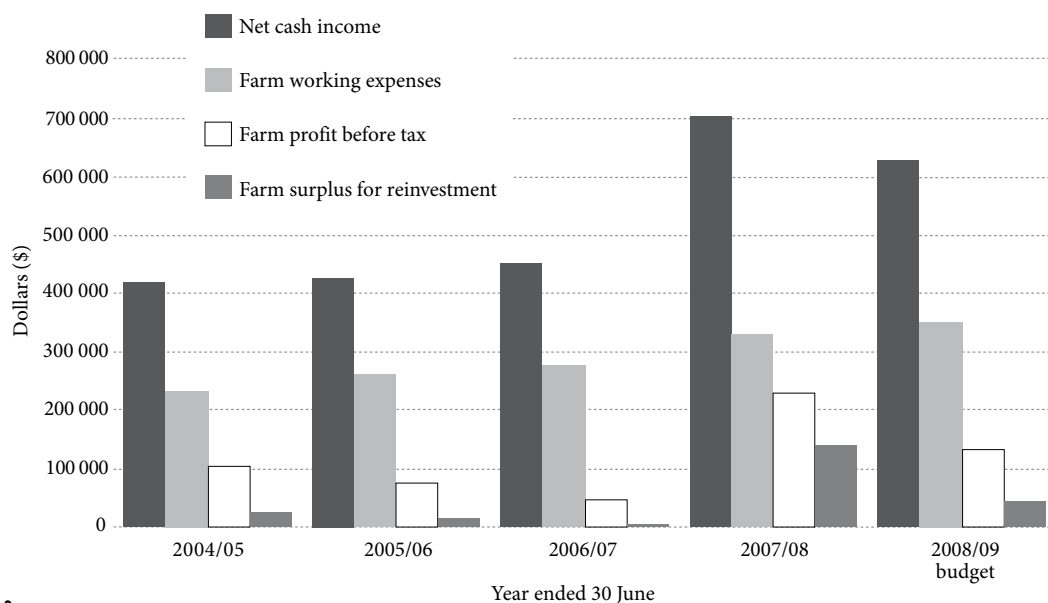
Farm profit before tax is budgeted to be down 43 percent to \$132 000 as a result of lower income, increased farm working expenses and higher interest costs.

Taxation payable is similar to 2007/08 but only because provisional taxation payable in 2008/09 was reassessed. Without this reassessment, taxation liability in 2008/09 would be up to 50 percent higher than in 2007/08. Even with a reassessment downwards in provisional taxation, a reasonable refund is likely in the 2009/10 year.

At the start of the year, farmers cautiously budgeted their capital and development spending, and they plan to review this as the year progresses. Principal debt repayments will again occur during the year.

The model shows \$43 000 of “introduced funds”. This is the return to the model from shares redeemed as a result of the drought. With the differential in share prices, most farmers will redeem surplus shares and buy them back at the lower price. The model will sell surplus shares arising from the drop in production due to the drought at \$6.79 and buy them back at \$5.57. It will also sell off further surplus or dry shares. The introduction of these funds lifts the overall cash surplus to \$60 000, a similar figure to 2007/08. How this will be spent will be determined once the season unfolds.

»» FIGURE 6.2: WAIKATO/BAY OF PLENTY DAIRY MODEL FARM PROFITABILITY TRENDS



Source
MAF Monitoring Reports; 2005 to 2008.

»» TABLE 6.2: WAIKATO/BAY OF PLENTY DAIRY MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS ² (\$)
REVENUE						
Milksolids	670 328	2 234	7.54	608 260	2 028	6.34
Cattle	36 159	121	0.41	27 774	93	0.29
Other farm income	0	0	0.00	0	0	0.00
LESS:						
Cattle purchases	4 216	14	0.05	3 964	13	0.04
Net cash income	702 271	2 341	7.90	632 070	2 107	6.58
Farm working expenses	332 969	1 110	3.75	354 171	1 181	3.69
Cash operating surplus	369 302	1 231	4.15	277 899	926	2.89
Interest	104 980	350	1.18	110 895	370	1.16
Rent and/or leases	0	0	0.00	0	0	0.00
Stock value adjustment	0	0	0.00	3 111	10	0.03
Minus depreciation	32 896	110	0.37	37 725	126	0.39
Farm profit before tax	231 426	771	2.60	132 390	441	1.38
Taxation	58 460	195	0.66	57 796	193	0.60
Farm profit after tax	172 966	577	1.95	74 594	249	0.78
Add back depreciation	32 896	110	0.37	37 725	126	0.39
Reverse stock value adjustment	0	0	0.00	- 3 111	- 10	-0.03
Off-farm income	22 500	75	0.25	14 500	48	0.15
Discretionary cash	228 362	761	2.57	123 708	412	1.29
APPLIED TO:						
Net capital purchases	53 500	178	0.60	2 500	8	0.03
Development	10 000	33	0.11	2 500	8	0.03
Principal repayments	34 760	116	0.39	33 411	111	0.35
Drawings	65 000	217	0.73	67 500	225	0.70
New borrowings	0	0	0.00	0	0	0.00
Introduced funds	0	0	0.00	42 612	142	0.44
Cash surplus/deficit	65 102	217	0.73	60 409	201	0.63
Farm surplus for reinvestment¹	140 862	470	1.58	41 708	139	0.43
ASSETS AND LIABILITIES						
Farm, forest and building (opening)	4 000 000	13 333	44.99	4 500 000	15 000	46.88
Plant and machinery (opening)	126 621	422	1.42	161 128	537	1.68
Stock valuation (opening)	694 759	2 316	7.82	694 759	2 316	7.24
Dairy company shares	685 790	2 286	7.71	562 570	1 875	5.86
Other farm related investments (opening)	0	0	0.00	0	0	0.00
Total farm assets (opening)	5 507 170	18 357	61.94	5 918 457	19 728	61.65
Total liabilities (opening)	1 090 000	3 633	12.26	1 095 000	3 650	11.41
Total equity (assets-liabilities)	4 417 170	14 724	49.69	4 823 457	16 078	50.24

Note

1 Farm surplus for reinvestment represents the cash available from the farming 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.

2 This figure may slightly differ between regional models due to being derived from rounded milksolids production values.

»» TABLE 6.3: WAIKATO/BAY OF PLENTY DAIRY MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)
FARM WORKING EXPENSES						
Permanent wages	45 000	150	0.51	47 500	158	0.49
Casual wages	3 000	10	0.03	4 000	13	0.04
ACC	1 107	4	0.01	1 142	4	0.01
Total labour expenses	49 107	164	0.55	52 642	175	0.55
Animal health	20 916	70	0.24	24 000	80	0.25
Breeding	11 754	39	0.13	12 459	42	0.13
Dairy shed expenses	6 462	22	0.07	6 513	22	0.07
Electricity	11 403	38	0.13	11 907	40	0.12
Feed (hay and silage)	39 750	133	0.45	31 250	104	0.33
Feed (feed crops)	0	0	0.00	0	0	0.00
Feed (grazing)	29 385	98	0.33	31 876	106	0.33
Feed (other)	28 330	94	0.32	24 200	81	0.25
Fertiliser	43 695	146	0.49	58 507	195	0.61
Lime	1 197	4	0.01	1 143	4	0.01
Freight (not elsewhere deducted)	2 661	9	0.03	2 679	9	0.03
Regrassing costs	4 635	15	0.05	4 119	14	0.04
Weed and pest control	2 826	9	0.03	2 859	10	0.03
Fuel	9 649	32	0.11	11 095	37	0.12
Vehicle costs (excluding fuel)	10 077	34	0.11	9 543	32	0.10
Repairs and maintenance	26 961	90	0.30	27 600	92	0.29
Total other working expenses	249 701	832	2.81	259 750	866	2.71
Communication costs (phone and mail)	2 778	9	0.03	2 832	9	0.03
Accountancy	3 801	13	0.04	3 582	12	0.04
Legal and consultancy	3 249	11	0.04	2 880	10	0.03
Other administration	3 225	11	0.04	3 471	12	0.04
Water charges (irrigation)	0	0	0.00	0	0	0.00
Rates	10 086	34	0.11	10 332	34	0.11
Insurance	5 355	18	0.06	5 516	18	0.06
Other expenditure ¹	5 667	19	0.06	13 166	44	0.14
Total overhead expenses	34 161	114	0.38	41 778	139	0.44
Total farm working expenses	332 969	1 110	3.75	354 171	1 181	3.69
Wages of management	85 000	283	0.96	85 000	283	0.89
Depreciation	32 896	110	0.37	37 725	126	0.39
Total farm operating expenses	450 865	1 503	5.07	476 896	1 590	4.97
CALCULATED RATIOS						
Economic farm surplus (EFS ²)	251 406	838	2.83	158 285	528	1.65
Farm working expenses/NCI ³	47%			56%		
EFS/total farm assets	4.6%			2.7%		
EFS less interest and lease/equity	3.3%			1.0%		
Interest + rent + lease/NCI	14.9%			17.5%		
EFS/NCI	35.8%			25.0%		

Notes

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

2 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% of opening total farm assets to a maximum of \$85 000.

3 Net cash income.

TARANAKI

DAIRY

7

This model represents approximately 1800 dairy farms in the Taranaki region.

»» KEY POINTS

- › Taranaki experienced a drought in the 2007/08 season resulting in a 7 percent drop in production to 81 900 kilograms of milksolids.
- › The high milksolids payout more than offset the impact of lower production, with farm profit before tax increasing 245 percent to \$271 000 in 2007/08 compared with \$79 000 in 2006/07.
- › Production for 2008/09 is expected to rebound to pre-drought levels, up 10 percent on 2007/08.
- › The lower milk payout and increased farm working expenses for 2008/09 is expected to lower farm profit before tax by 27 percent to \$199 000.
- › Although farm surplus for reinvestment for 2008/09 is expected to be significantly lower than for 2007/08, it is expected to still be considerably higher than for seasons prior to 2007/08.
- › The trend of buying in feed to increase production is expected to continue.

»» TABLE 7.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE TARANAKI DAIRY MODEL FARM

	2006/07	2007/08	2008/09 BUDGET ²
YEAR ENDED 30 JUNE			
Effective area (ha)	96	96	96
Cows wintered (head)	280	284	284
Replacement heifers (head)	69	69	69
Cows milked 15th December (head)	265	267	267
Stocking rate (cows/ha)	2.8	2.8	2.8
Total milksolids (kg)	87 900	81 900	90 000
Milksolids per ha (kg/ha)	916	853	938
Milksolids per cow milked (kg/cow)	332	307	337
Milksolids advance to end June (\$/kg)	3.65	6.62	5.41
Milksolids deferred payment (\$)	0.50	0.81	1.00
Net cash income (\$)	395 699	651 387	607 210
Farm working expenses (\$)	234 517	292 382	317 726
Farm profit before tax(\$)	78 652	271 042	198 787
Farm surplus for reinvestment ¹ (\$)	27 525	199 056	96 941

Notes

1 Farm surplus for reinvestment represents the cash available from the farming 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.

2 The 2008/09 budget figures are based on a final total payout of \$7.00 per kilogram of milksolids. See Appendix 2 for information on the dairy payout calculation.

»» FINANCIAL PERFORMANCE OF THE TARANAKI DAIRY MODEL FARM IN 2007/08

The cash operating surplus increased \$198 000 (up 123 percent) compared with 2006/07, due to the improved milksolids payments in 2007/08. The high payout offset the increased expenditure on supplementary feed and the drop in production, due to the drought. See Tables 7.2 and 7.3 for details of the model's budget and expenditure in 2007/08.

» MAJOR LIFT IN REVENUE

Net cash income increased by \$256 000 (65 percent) compared with 2006/07. Milksolids revenue rose \$249 000, driven by a significant lift in the milksolids price. On a per cow basis, milksolids revenue was up 67 percent.

The advance payment improved \$2.97 per kilogram of milksolids in 2007/08, while the deferred payment for 2006/07 production was 31 cents per kilogram of milksolids higher than the previous year.

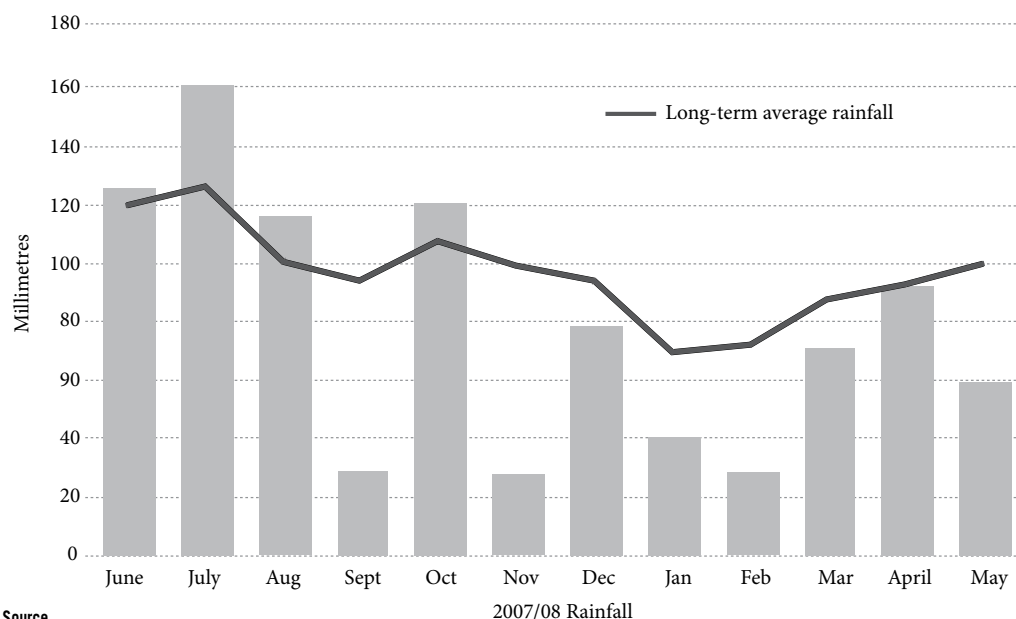
Stock revenue (net) increased by \$7000 or 23 percent to about \$38 000 in 2007/08. This was mostly driven by selling cull cows as higher-priced "budget" cows suitable for milking for a further season.

DRY CAUSES DROP IN PRODUCTION

Drought conditions led to a drop in production, with the season reported to be the driest experienced in 30 years. The model produced 82 000 kilograms of milksolids, down 7 percent from the previous year.

The season started reasonably well, with cows coming through the winter in good to moderate condition and feed supplies at good levels. After a wet start in early August, conditions were excellent through to the end of September.

»» FIGURE 7.1: RAINFALL RECORDED AT HAWERA



Wet, dull conditions in October reduced pasture growth and milk production followed by five months of warm, dry conditions. Rainfall was around 30 to 50 percent below average levels, resulting in drought conditions over much of the region.

The extent of the drought varied around the region, with north and central Taranaki not as severely affected as south Taranaki. A wide range of production was recorded on the monitored farms, from a slight increase to a 20 percent decrease compared with 2006/07.

Farmers tried to offset the impact of the drought by buying in large quantities of extra supplementary feed (predominantly palm kernel and molasses), drying off lower-producing cows and cows in light condition, and moving to once-a-day milking if somatic cell counts were low. Generally, farmers finished milking earlier in the season, although in hindsight many milked on too long, which lowered the condition of their cows going into winter.

The region also experienced tornadoes and flash floods in 2007/08. While these were not widespread, they caused significant damage on some farms.

LIFT IN COW PRICES

The movement in stock prices was variable, with higher prices for cows and lower prices for calves. Sale prices for breeding dairy stock generally doubled, with average cow values going from \$1100 to \$2200 during the year due to demand from dairy farm conversions around the country. The cows sold in the Taranaki model are cull cows and usually sold to the works. However, this year, many were sold as “budget” cows or empty cows for holding over, at prices above the works price. This achieved an overall improvement of around \$160 per head on cow sales compared with 2006/07.

Prices for bobby calves were lower in the 2007/08 year at \$13 per head compared with \$18 in 2006/07, and four-day-old Friesian bull calf sales were around \$20 per head lower. However, some of this was countered by increased values for heifer calf sales for replacement stock.

EMPTY RATES DOWN

Herd empty rates averaged about 10 percent, which was down on the previous year. Farmers mated the cows for a longer period to ensure more cows were in calf, since in-calf cows were valuable even if due to calve late.

► DROUGHT DRIVES LIFT IN EXPENDITURE

Farm working expenses increased to \$3.57 per kilogram of milksolids in 2007/08, up from \$2.67 in 2006/07. Increased expenditure on supplementary feed was the main contributor, along with the costs being spread over reduced milk production.

Total farm working expenses were up \$58 000 to \$292 000 on the previous year. The impact of this increased expenditure on the farm business was reduced by the lift in the payout. The ratio of farm expenses to net cash

income fell from 59 percent to 45 percent. Expenditure increased for most items, especially feed (up 65 percent) and fertiliser (up 20 percent).

FEED PURCHASED TO COPE WITH DROUGHT

Expenditure on feed increased from \$195 per cow to \$319 per cow in 2007/08. This was partly due to need, and partly to farmers wanting to take advantage of the high milk payout. The extra purchased feed is calculated to have reduced the drop in production from the previous season by about half.

Farms conserved 30 to 50 percent less supplementary feed than normal, due to the poor conditions in October and the dry summer. The use of purchased feed in the model budget is up by 200 percent (105 tonnes) on the previous year, reflecting the trend in the region.

Palm kernel was the main feed purchased to meet the feed shortage. Lesser quantities of hay, maize silage and molasses were also bought in. As the drought was widespread throughout the country, strong demand for feed caused some prices to almost double and grazing to become difficult to find. The drought situation overall in Taranaki was not extreme, so farmers were not forced to buy feed at top prices. Most hay was purchased early in the season at about \$110 per bale before the price rose to \$160, and much of the palm kernel was bought on contract at a lower price than spot prices.

FERTILISER PRICES RISE

Expenditure on fertiliser increased from \$136 per cow to \$162 per cow in 2007/08. Fertiliser prices rose about 20 percent through the season compared with 2006/07 prices, with companies holding off major increases until the 2008 winter. Farmers delayed applications in the dry weather but, from April when the rain started, there was an influx of fertiliser orders as farmers applied extra to beat the expected price rise. As a result, fertiliser companies had trouble meeting the demand.

NO SKIMPING ON ANIMAL HEALTH

Expenditure on animal health increased by \$16 to \$71 per cow in 2007/08. There were no major health issues in the season, apart from some areas having severe facial eczema problems in the late autumn. The increased expenditure was a result of the high payout and an increase in cow value, leading farmers to spend more on preventive measures to maximise cow health and production. The use of dry cow therapy also increased.

REGRASSING TO BOOST WINTER PASTURE

Regrassing expenditure increased, as farmers under-sowed pastures with winter active grasses to improve winter grass growth in an attempt to overcome the feed shortage caused by the drought. The dry season reduced the amount of weed and pest control carried out.

SLIGHT INCREASE IN OTHER EXPENDITURE

Repairs and maintenance expenditure increased by \$2400 between 2006/07 and 2007/08. This was less than expected as the extra revenue was diverted into buying feed. The increased time spent feeding out also left less time for repairs and maintenance.

The increase in fuel expenditure was also less than expected because less supplementary feed was made on the farm.

Expenditure on wages did not significantly increase, as these were set for the 2007/08 season before the high payout was known. In order to reduce the cost of accident compensation cover, farmers are adopting alternative methods from the standard employers' ACC, such as income protection insurance and "Cover plus".

Interest rates changed little between years as most farms were on fixed interest rate loans that are only just coming due for renewal.

➤ NET RESULT SOARS

Farm profit before tax in 2007/08 increased to \$271 000 from \$79 000, an increase of \$2.41 per kilogram of milksolids to \$3.31. Tax paid on the monitored farms varied, because some reassessed tax payments up significantly during the year to reduce the large terminal tax liability due in 2008/09 and some paid no extra. The model reflects the average for the monitored farms.

Farm surplus for reinvestment increased more than 600 percent from \$28 000 to \$199 000. Farmers commonly used the surplus to reduce or eliminate overdrafts, and spread the remainder between development, paying off extra principal and riparian protection planting, with a small increase in drawings and a significant increase in capital expenditure. Some farmers used the surplus to invest in equity partnerships outside Taranaki, where cheaper land was available.

In 2007/08, the return on assets for the model improved to 5.1 percent (from 1.6 percent in 2006/07). Equity in the model increased significantly during the year as the value of land and stock rose.

➤➤ BUDGET FINANCIAL PERFORMANCE OF THE TARANAKI DAIRY MODEL FARM IN 2008/09

Although another profitable year is anticipated, it will be at a reduced level from 2007/08. The cash operating surplus is expected to be \$70 000, or 19 percent less than 2007/08, a fall of \$261 per cow. An increase in milk production is expected, but a lower milk payout and increased farm working expenses will lead to a fall in profitability compared with 2007/08. A high tax bill and continued high capital and development expenditure are expected, but the end result is expected to be a healthy cash surplus, although lower than in 2007/08.

See Tables 7.2 and 7.3 for details of the model's budget and expenditure in 2008/09. This budget was compiled in June 2008 and is based on farmer and industry expectations at that time.

➤ REVENUE EXPECTED TO FALL

Net cash income is expected to be \$607 000 in 2008/09, a fall of \$44 000 from 2007/08.

Milksolids revenue is expected to be \$45 000 lower – a result of the lower milksolids payout offsetting the anticipated rise in production. On a per cow basis, milksolids revenue will be down 7 percent.

This budget is based on farmers expectation of a deferred payment of \$1.00 per kilogram of milksolids from 2007/08 and an advance payment of \$5.41 for 2008/09. The total milk payment is expected to be down \$1.02 per kilogram of milksolids compared with 2007/08.

PRODUCTION EXPECTED TO RISE

In 2008/09, farmers are expecting a 10 percent increase in production to 90 000 kilograms of milksolids, returning to the production levels of 2005/06. However, the carry-over effect of the drought into the 2008/09 season is likely to make an increase of this magnitude difficult to achieve.

Pasture covers in May 2008 were 200 to 300 kilograms of dry matter per hectare below normal and 25 percent of farms in the region were reported to have significant feed deficits, though some of this was expected to be addressed with supplementary feed in the spring.

Cow condition going into winter was also poorer than normal, with an average condition score of around 4.2. Most herds had the main mob in moderate condition but also had a mob of light cows, while some herds were in low condition overall.

STOCK PRICES STATIC

Stock prices are expected to remain at a similar level to 2007/08. The expected payout and dairy conversions should maintain the demand for “budget” cows through 2008/09.

› ONGOING INCREASES IN EXPENDITURE

Although farm working expenses are expected to rise \$25 000 to \$318 000 in 2008/09, the cost per kilogram of milksolids is expected to fall slightly from \$3.57 to \$3.53, as the costs will be spread over higher milk production.

Increases are planned for most items except for feed, which is expected to fall \$31 per cow. Spending on fertiliser is expected to increase 44 percent to \$62 000 as a result of price rises.

LESS FEED PURCHASED

Expenditure on feed is expected to fall 10 percent to \$77 000, with the amount of “other” feed (palm kernel and molasses) purchased decreasing significantly due to an expected return to normal seasonal conditions. At the same time, the prices for palm kernel and molasses are expected to increase, offsetting the impact of reduced volumes on expenditure. Less hay and maize silage will be purchased because more is expected to be made on farms (although at a higher cost than the previous year). Prices for grazing have increased for 2008/09.

Although volumes of feed purchased are expected to fall between 2007/08 and 2008/09, there is an increasing trend for farms to buy in more supplementary feed to increase productivity. Monitored farmers were asked how they planned to strengthen their business viability and the most common response was by increasing feed inputs by either purchasing more feed or leasing land to grow maize.

»» TABLE 7.2: TARANAKI DAIRY MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS ² (\$)
REVENUE						
Milksolids	613 377	2 297	7.49	568 800	2 130	6.32
Cattle	41 910	157	0.51	41 910	157	0.47
Other farm income	500	2	0.01	500	2	0.01
LESS:						
Cattle purchases	4 400	16	0.05	4 000	15	0.04
Net cash income	651 387	2 440	7.95	607 210	2 274	6.75
Farm working expenses	292 382	1 095	3.57	317 726	1 190	3.53
Cash operating surplus	359 005	1 345	4.38	289 484	1 084	3.22
Interest	61 963	232	0.76	61 142	229	0.68
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	26 000	97	0.32	29 555	111	0.33
Farm profit before tax	271 042	1 015	3.31	198 787	745	2.21
Taxation	38 986	146	0.48	71 401	267	0.79
Farm profit after tax	232 056	869	2.83	127 386	477	1.42
Add back depreciation	26 000	97	0.32	29 555	111	0.33
Reverse stock value adjustment	0	0	0.00	0	0	0.00
Off-farm income	17 000	64	0.21	17 000	64	0.19
Discretionary cash	275 056	1 030	3.36	173 941	651	1.93
APPLIED TO:						
Net capital purchases	42 000	157	0.51	30 000	112	0.33
Development	30 000	112	0.37	20 000	75	0.22
Principal repayments	24 991	94	0.31	24 378	91	0.27
Drawings	59 000	221	0.72	60 000	225	0.67
New borrowings	0	0	0.00	0	0	0.00
Introduced funds	0	0	0.00	15 993	60	0.18
Cash surplus/deficit	119 065	446	1.45	55 556	208	0.62
Farm surplus for reinvestment¹	199 056	746	2.43	96 941	363	1.08
ASSETS AND LIABILITIES						
Farm, forest and building (opening)	3 500 000	13 109	42.74	4 500 000	16 854	50.00
Plant and machinery (opening)	90 000	337	1.10	115 784	434	1.29
Stock valuation (opening)	666 703	2 497	8.14	666 703	2 497	7.41
Dairy company shares	617 211	2 312	7.54	506 313	1 896	5.63
Other farm related investments (opening)	0	0	0.00	0	0	0.00
Total farm assets (opening)	4 873 914	18 254	59.51	5 788 800	21 681	64.32
Total liabilities (opening)	727 707	2 725	8.89	672 716	2 520	7.47
Total equity (assets-liabilities)	4 146 207	15 529	50.63	5 116 084	19 161	56.85

Note

1 Farm surplus for reinvestment represents the cash available from the farming 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.

2 This figure may slightly differ between regional models due to being derived from rounded milksolids production values.

»» TABLE 7.3: TARANAKI DAIRY MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)
FARM WORKING EXPENSES						
Permanent wages	33 000	124	0.40	35 000	131	0.39
Casual wages	3 000	11	0.04	3 000	11	0.03
ACC	891	3	0.01	878	3	0.01
Total labour expenses	36 891	138	0.45	38 878	146	0.43
Animal health	19 000	71	0.23	20 025	75	0.22
Breeding	10 500	39	0.13	10 680	40	0.12
Dairy shed expenses	6 000	22	0.07	6 141	23	0.07
Electricity	10 146	38	0.12	10 680	40	0.12
Feed (hay and silage)	25 800	97	0.32	23 720	89	0.26
Feed (feed crops)	2 400	9	0.03	2 700	10	0.03
Feed (grazing)	26 496	99	0.32	30 330	114	0.34
Feed (other)	30 400	114	0.37	20 200	76	0.22
Fertiliser	43 312	162	0.53	62 462	234	0.69
Lime	650	2	0.01	3 000	11	0.03
Freight (not elsewhere deducted)	2 300	9	0.03	2 500	9	0.03
Regrassing costs	3 000	11	0.04	3 200	12	0.04
Weed and pest control	2 100	8	0.03	2 500	9	0.03
Fuel	6 000	22	0.07	7 000	26	0.08
Vehicle costs (excluding fuel)	10 000	37	0.12	10 000	37	0.11
Repairs and maintenance	27 000	101	0.33	29 000	109	0.32
Total other working expenses	225 104	843	2.75	244 138	914	2.71
Communication costs (phone and mail)	3 000	11	0.04	3 000	11	0.03
Accountancy	3 900	15	0.05	4 500	17	0.05
Legal and consultancy	2 000	7	0.02	2 200	8	0.02
Other administration	850	3	0.01	850	3	0.01
Water charges (irrigation)	0	0	0.00	0	0	0.00
Rates	7 800	29	0.10	8 100	30	0.09
Insurance	5 500	21	0.07	6 000	22	0.07
Other expenditure ¹	7 337	27	0.09	10 060	38	0.11
Total overhead expenses	30 387	114	0.37	34 710	130	0.39
Total farm working expenses	292 382	1 095	3.57	317 726	1 190	3.53
Wages of management	85 000	318	1.04	85 000	318	0.94
Depreciation	26 000	97	0.32	29 555	111	0.33
Total farm operating expenses	403 382	1 511	4.93	432 281	1 619	4.80
CALCULATED RATIOS						
Economic farm surplus (EFS ²)	248 005	929	3.03	174 929	655	1.94
Farm working expenses/NCI ³	45%			52%		
EFS/total farm assets	5.1%			3.0%		
EFS less interest and lease/equity	4.5%			2.2%		
Interest + rent + lease/NCI	9.5%			10.1%		
EFS/NCI	38.1%			28.8%		

Notes

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

2 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% of opening total farm assets to a maximum of \$85 000.

3 Net cash income.

FERTILISER EXPENDITURE JUMPS UP

Expenditure on fertiliser is expected to increase significantly to \$62 000 (up 44 percent) as a result of price rises. Farmers therefore plan to use less, and some plan to apply more lime instead. Farmers are keen to maintain fertility levels, and nutrient budgeting has shown this can be managed with lower applications.

OTHER COSTS

Increased expenditure is expected across the board for most other items. Price increases will push up expenditure on electricity and fuel. Expenditure on accountancy is expected to increase, with higher priority given to tax planning in 2008/09 because a high terminal tax payment is due.

Interest costs are expected to increase as loans come up for renewal at higher rates. However, like all expenditure items the actual cost will be determined by interest rates available at the time of renewal.

► NET RESULT LOWER

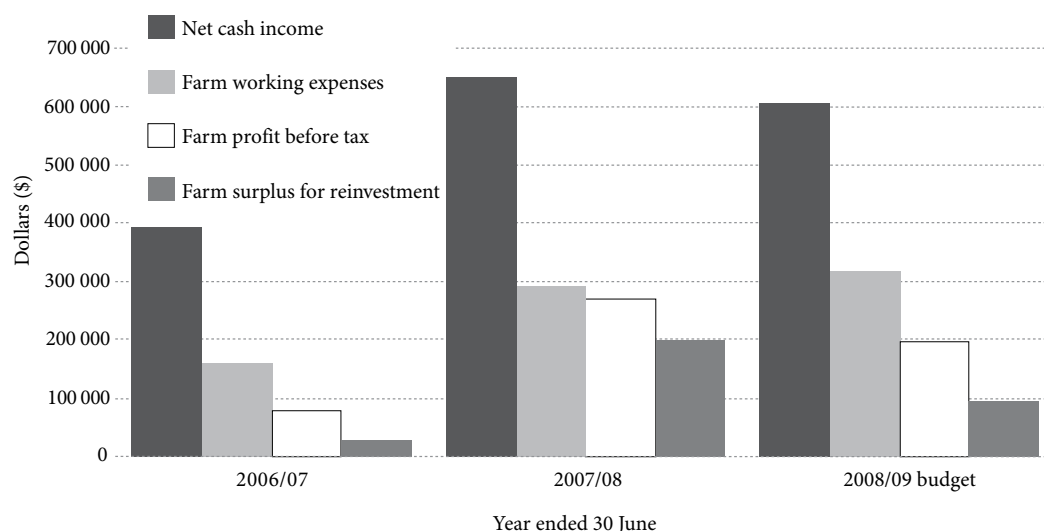
Farm profit before tax is expected to fall 27 percent (down \$72 000) from the previous year but is still expected to be a healthy \$199 000. Tax paid will increase significantly as a result of the high level of profit in 2007/08.

Farm surplus for reinvestment is expected to be \$97 000, a decrease of 51 percent from 2007/08. Farmers plan to spend less on development and capital purchases and keep drawings at a similar level as 2007/08.

At the end of the 2007/08 season, Fonterra encouraged farmers to redeem their dry shares and sell surplus shares. In the model, the value of redeemed shares (\$16 000) is reflected in introduced funds in the 2008/09 budget.

The return on assets is expected to fall back to 3 percent in 2008/09, a result of the lower economic farm surplus and the increase in farm assets due to higher land and stock values.

»» FIGURE 7.2: TARANAKI DAIRY MODEL FARM PROFITABILITY TRENDS



LOWER NORTH ISLAND

DAIRY

8

This model represents approximately 1080 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

- › Drought affected most parts of the region in summer/autumn 2008, leading to a third consecutive year of lower-than-average production.
- › Farmers fed supplements to maintain milk production, which ended up down only 1 percent overall at 113 500 kilograms in 2007/08.
- › The record payout resulted in a cash operating surplus of \$491 000, up 158 percent on 2006/07.
- › High feed costs due to the drought reduced potential farm profits with feed expenses on the model farm increasing 46 percent to \$383 per cow.
- › Farm profit before tax in 2007/08 increased more than eight times to \$311 000, and much of the cash surplus is expected to be used to reduce overdrafts accumulated in the two previous poor seasons.
- › The cash operating surplus in 2008/09 is expected to decline 32 percent to \$335 000, due to the reduced expected milk payout. This is despite production being expected to increase 2 percent to near normal levels.
- › Expenditure is expected to continue increasing in 2008/09, due primarily to higher fertiliser and fuel prices, and higher charges for grazing and silage.

»» TABLE 8.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE LOWER NORTH ISLAND DAIRY MODEL FARM

	2006/07	2007/08	2008/09 BUDGET ²
YEAR ENDED 30 JUNE			
Effective area (ha)	130	130	130
Cows wintered (head)	370	370	370
Replacement heifers (head)	85	85	85
Cows milked 15 December (head)	360	360	360
Stocking rate (cows/ha)	3.0	2.8	2.8
Total milksolids (kg)	114 400	113 500	116 000
Milksolids per ha (kg/ha)	880	873	892
Milksolids per cow milked (kg/cow)	318	315	322
MS advance to end June (\$/kg)	3.65	6.62	5.41
MS deferred payment (\$)	0.50	0.81	1.00
Net cash income (\$)	518 831	913 094	794 640
Farm working expenses (\$)	328 363	422 394	459 338
Farm profit before tax (\$)	35 968	310 850	159 740
Farm surplus for reinvestment ¹ (\$)	1 351	232 947	51 530

Notes

1 Farm surplus for reinvestment represents the cash available from the farming 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.

2 The 2008/09 budget figures are based on a final total payout of \$7.00 per kilogram of milksolids. See Appendix 2 for information on the dairy payout calculation.

»» FINANCIAL PERFORMANCE OF THE LOWER NORTH ISLAND DAIRY MODEL FARM IN 2007/08

Most dairy farms in the lower North Island have shown a dramatic increase in their cash operating surplus, driven by the high payouts, even though milk production remained at a similar level to 2006/07. The cash operating surplus for the model farm was \$491 000, an increase of \$300 000 or 158 percent. This reflects the dramatic lift in the total payout from \$4.46 per kilogram of milksolids for milk supplied in 2006/07 to \$7.62 for the 2007/08 season. See Tables 8.2 and 8.3 for details of the model's budget and expenditure in 2007/08.

» REVENUE INCREASES BY MORE THAN 75 PERCENT

Net cash income in 2007/08 was up \$394 000 or 76 percent on the previous year, to \$913 000. Milksolids revenue was up about \$370 000 or 78 percent, to \$844 000. The key driver for this significant lift in milk income was the dramatic increase in the milk payout. The interim payout to 30 June 2008 was \$6.55 per kilogram of milksolids, plus the 10 cents value-added payment in February. This was significantly higher than the milksolids advance payment in the previous year, at \$3.65 per kilogram of milksolids (including value-added payment).

MILKSOLIDS PRODUCTION VARIABLE BUT OVERALL DOWN 1 PERCENT DUE TO DROUGHT

This was the third consecutive season of below-average production and was, on average, 1 percent behind the previous year. Farms varied significantly, however, with individual properties ranging between a 20 percent decrease and a 20 percent increase on the previous year.

The lower North Island generally experienced an average winter in 2007, with a dry August and September resulting in good use of pasture and few animal health problems over the calving period. From November onwards, minimal rain fell during a major summer drought that effectively did not break until late April or early May. Temperatures were higher than normal through summer. As a result, even farmers with irrigation had pastures suffering from heat stress, which resulted in lower-than-anticipated pasture growth rates on those farms.

Areas including northern Manawatu, Rangitikei and parts of the Wairarapa and Tararua suffered more from the lack of summer rainfall. And while, overall, average production was only 1 percent down on the previous season, this was only achieved by significantly higher feed inputs.

PRICES FOR CALVES AND SURPLUS COWS IMPROVE

Stock income increased \$25 000, or 51 percent, for the 2007/08 year. The increase was mainly due to higher prices for surplus calves and a significant lift in mixed-age cow sales and prices. Given the significant lift in livestock prices associated with the higher demand for dairy stock, a high proportion of cull cows were sold as "budget" cows suitable for milking for a further season, rather than going to the works.

The empty rates were normal at around 12 to 14 percent. However, many farmers left the bulls in the herd two weeks longer, or until mid-January, given the high prices for dairy stock and the potential to sell later-calving in-calf cows at a significantly higher value than cull empty cows.

➤ CASH EXPENDITURE UP 29 PERCENT

Overall, total farm working expenses in 2007/08 were up by \$94 000 on the previous year to \$422 000 – an increase of 29 percent. This equates to \$3.72 per kilogram of milksolids (compared with \$2.87 in 2006/07). Farm working expenses for the monitored farms varied from \$2.55 to \$4.99 per kilogram of milksolids. Most of the variation can be explained by differences in expenditure on permanent labour, feed costs (including grazing), fertiliser, and repairs and maintenance.

Expenditure increased notably for labour (up 14 percent in total to \$41 000), with increasing salaries/wages and more casual labour such as relief milking and feed (up 46 percent to \$138 000) due to the impact of the drought on demand and prices. Fertiliser expenditure increased by 56 percent to \$65 000, reflecting the higher prices of fertiliser and urea, and higher applications of lime. A number of farms applied next year's phosphate in autumn in anticipation of increasing fertiliser prices. Freight costs increased by 108 percent to \$6000 due to higher freight charges and significantly more freight with the transport of livestock and extra supplement. Vehicle costs increased by 25 percent to \$13 000, largely due to increased feeding out. Repairs and maintenance expenditure rose significantly (up 21 percent), reflecting increased activity, particularly later in the season as the forecast payout was revised upwards.

There were no major animal health problems, except for a higher incidence of facial eczema throughout the lower North Island in mid- to late autumn. On average, somatic cell counts were higher than usual, given reduced milk yields. The other major effect from the drought was lower liveweights for both rising two-year heifers and calves.

FEED COSTS RISE SHARPLY DUE TO DROUGHT

Feed costs on the model farm were \$383 per cow compared with \$262 in 2006/07. This reflects increasing supplementary feed prices as a result of the widespread drought, and higher purchases of supplement, including palm kernel, to negate the effects of the drought. Monitored feed costs ranged from \$74 to \$860 per cow, reflecting the variation in the impact of the drought and the timing of feed purchases.

The drought meant that significantly higher levels of supplement were purchased at increasing prices through the summer. In October 2007, maize silage could be obtained for 24 to 26 cents per kilogram of dry matter, but by late summer this had increased to around 30 to 32 cents per kilogram of dry matter. There was a dramatic increase in the use of palm kernel throughout the lower North Island to keep cows in milk, given the high payout, and to extend the existing supplementary feed reserves.

The 2007 late autumn drought on the East Coast also forced many farms to winter their dry cows at home, and this led to increased use of supplementary feed, particularly palm kernel, in spring 2007. Dry conditions in late spring reduced pasture growth rates and meant that fewer supplements could be made on-farm.

In general, crop yields were variable, with the upper Manawatu and Wairarapa maize silage yields being 15 to 20 percent lower than usual, and the lower Manawatu and Horowhenua around 20 percent higher. Turnip yields were average.

There was significantly more undersowing of pastures in late autumn 2008 as a result of the drought, to increase plant density and production for the following season.

► LARGE TURNAROUND IN NET RESULT

Farm profit before tax at \$311 000 in 2007/08 is more than eight times what it was in the previous year. Overall, a net cash surplus of \$164 000 reflects the dramatic increase in the payout and represents a very good financial outcome for the season.

Interest costs in the model farm budget increased to \$1.28 per kilogram of milksolids. However, interest costs as a percentage of net cash income decreased to 16 percent, compared with 24 percent in the previous year. Interest costs on monitored farms ranged from 26 cents to \$2.85 per kilogram of milksolids. The high interest cost is partly due to high opening overdrafts (overdraft interest expenditure in the model is 9 cents per kilogram of milksolids). The majority of dairy farmers had very high overdrafts at the start of 2007/08, but the high cash surplus by the year's end meant most farmers went into 2008/09 with credit in the current account or very small overdrafts.

Taxation shows a significant lift from \$14 000 in 2006/07 to \$51 000 for 2007/08. This reflects the improvement in farm profit before tax in 2007/08, which led most farmers to revise their provisional tax payments. Terminal tax of about \$44 000 is due in 2008/09.

Drawings increased to approximately \$62 000. This 20 percent increase on the previous financial year reflects higher incomes and discretionary cash. The improved financial outcome has also resulted in development and capital expenditure increasing by 88 percent to \$47 000, up from \$25 000 in 2006/07.

Farm surplus for reinvestment increased to \$233 000 from only \$1350 the year before. This is despite significantly higher farm working expenditure, interest costs, taxation and drawings.

There has been a major lift in farm values in the southern North Island from an average of around \$35 per kilogram of milksolids to around of \$46 (including shares). This represents an increase in farm values approaching one-third, one of the largest increases for a significant number of years.

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

Although production is expected to return to near normal levels in 2008/09, the fall in the expected payout means the cash operating surplus is expected to decline by \$155 000 (32 percent) in the 2008/09 year. See Tables 8.2 and 8.3 for details of the model's budget and expenditure in 2008/09. This budget was compiled in June 2008 and is based on farmer and industry expectations at that time.

► REVENUE EXPECTED TO FALL BY 13 PERCENT

Net cash income is expected to decrease \$118 000 (13 percent) to \$795 000 for the 2008/09 season as a result of the fall in the payout.

MILK REVENUE DROPS AS EXPECTED PAYOUT FALLS FROM RECORD LEVELS

Milksolids revenue is expected to decline \$103 000 (or 12 percent) to \$741 000. This reflects a lower expected advance milk price to June 2009, at \$5.30 per kilogram of milksolids, plus 15 cents value-added payment in February. The total payment for the 2007/08 year of \$7.62 per kilogram of milksolids (net of retention) means that the deferred payment is budgeted to be \$1.00 per kilogram of milksolids.

MILKSOLIDS PRODUCTION EXPECTED TO INCREASE BY 2 PERCENT

Milksolids production is expected to increase 2500 kilograms, or 2 percent, to 116 000 kilograms of milksolids in 2008/09 (892 kilograms of milksolids per hectare). This reflects a more normal year.

As a result of the drought, pasture covers going into the winter of 2008 were below normal by about 200 kilograms of dry matter per hectare. Given declining soil temperatures, pasture covers at the start of calving were low, and may have an impact on early spring feeding levels.

Most farms in the lower North Island went into winter with a marginally low to adequate level of supplementary feed. There is the ability to extend supplementary feed reserves with the use of palm kernel, so at the start of winter the level of supplement on hand was not a major concern.

The other major consequence of the drought is cow condition, with condition scores averaging around 4.0 to 4.5, around one-quarter to one-half a condition score less than usual. The main impact will be lower-than-desirable cow condition at calving, which will affect submission rates and mating results in spring.

STOCK REVENUE ANTICIPATED TO DECLINE BY 21 PERCENT

Stock revenue is expected to decrease by \$15 000 to \$57 000, reflecting a significant reduction in surplus calf prices and lower mixed-age cow prices. Rising heifer prices for dairy expansion in New Zealand and offshore means that dairy farmers are expected to significantly reduce bull calf rearing and instead rear slightly more heifers than required as herd replacements. There has been increased use of artificial insemination over heifers this season, suggesting a desire to increase the number of quality heifer replacements.

➤ EXPENDITURE EXPECTED TO CONTINUE RISING

Total farm working expenditure is expected to increase \$37 000 (or 9 percent) to \$459 000. This is equivalent to \$3.96 per kilogram of milksolids (up 6.5 percent). Expenditure is expected to increase for labour (up 12 percent to \$46 000), electricity (up 13 percent to \$15 000) and freight (up 17 percent to \$7000). Animal health and breeding expenditure is up 9 percent, due to drought-related metabolic issues and uptake of new semen technologies such as DNA-proven semen. Further increases in fuel prices are expected to increase fuel expenditure 11 percent to \$15 000. Weed and pest control expenditure is expected to increase 16 percent to \$5000, due to the impact of the drought on pastures and rising prices.

Farmers expect to maintain the current level of expenditure on repairs and maintenance, but higher costs mean less will be done.

Total overhead expenses are expected to continue increasing, particularly as a result of the employers' ACC levy increasing 90 percent (the levy is based on the high taxable income of the previous year).

FERTILISER PRICES RISE TO RECORD LEVELS AND FORCE RETHINK OF APPLICATION RATES

Fertiliser expenditure is expected to increase significantly (20 percent). However, the model farm's budget reflects the fact that some farmers applied 2008/09's phosphate requirements in autumn 2008. Farmers are also expected to use slightly lower application rates, given the significant increase in fertiliser prices and their ability to "mine" some of their existing soil fertility. Fertiliser expenditure will be carefully scrutinised but will continue to be applied as long as it is cost-effective at the expected payout level.

FEED PRICES UP BUT QUANTITIES DOWN COMPARED WITH THE DROUGHT YEAR

Expenditure on feed is expected to be similar to 2007/08. Although prices are higher, lower volumes will be purchased. This level of expenditure reflects a more average season with no drought. Farmers are expected to feed cows well to boost milk production in light of the anticipated payout, and more supplementary feeding may be required in spring to recover cow condition.

Winter grazing charges increased significantly for winter 2008 because the drought reduced pasture covers in many parts of the North Island and there was competition for the limited grazing available. Prices rose to an average of around \$23 per cow per week, an increase of nearly 50 percent. Heifer grazing is also expected to increase from around \$6.50 to \$7.00 per head per week.

Increasing demand for land for cropping and higher fuel costs are expected to increase the price of supplementary feed, particularly maize silage. The model farm is budgeting 32 cents per kilogram of dry matter for maize (up from 28 cents in 2007/08) and 28 cents per kilogram of dry matter for pasture silage (up from 25 cents).

► NET RESULT FALLS FROM RECORD LEVELS OF PREVIOUS YEAR

Farm profit before tax is expected to be down 49 percent to \$160 000 in 2008/09 as a result of the sharp reduction in the payout and the continuing increase in farm working expenses.

Taxation is expected to increase 55 percent to \$79 000. This increase is due largely to terminal tax liabilities from 2007/08 (around \$44 000), even with a revision of provisional tax to reflect the lower income expected in 2008/09.

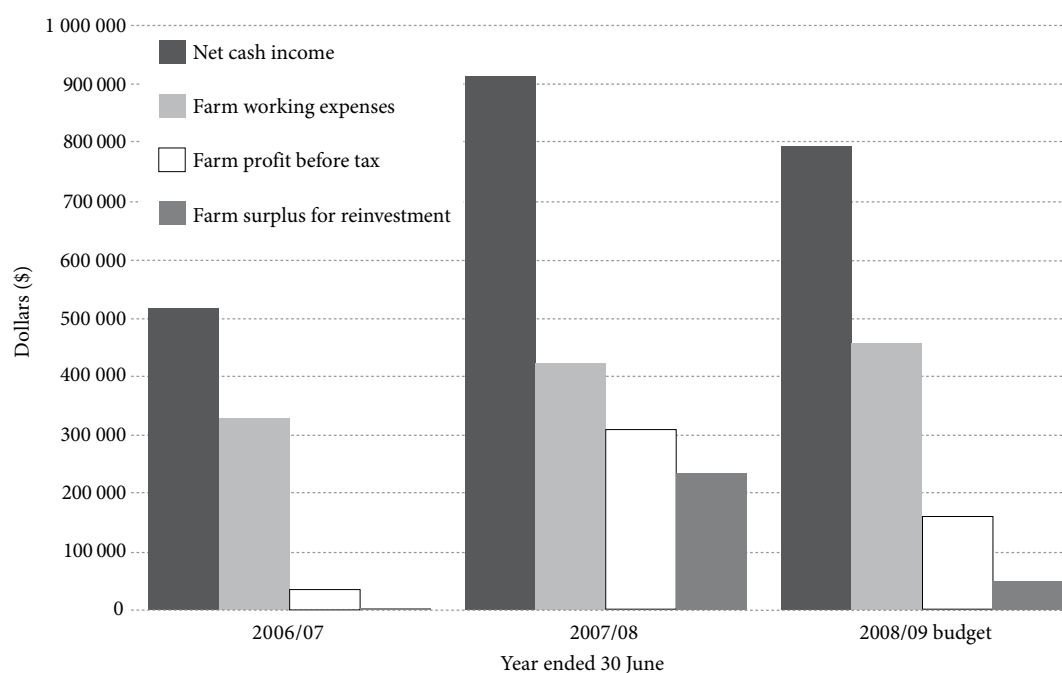
Interest expenses are expected to fall to around \$1.22 per kilogram of milksolids, but interest as a percentage of net cash income is expected to increase to 18 percent. Average mortgage interest rates increased 0.5 percent, but overdrafts have fallen significantly. The model farm has an opening debt ratio of 24 percent in 2008/09, down from 29 percent in 2007/08. This reflects the use of the 2007/08 cash surplus primarily to repay the overdraft that built up during the two previous difficult seasons.

A small expected increase in personal expenditure reflects the general increase in the cost of living. Capital and development expenditure is expected to decrease slightly (by \$5000 or 11 percent) to \$42 000. No major change is expected in principal repayments or new borrowings. However, some farms in the region are likely to purchase extra land for run-off or dairy support purposes to help control feed costs, or for dairy expansion. This will be largely funded by additional debt. No change in off-farm income is anticipated, with little reliance on this.

The model farm's budget includes some Fonterra share redemption – most farmers will redeem any surplus or “dry” shares, as the share value is expected to reduce for the 2008/09 season. The budget includes \$13 000 income from share redemption, shown as introduced funds.

The model farm's expected farm surplus for reinvestment is \$52 000, less than a quarter of what it was in 2007/08.

»» FIGURE 8.1: LOWER NORTH ISLAND DAIRY MODEL FARM PROFITABILITY TRENDS



»» TABLE 8.2: LOWER NORTH ISLAND DAIRY MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS ² (\$)
REVENUE						
Milksolids	844 034	2 345	7.44	741 060	2 059	6.39
Cattle	72 560	202	0.64	57 080	159	0.49
Other farm income	2 000	6	0.02	2 000	6	0.02
LESS:						
Cattle purchases	5 500	15	0.05	5 500	15	0.05
Net cash income	913 094	2 536	8.04	794 640	2 207	6.85
Farm working expenses	422 394	1 173	3.72	459 338	1 276	3.96
Cash operating surplus	490 700	1 363	4.32	335 302	931	2.89
Interest	144 850	402	1.28	141 000	392	1.22
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	35 000	97	0.31	34 563	96	0.30
Farm profit before tax	310 850	863	2.74	159 740	444	1.38
Taxation	50 903	141	0.45	78 772	219	0.68
Farm profit after tax	259 947	722	2.29	80 968	225	0.70
Add back depreciation	35 000	97	0.31	34 563	96	0.30
Reverse stock value adjustment	0	0	0.00	0	0	0.00
Off-farm income	5 000	14	0.04	5 000	14	0.04
Discretionary cash	299 947	833	2.64	120 530	335	1.04
APPLIED TO:						
Net capital purchases	30 000	83	0.26	25 000	69	0.22
Development	17 000	47	0.15	17 000	47	0.15
Principal repayments	26 716	74	0.24	25 683	71	0.22
Drawings	62 000	172	0.55	64 000	178	0.55
New borrowings	0	0	0.00	0	0	0.00
Introduced funds	0	0	0.00	13 235	37	0.11
Cash surplus/deficit	164 231	456	1.45	2 083	6	0.02
Farm surplus for reinvestment¹	232 947	647	2.05	51 530	143	0.44
ASSETS AND LIABILITIES						
Farm, forest and building (opening)	3 700 000	10 278	32.60	4 446 000	12 350	38.33
Plant and machinery (opening)	150 000	417	1.32	147 500	410	1.27
Stock valuation (opening)	865 435	2 404	7.62	865 435	2 404	7.46
Dairy company shares	797 825	2 216	7.03	654 475	1 818	5.64
Other farm related investments (opening)	0	0	0.00	0	0	0.00
Total farm assets (opening)	5 513 260	15 315	48.57	6 113 410	16 982	52.70
Total liabilities (opening)	1 580 000	4 389	13.92	1 500 000	4 167	12.93
Total equity (assets-liabilities)	3 933 260	10 926	34.65	4 613 410	12 815	39.77

Note

¹ Farm surplus for reinvestment represents the cash available from the farming 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.

² This figure may slightly differ between regional models due to being derived from rounded milksolids production values.

»» TABLE 8.3: LOWER NORTH ISLAND DAIRY MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)
FARM WORKING EXPENSES						
Permanent wages	35 000	97	0.31	38 000	106	0.33
Casual wages	5 000	14	0.04	7 000	19	0.06
ACC	1 053	3	0.01	952	3	0.01
Total labour expenses	41 053	114	0.36	45 952	128	0.40
Animal health	19 800	55	0.17	21 500	60	0.19
Breeding	11 880	33	0.10	13 000	36	0.11
Dairy shed expenses	7 500	21	0.07	8 000	22	0.07
Electricity	13 400	37	0.12	15 200	42	0.13
Feed (hay and silage)	67 200	187	0.59	65 000	181	0.56
Feed (feed crops)	5 200	14	0.05	6 000	17	0.05
Feed (grazing)	40 510	113	0.36	49 940	139	0.43
Feed (other)	25 000	69	0.22	19 600	54	0.17
Fertiliser	65 300	181	0.58	78 300	218	0.68
Lime	2 250	6	0.02	2 250	6	0.02
Freight (not elsewhere deducted)	6 000	17	0.05	7 000	19	0.06
Regrassing costs	8 000	22	0.07	8 000	22	0.07
Weed and pest control	4 300	12	0.04	5 000	14	0.04
Fuel	13 500	38	0.12	15 000	42	0.13
Vehicle costs (excluding fuel)	13 000	36	0.11	13 500	38	0.12
Repairs and maintenance	36 500	101	0.32	36 500	101	0.31
Total other working expenses	339 340	943	2.99	363 790	1 011	3.14
Communication costs (phone and mail)	3 600	10	0.03	4 000	11	0.03
Accountancy	4 700	13	0.04	5 000	14	0.04
Legal and consultancy	5 000	14	0.04	5 500	15	0.05
Other administration	2 600	7	0.02	2 750	8	0.02
Water charges (irrigation)	0	0	0.00	0	0	0.00
Rates	12 000	33	0.11	13 000	36	0.11
Insurance	5 000	14	0.04	5 500	15	0.05
Other expenditure ¹	9 101	25	0.08	13 846	38	0.12
Total overhead expenses	42 001	117	0.37	49 596	138	0.43
Total farm working expenses	422 394	1 173	3.72	459 338	1 276	3.96
Wages of management	85 000	236	0.75	85 000	236	0.73
Depreciation	35 000	97	0.31	34 563	96	0.30
Total farm operating expenses	542 394	1 507	4.78	578 900	1 608	4.99
CALCULATED RATIOS						
Economic farm surplus (EFS ²)	370 700	1 030	3.27	215 740	599	1.86
Farm working expenses/NCI ³	46%			58%		
EFS/total farm assets	6.7%			3.5%		
EFS less interest and lease/equity	5.7%			1.6%		
Interest + rent + lease/NCI	15.9%			17.7%		
EFS/NCI	40.6%			27.1%		

Notes

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

2 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% of opening total farm assets to a maximum of \$85 000.

3 Net cash income.

CANTERBURY

DAIRY

9

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.

»»» KEY POINTS

- › Despite the dry weather, per cow production lifted 5 percent to give a total of 286 000 kilograms of milksolids, due to increased supplementary feeding throughout the season.
- › Increased production and the high payout resulted in net cash income increasing 88 percent for the 2007/08 year to \$2.2 million.
- › Farm working expenses increased 30 percent to \$1.05 million due to increases in the costs of feed, labour, fertiliser and energy.
- › Farm surplus for reinvestment increased dramatically to \$586 000 following the \$38 000 deficit in 2006/07.
- › Cash surplus is expected to reduce to \$74 000 for 2008/09, from \$312 000 in 2007/08, due to the reduced payout and higher costs.
- › Interest in dairy expansion in Canterbury is high.

»»» TABLE 9.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE CANTERBURY DAIRY MODEL

	2004/05	2005/06	2006/07	2007/08	2008/09 BUDGET ²
YEAR ENDED 30 JUNE					
Effective area (ha)	195	195	203	210	210
Cows wintered (head)	637	647	700	720	733
Replacement heifers (head)	155	162	170	180	183
Cows milked 15th December (head)	613	621	682	691	705
Stocking rate (cows/ha)	3.1	3.2	3.4	3.3	3.4
Total milksolids (kg)	237 700	246 500	268 700	286 000	299 000
Milksolids per ha (kg/ha)	1 219	1 264	1 324	1 362	1 424
Milksolids per cow milked (kg/cow)	388	397	394	414	424
MS advance to end June (\$/kg)	3.95	3.60	3.62	6.60	5.38
MS deferred payment (\$)	0.45	0.64	0.50	0.81	1.02
Net cash income (\$)	1 127 000	1 130 400	1 187 065	2 234 002	2 018 510
Farm working expenses (\$)	660 600	697 436	805 529	1 051 058	1 142 719
Farm profit before tax (\$)	286 400	249 513	99 079	873 044	506 001
Farm surplus for reinvestment ¹ (\$)	151 809	73 157	-37 906	585 731	281 994

Notes

1 Farm surplus for reinvestment represents the cash available from the farming 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.

2 The 2008/09 budget figures are based on a final total payout of \$7.00 per kilogram of milksolids. See Appendix 2 for information on the dairy payout calculation.

»» FINANCIAL PERFORMANCE OF THE CANTERBURY DAIRY MODEL FARM IN 2007/08

The cash operating surplus grew threefold, from \$382 000 in 2006/07 to nearly \$1.2 million in 2007/08, due primarily to the increase in payout. Production also lifted in line with increases in recent years, despite a difficult production season. See Tables 9.2 and 9.3 for details of the model farm's income and expenditure in 2007/08.

» MAJOR LIFT IN REVENUE

Net cash income increased 88 percent from \$1.2 million to \$2.2 million for the 2007/08 season. This was mainly due to the vastly improved payouts and production that was close to expected levels.

Production per cow increased 5 percent, from 394 to 414 kilograms of milksolids. This is an increase of 3 percent on a per hectare basis. These good results belie the highly variable season and the extra feed costs that were required to reach these production levels.

The climate varied throughout the season. The mild winter resulted in above-average pasture growth following on from the good autumn, meaning that on-farm pasture levels for calving were good. However, a cool October meant that feed intended for autumn needs was fed out earlier to maintain production. This led to shortages later in the season.

The warm, dry summer was good for well-irrigated dairy farms, although some farms suffered severely where irrigation was restricted. February rains were very welcome, but were followed by another dry period through to May. Irrigation in this period fell behind on some properties, affecting potential production. May was considerably colder than in recent years, bringing the season to a premature end.

While the drought was severe until February, it did not cause any significant issues other than irrigation restrictions in some locations and a general increase in supplementary feed costs. "Run of river" irrigation schemes were restricted at times but generally not to a level causing significant problems. The exception to this was the Waimakariri River, which was on restriction for about two months and caused major feed issues for farms that depend solely on this source.

» EXPENDITURE DRIVEN UP BY FEED COSTS

Given that it was a high payout year, farmers chose to respond to the effects of the weather by spending more on feed, rather than restricting production. Feed expenses were the major contributor to the 30 percent or \$246 000 increase in farm working expenses to \$1.1 million compared with 2006/07.

FEED USE AND PRICES ROSE SIGNIFICANTLY

Feed expenditure rose 44 percent to \$346 000 compared with 2006/07, due to price increases and the need for more feed to keep cows producing. Price increases were caused by a combination of climate-induced shortages both regionally and nationally, increasing demand for feed and the global lift in crop prices. Farmers were also more willing to pay the higher prices commanded in the market place, rather than risk being short of feed.

Instead of conserving surplus feed through October and November as in a usual season, many farms were still feeding supplements during that time. Any surpluses conserved in January and February were likewise fed in autumn rather than being carried over to winter.

There were three distinct feed shocks during the season – in October, during the summer and then again in March/April. These shocks pushed up feed prices as the season progressed.

An example of the price increases through the season is standing grass silage, which averaged about 13 cents per kilogram of dry matter in 2006. In 2007/08, market prices rose to 16 cents per kilogram of dry matter in November 2007, and then to about 24 cents per kilogram of dry matter in March 2008. Early contracted maize silage was priced at 20 cents per kilogram of dry matter but reached 24 cents per kilogram of dry matter by the end of the season. Feed barley went from \$260 per tonne to \$440 per tonne (a 69 percent increase) over the same period.

Grazing prices for young stock lifted 31 percent, from \$6.50 per week for heifers to \$8.50 per week, and winter cow grazing from \$16 per week to \$25 per week, an increase of 56 percent. The improved profitability of the arable sector means that, even at \$8.50 per week for grazing heifers, it is proving very difficult to place heifers onto well-irrigated farms.

LABOUR, FERTILISER AND ENERGY COSTS ALSO INCREASED

Significant cost increases were seen in labour (36 percent to \$178 000), fertiliser (21 percent to \$115 000) and fuel (40 percent to \$20 000). These are major expenditure items on dairy farms, and there is little scope to reduce expenditure on them during the year as they directly affect production.

Labour costs continue to increase in a tight labour market. High payouts and the need to keep good staff have led to increases in wages, especially for workers with some experience and ability as mid-level herd managers.

The impact of fertiliser price increases started to hit in the latter part of the season, and will likely have an even more dramatic effect in 2008/09. There is little ability to cut application rates, although farmers are using nutrient budgets prepared for them by fertiliser suppliers to better match use with need.

Fuel use is modest on dairy farms but is difficult to reduce. Electricity expenditure rose 15 percent to \$74 000, mainly reflecting increased irrigation demand during the drought.

Overhead expenditure increased 4 percent, around the rate of inflation, to \$69 000. Interest expenses also increased modestly by 7 percent to \$284 000, although individuals who had to re-mortgage experienced larger increases.

Repairs and maintenance, and capital and development expenditure increased significantly following the poorer 2006/07 season, when cheque books were firmly closed due to poor cash flow.

➤ NET RESULT INCREASES DRAMATICALLY

Cash surplus increased dramatically to \$312 000, following the very difficult year in 2006/07 when the model showed a \$37 000 deficit.

At the time the data was gathered, most farmers had not decided what to do with the surplus, other than to reduce the overdrafts that had built up during the past year. Funds will probably be put towards a combination of debt repayment, further development, off-farm investment and increased personal use. Term-debt reduction is not expected to be a high priority, except for those in high-debt situations.

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

The Canterbury dairy model farm shows a 26 percent reduction in the cash operating surplus, to \$876 000, for the 2008/09 season, based on Fonterra's announced advance payments in May 2008. Farmers are intending to keep cost increases to a minimum and where possible defer decisions until their likely returns become clear. Continued production increases are also anticipated.

See Tables 9.2 and 9.3 for details of the model farm's income and expenditure in 2008/09. This budget was compiled in June 2008 and is based on farmer and industry expectations at that time.

➤ REVENUE REDUCED FROM PEAK IN 2008

Net cash income is expected to reduce 10 percent to \$2.0 million in 2008/09 compared with 2007/08. The model farm shows that farmers expect to lift per cow production 2 percent to 424 kilograms of milksolids per cow. There is the potential that, if the winter is very cold, potential production will decrease for the 2008/09 season if feed supplies are short. With the benefit of hindsight, industry commentators note that some farmers may have milked too long in May, spurred on by the better payout and memories of the previous year's mild May.

➤ EXPENDITURE INCREASE EXPECTED

Farm working expenses are expected to increase 9 percent to \$1.1 million in the model farm's budget. Farmers want to hold costs to less than this but industry commentators note that even this level may be conservative, given that recent rises in input prices are unlikely to be the last.

Significant rises are expected in expenditure on fertiliser (up 66 percent to \$191 000), fuel (up 34 percent to \$27 000) and electricity (up 9 percent to \$81 000). The expected price increase is unlikely to significantly reduce the use of these inputs as they are essential to keeping production at current levels. However, farmers will seek to improve their efficiency. In the case of fertiliser, farmers will use less phosphate fertiliser, as current fertility levels in the soil are high enough in the short term.

Other major cost categories are labour and feed. Industry commentators note that high price pressures in these categories are not reflected in the model farm budget. Labour remains in very tight supply, particularly for mid-level herd managers. This means that there are likely to be increasing demands on farmers to retain good staff by offering better remuneration.

Feed costs are budgeted to remain at 2007/08 levels, assuming that the amount of feed required will reduce to more normal levels and prices will only increase marginally. Returns from competing land uses and global cereal prices are expected to remain around current levels over the season, which will support prices at current levels.

Interest costs are expected to rise by about \$47 000, as the model farm's interest rate is expected to increase 1 percent when fixed-term mortgages are renewed. However, like all expenditure items the actual cost will be determined by interest rates available at the time of renewal.

► NET RESULT DETERIORATES

The cash surplus is expected to reduce 76 percent to \$74 000, following the high surplus of the 2007/08 season. With significant capital gains incorporated, return on assets falls from 12 percent in 2007/08 to 7 percent in 2008/09. Risks remain in the global dairy market, and it is yet to be seen whether this level of return on capital is adequate for the uncertainties over the next few years. The model farm is categorised as high input and high cost, which leads some industry observers to question its resilience to future shocks.

SUPPLIERS EXPECT TO DEFER PURCHASE OF FONTERRA SHARES

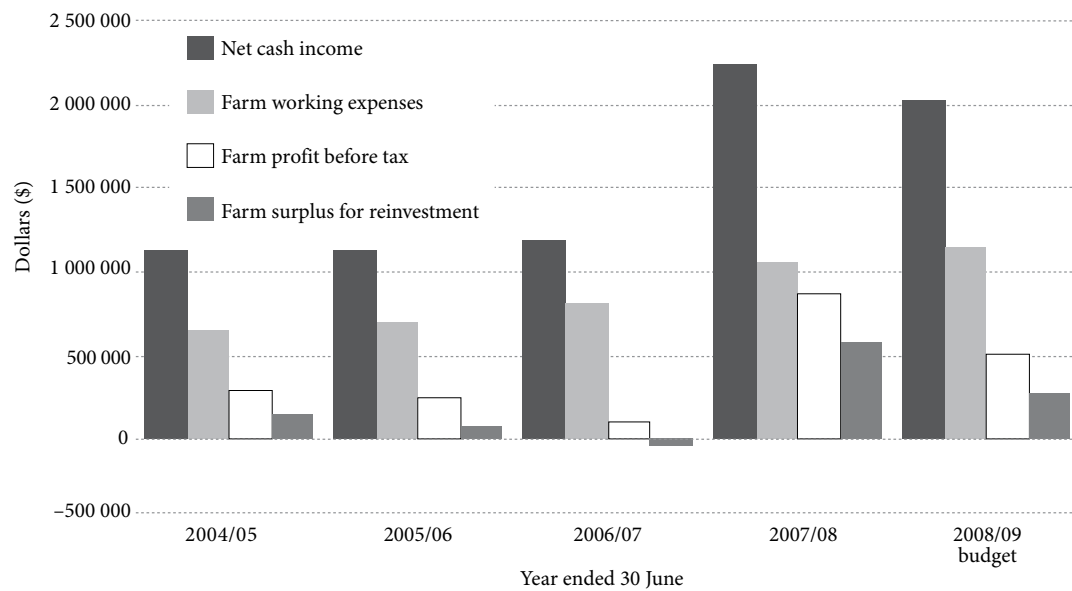
At the time of writing (June 2008), farmers had not decided how the surplus from 2007/08 would be applied. While total expenditure on capital and development is expected to continue at high levels in 2008/09, the budget shows a 68 percent reduction in capital expenditure to \$43 000. This is the amount allocated for new or replacement plant.

The expected reduction in capital expenditure comes about because of the reduction in the value of Fonterra shares. In previous years, the model farm has "fully shared" its milk production, that is, bought additional shares for each additional kilogram of milksolids produced. This year, for the first time, Fonterra's share price is set to fall. Because Fonterra allows its suppliers to have up to 20 percent of their production not backed by shares ("unshared supply"), farmers are expected to defer where possible the purchase of shares for their increased production. If the model farm had fully shared its milk as normal, it would have expected to spend an additional \$117 500 in 2008/09 on shares (17 300 shares at \$6.79 per share) based on its 2007/08 production. Instead, it will now buy the required shares in 2009/10. At the reduced fair value share price of \$5.57, this will amount to \$96 400. This will be additional to any increase in shares required due to production increases during the 2008/09 year.

Principal repayments are not expected to increase, indicating farmers believe they will get a better return from using those funds in other ways than from reducing term debt. Bankers report a mixture of responses, and accountants observe that farmers are simply not attuned to paying off debt. In good times such as these, they would rather invest in the future by reducing the need for labour, minimising risk and securing water supply.

Drawings are expected to increase modestly, reflecting the 2007/08 year's considerable increase in cash surplus. Some individuals are increasing their personal spending to a much greater extent than this.

»» FIGURE 9.1: CANTERBURY DAIRY MODEL FARM PROFITABILITY TRENDS



Source
MAF Monitoring Reports; 2005 to 2008.

»» TABLE 9.2: CANTERBURY DAIRY MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS ² (\$)
REVENUE						
Milksolids	2 105 253	3 047	7.36	1 900 340	2 696	6.36
Cattle	124 349	180	0.43	113 950	162	0.38
Other farm income	11 000	16	0.04	11 000	16	0.04
LESS:						
Cattle purchases	6 600	10	0.02	6 780	10	0.02
Net cash income	2 234 002	3 233	7.81	2 018 510	2 863	6.75
Farm working expenses	1 051 058	1 521	3.68	1 142 719	1 621	3.82
Cash operating surplus	1 182 945	1 712	4.14	875 791	1 242	2.93
Interest	283 620	410	0.99	330 770	469	1.11
Rent and/or leases	0	0	0.00	0	0	0.00
Stock value adjustment	30 179	44	0.11	21 721	31	0.07
Minus depreciation	56 460	82	0.20	60 741	86	0.20
Farm profit before tax	873 044	1 263	3.05	506 001	718	1.69
Taxation	238 593	345	0.83	183 027	260	0.61
Farm profit after tax	634 450	918	2.22	322 974	458	1.08
Add back depreciation	56 460	82	0.20	60 741	86	0.20
Reverse stock value adjustment	-30 179	-44	-0.11	-21 721	-31	-0.07
Off-farm income	0	0	0.00	0	0	0.00
Discretionary cash	660 731	956	2.31	361 994	513	1.21
APPLIED TO:						
Net capital purchases	132 938	192	0.46	43 000	61	0.14
Development	120 000	174	0.42	135 000	191	0.45
Principal repayments	21 000	30	0.07	30 000	43	0.10
Drawings	75 000	109	0.26	80 000	113	0.27
New borrowings	0	0	0.00	0	0	0.00
Introduced funds	0	0	0.00	0	0	0.00
Cash surplus/deficit	311 793	451	1.09	73 994	105	0.25
Farm surplus for reinvestment¹	585 731	848	2.05	281 994	400	0.94
ASSETS AND LIABILITIES						
Farm, forest and building (opening)	5 542 000	8 020	19.38	8 070 000	11 447	26.99
Plant and machinery (opening)	176 400	255	0.62	209 940	298	0.70
Stock valuation (opening)	1 701 672	2 463	5.95	1 731 851	2 457	5.79
Dairy company shares	1 824 527	2 640	6.38	1 593 020	2 260	5.33
Other farm related investments (opening)	0	0	0.00	0	0	0.00
Total farm assets (opening)	9 244 599	13 379	32.32	11 604 811	16 461	38.81
Total liabilities (opening)	3 260 000	4 718	11.40	3 410 000	4 837	11.40
Total equity (assets-liabilities)	5 984 599	8 661	20.93	8 194 811	11 624	27.41

Note

¹ Farm surplus for reinvestment represents the cash available from the farming 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.

² This figure may slightly differ between regional models due to being derived from rounded milksolids production values.

»» TABLE 9.3 CANTERBURY DAIRY MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)
FARM WORKING EXPENSES						
Permanent wages	174 460	252	0.61	179 400	254	0.60
Casual wages	0	0	0.00	0	0	0.00
ACC	3 425	5	0.01	4 152	6	0.01
Total labour expenses	177 885	257	0.62	183 552	260	0.61
Animal health	54 340	79	0.19	53 820	76	0.18
Breeding	28 600	41	0.10	23 920	34	0.08
Dairy shed expenses	14 300	21	0.05	11 960	17	0.04
Electricity	74 360	108	0.26	80 730	115	0.27
Feed (hay and silage)	128 700	186	0.45	119 600	170	0.40
Feed (feed crops)	0	0	0.00	0	0	0.00
Feed (grazing)	125 840	182	0.44	140 530	199	0.47
Feed (other)	91 520	132	0.32	101 660	144	0.34
Fertiliser	115 000	166	0.40	191 300	271	0.64
Lime	2 860	4	0.01	4 186	6	0.01
Freight (not elsewhere deducted)	11 440	17	0.04	8 970	13	0.03
Regrassing costs	14 300	21	0.05	14 950	21	0.05
Weed and pest control	5 720	8	0.02	5 980	8	0.02
Fuel	20 020	29	0.07	26 910	38	0.09
Vehicle costs (excluding fuel)	22 880	33	0.08	24 518	35	0.08
Repairs and maintenance	94 380	137	0.33	74 750	106	0.25
Total other working expenses	804 260	1 164	2.81	883 784	1 254	2.96
Communication costs (phone and mail)	5 720	8	0.02	5 382	8	0.02
Accountancy	3 432	5	0.01	3 887	6	0.01
Legal and consultancy	2 860	4	0.01	2 691	4	0.01
Other administration	8 580	12	0.03	8 970	13	0.03
Water charges (irrigation)	8 580	12	0.03	9 269	13	0.03
Rates	12 870	19	0.05	13 156	19	0.04
Insurance	11 440	17	0.04	11 960	17	0.04
Other expenditure ¹	15 431	22	0.05	20 068	28	0.07
Total overhead expenses	68 913	100	0.24	75 383	107	0.25
Total farm working expenses	1 051 058	1 521	3.68	1 142 719	1 621	3.82
Wages of management	85 000	123	0.30	85 000	121	0.28
Depreciation	56 460	82	0.20	60 741	86	0.20
Total farm operating expenses	1 192 518	1 726	4.17	1 288 460	1 828	4.31
CALCULATED RATIOS						
Economic farm surplus (EFS ²)	1 071 664	1 551	3.75	751 771	1 066	2.51
Farm working expenses/NCI ³	47%			57%		
EFS/total farm assets	11.6%			6.5%		
EFS less interest and lease/equity	13.2%			5.1%		
Interest + rent + lease/NCI	12.7%			16.4%		
EFS/NCI	48.0%			37.2%		

Notes

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

2 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% of opening total farm assets to a maximum of \$85 000.

3 Net cash income.

SOUTHLAND

DAIRY

10

The Southland dairy model represents the 660 owner-operators in the Southland region who supply milk to the Fonterra factory at Edendale. The model consists of a 178 hectare milking platform and a 30 hectare run-off.

KEY POINTS

- › The model farm's total milksolids production decreased 1 percent to 195 000 kilograms of milksolids in 2007/08. However, drought affected the northern Southland area and caused milksolids production there to fall by up to 7 percent.
- › The record milksolids payout gave the highest net cash income ever recorded in the model.
- › Feed, fertiliser and fuel costs increased significantly, with farm working expenses now \$3.31 per kilogram of milksolids.
- › Farm profit before tax increased six-fold to \$606 000 in 2007/08. The cash surplus was \$251 000.
- › Around 100 new dairy farms will start milking in the spring of 2008.
- › Dairy farmers' morale is buoyant and they are confident in their businesses. The increase in land price is an indication of this.
- › From 1 July 2007 to 1 July 2008, equity increased by \$3.3 million to over \$7 million per farm.

TABLE 10.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE SOUTHLAND DAIRY MODEL

	2004/05	2005/06	2006/07	2007/08	2008/09 BUDGET ²
YEAR ENDED 30 JUNE					
Effective area (ha)	162	178	178	178	178
Cows wintered (head)	455	499	518	549	557
Replacement heifers (head)	100	102	127	127	137
Cows milked 15th December (head)	432	478	490	522	528
Stocking rate (cows/ha)	2.7	2.7	2.8	2.9	3.0
Total milksolids (kg)	152 100	185 375	196 000	194 600	205 000
Milksolids per ha (kg/ha)	939	1 042	1 101	1 093	1 152
Milksolids per cow milked (kg/cow)	352	388	400	373	388
MS advance to end June (\$/kg)	3.95	3.60	3.65	6.60	5.38
MS deferred payment (\$)	0.45	0.64	0.50	0.81	1.02
Net cash income (\$)	709 095	816 276	857 495	1 511 277	1 369 635
Farm working expenses (\$)	439 417	490 532	553 052	643 305	765 263
Farm profit before tax(\$)	101 287	164 630	99 516	605 737	329 339
Farm surplus for reinvestment ¹	41 045	67 016	-6 944	462 700	83 989

Notes

1 Farm surplus for reinvestment represents the cash available from the farming 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.

2 The 2008/09 budget figures are based on a final total payout of \$7.00 per kilogram of milksolids. See Appendix 2 for information on the dairy payout calculation.

»» FINANCIAL PERFORMANCE OF THE SOUTHLAND DAIRY MODEL FARM IN 2007/08

The cash operating surplus for the Southland dairy model farm increased 185 percent compared with 2006/07 to \$868 000 in 2007/08. Income per cow increased due to a higher milksolids payout and despite lower per cow performance (down 7 percent to 373 kilograms of milksolids per cow). The stocking rate also increased by 0.1 cows per hectare to 2.9 cows per hectare.

Although total farm working expenses increased 17 percent to \$3.31 per kilogram of milksolids in 2007/08, the record payout outweighed the extra costs. See Tables 10.3 and 10.4 for details of the model's budget and expenditure in 2007/08.

» REVENUE UP SIGNIFICANTLY

The 2007/08 milk production season varied in the Southland region. Overall, the model farm averaged 1093 kilograms of milksolids per hectare, down 1 percent on 2006/07. Farmers received a significantly better payout and maintained production, which increased the net cash income by 76 percent to \$1 511 000. Milk sales contributed 96 percent of this. Farmers also had an improved cash flow during the season due to the higher-than-normal advance payment.

DROUGHT REDUCED PRODUCTION IN NORTHERN SOUTHLAND

Most southern, western and central Southland properties achieved close to 2006/07 production levels. Generally, coastal properties achieved their budgeted production from sufficient grass growth. However, northern Southland had an extended dry spell in late spring and summer. This affected grass growth, supplementary feed takes, winter crop establishment and milksolids yield.

It was not until March 2008 that sufficient rain fell to kick-start pasture production again. Figure 10.1 shows the long-term average pasture growth at the AgResearch Woodlands Research Station compared with the 2007/08 season. Much of the usual late summer to autumn growth simply did not occur. Consequently, silage and baleage normally fed out in late autumn and winter was fed out much earlier to keep cows milking. Many drought-affected farms went onto once-a-day or 16-hourly milkings. It is estimated that northern Southland was 7 percent behind the 2006/07 production levels.

RECORD ADVANCE INCREASES PAYOUT BY 79 PERCENT

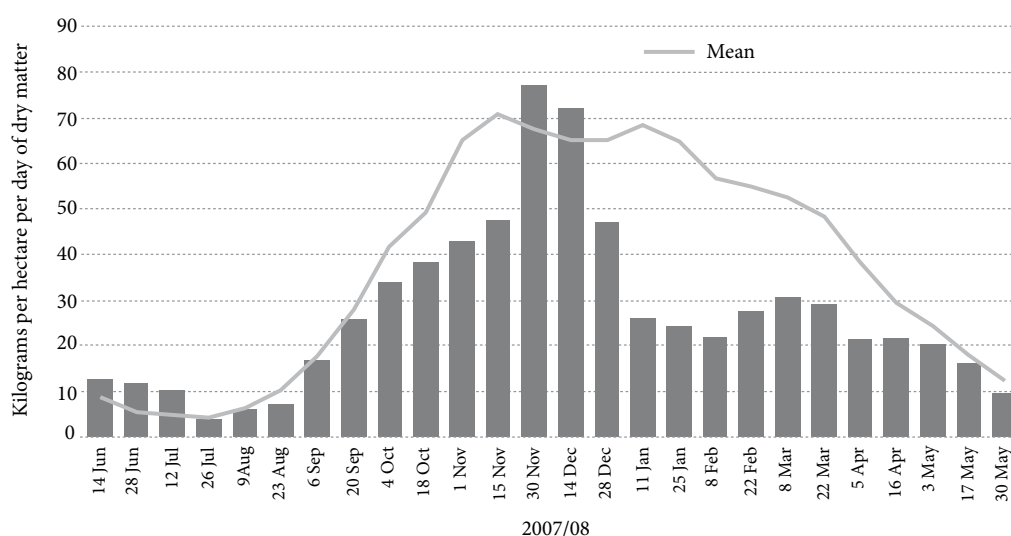
Fonterra's cash payout in the 2007/08 season was up 79 percent or \$3.26 per kilogram of milksolids compared with the 2006/07 season. This was a result of a record advance payment of \$6.60 per kilogram of milksolids to 30 June 2008 combined with a deferred payment of 81 cents for milk produced in the 2006/07 season.

STOCK INCOME RISES

Net stock revenue increased 28 percent to \$54 000 in 2007/08 but contributed only 4 percent of net cash income. The increased revenue was largely due to better prices for cull cows. However, calf sale prices were low, ranging from \$37 to \$41 per head. The demand for reared calves was low due to the feed shortage and the increasing cost of rearing

calves meant that rearers' margins were poor. As a result, some calf rearers decided to change to other livestock systems or land uses.

»» FIGURE 10.1: WOODLANDS SEASONAL RATE OF PASTURE GROWTH 2007/2008



Source
AgResearch Woodlands Research Station.

» EXPENDITURE UP

Although many farmers wished to contain spending, increasing farm costs and the desire to grow their businesses meant expenditure increased. Farm working expenses increased 16 percent to \$643 000 in 2007/08, or \$3.31 per kilogram of milksolids, the highest ever recorded for this model. However, farm working expenses only accounted for 43 percent of net cash income due to the high payout.

The main areas of increased expenditure from the previous season were labour (up 33 percent to \$126 000) and freight (up 55 percent to \$9000). Labour costs increased due to the demand for skilled labour. Labour recruitment and retention on-farm as well as in associated agribusinesses is a perennial issue. The full impact of fuel price increases was felt in freight charges, contractor rates and, to some extent, fuel expenditure (up 18 percent to \$18 000).

SUPPLEMENTARY FEED COSTS INCREASE SIGNIFICANTLY

Feed costs were \$418 per cow (up 19 percent). This was mostly due to the increased cost of purchased feeds such as grain, palm kernel and molasses. Hay and silage costs varied, depending on how much surplus was conserved. More late silage was made in autumn 2008.

The price of supplements increased significantly throughout the season as the impact of the drought became evident and the revised dairy payout encouraged farmers to feed cows more and increased their ability to pay for feed to overcome the pasture deficit.

Standing grass and cereal silage was tendered at 25 cents per kilogram of dry matter by late February 2008. Brassica prices also moved sharply through May to 30 cents per kilogram of dry matter by early June. Brassica yields were down on average by 2 tonnes of dry matter per hectare (15 percent). The lack of fibrous feed, especially for feeding out on brassicas, inflated straw prices to 33 cents per kilogram of dry matter delivered on-farm.

Some graziers revoked earlier confirmed winter grazing prices, with late May and June grazing prices reaching \$28.00 to \$30.00 per cow per week. Some graziers, on assessing their winter feed, refused to take as many cows for grazing as they had previously agreed.

»» TABLE 10.2: FEED PRICES IN SOUTHLAND

		OCTOBER 2007	DECEMBER 2007	MARCH 2008	JUNE 2008
Baleage	(\$/bale delivered)	70	85	100	115
Crushed barley	(\$/tonne delivered)	385	450	500	525
Standing grass	(cents/kg dry matter)	16	18	22	25
Brassica	(cents/kg dry matter)	18	20	22	30
Calf grazing	(\$/head/week)	4.00	4.50	4.75	4.75
Heifer grazing	(\$/head/week)	6.75	7.00	7.50	8.00
Cow grazing	(\$/head/week)	20.00	22.00	24.00	30.00

COW CONDITION AFFECTED BY DRY CONDITIONS

Animal health was generally good and expenditure was similar to 2006/07. However, cow condition deteriorated from December to February due to the dry weather. But once farms changed milking frequency, cow condition slowly improved. The reliance on silage to keep cows milking saw the younger cows start to lose condition in late summer and early autumn, which led to their early drying off. Cow condition on 1 June 2008 at 4.7 was 0.2 of a condition score less than average. Cow empty rates, at 8 percent, were around 2 percent lower than average.

Cow blood selenium levels were significantly lower after the summer dry. Worm burdens in calves also proved a problem in late summer, and generally calf condition was less than average for the start of winter.

FERTILISER PRICES RISE

Fertiliser expenditure increased slightly (up 4 percent to \$66 000), but the large increases in fertiliser prices are expected to come through in the 2008/09 season. Many farmers looked for alternative products to Di-ammonium Phosphate (DAP), as this was one of the first fertilisers to jump in price in 2007/08. The model farm applied the equivalent of 132 kilograms of nitrogen per hectare. This was less than average, as there was no point applying nitrogen when soil moisture was the most limiting factor.

INTEREST RATES RISE

Interest rates increased during the year, but most farms have a mix of fixed and floating interest rates and varying loan maturity dates, which smoothes interest rate changes. No principal was repaid, with farm families preferring to invest in their farms rather than pay off debt. Dairy farmers are also seen as an attractive lending proposition. The ratio of debt servicing to net cash income was very low at 16 percent, due to increased cash farm income.

The average debt for the model is \$15 per kilogram of milksolids, with debt servicing at \$1.27 per kilogram of milksolids. However, many new conversions will have much higher debt levels of \$20 plus per kilogram of milksolids, and consequently higher debt servicing costs.

Debt servicing and farm working expenditure together total \$4.58 per kilogram of milksolids. Farms need a continuing high payout to support this cost structure.

► HUGE POSITIVE NET RESULT

Farm profit before tax increased \$506 000, or 509 percent, to \$606 000. This significant result will have positive financial implications for all of Southland.

Capital purchases for the model farm included \$72 000 worth of Fonterra shares plus the general renewal of vehicles and plant.

Many farms took the opportunity provided by the high payout to develop home blocks and run-offs with fencing, lanes, drainage, fertiliser, shed alterations and similar improvements. In general, the farms are very well maintained and developed.

After tax, drawings, development and capital purchases, the model recorded a cash surplus of \$251 000, a significant lift from the loss of \$82 000 in 2006/07. This large, tax-paid amount of cash will not stay in bank accounts for long. Farmers are looking at opportunities to invest this money, mainly in more land.

The model shows a farm surplus for reinvestment of \$463 000, and equity increased by \$3.3 million from July 2007 to July 2008.

►► BUDGET FINANCIAL PERFORMANCE OF THE SOUTHLAND DAIRY MODEL FARM IN 2008/09

The Southland dairy model's cash operating surplus is expected to decrease \$264 000 (down 30 percent) in 2008/09 compared with the previous year. This results from the reduced forecast payout announced by Fonterra in May 2008, of \$7.00 per kilogram of milksolids. In November 2008, Fonterra's forecast payout was revised down to \$6.00 per kilogram of milksolids. See Tables 10.3 and 10.4 for details of the model's budget and expenditure in 2008/09. This budget was compiled in June 2008 and is based on farmer and industry expectations at that time.

➤ REVENUE DECREASES BUT STILL AT A HIGH LEVEL

Farms began the 2008/09 season with pasture covers that were 100 to 300 kilograms of dry matter per hectare less than desired, a consequence of the dry late summer followed by the average autumn. Generally, winter feed crop yields were average to below average, and grazing and purchased feed was scarce and very expensive. Cow condition was average to below average. However, farmers are confident that an average pasture growth season will let them achieve higher total milksolids production.

Although production is expected to increase, the decreased milksolids payout means the model farm's budget net cash income in 2008/09 will decrease 9 percent to \$1 370 000 or \$2594 per cow. This is the second highest net cash income recorded by this model farm.

PAYOUT EXPECTED TO BOOST PRODUCTION

The record Fonterra milksolids payout in 2007/08 and expected \$7.00 per kilogram of milksolids for 2008/09 are driving the production goals and spending habits of suppliers. Milksolids production for the model farm is expected to increase 5 percent to 205 000 kilograms in 2008/09. Farmers will increase stocking rates slightly and look to regain per cow production. The model farm's production is expected to rise to 388 kilograms of milksolids per cow and 1152 kilograms of milksolids per hectare.

➤ ESCALATING COST STRUCTURE A CONCERN

Farm working expenditure is expected to increase to \$765 000 (\$3.73 per kilogram of milksolids), a lift of 13 percent. Some of this total increase reflects increased production. Cow numbers are up slightly and milk production is expected to increase 5 percent. However, most of the increases are in feed, fertiliser and fuel, with feed costs predicted to increase \$78 000 (36 percent to \$296 000) and fertiliser expenditure is expected to increase \$42 000 (64 percent) to \$109 000.

FARM WORKING EXPENDITURE PER KILOGRAM OF MILKSOLIDS EXPECTED TO INCREASE BY 19 PERCENT

Farm working expenditure per kilogram of milksolids is predicted to increase by 13 percent compared with 2007/08, to \$3.73 in 2008/09, which follows a 17 percent increase in 2007/08 compared with 2006/07. To achieve their production targets, farmers will have to pay more for items like grazing, silage and hay making, contract cultivation, bought-in grain and molasses. All feed costs are affected by high international prices for oil and fertilisers, as well as a strong domestic market for feed due to the widespread drought in 2008.

Interest rates are expected to increase to around 9 percent in 2008/09. The higher-than-average advance milksolids payment will keep current account interest payments similar.

➤ NET RESULT

Farm profit before tax is expected to drop 46 percent to \$329 000. Due to terminal tax and high provisional tax, farm profit after tax drops 70 percent to \$154 000. Most farmers will be looking to minimise their tax liability.

»» TABLE 10.3: SOUTHLAND DAIRY MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS ² (\$)
REVENUE						
Milksolids	1 450 120	2 778	7.45	1 301 392	2 465	6.35
Cattle	56 714	109	0.29	64 582	122	0.32
Other farm income	6 743	13	0.03	6 061	11	0.03
LESS:						
Cattle purchases	2 300	4	0.01	2 400	5	0.01
Net cash income	1 511 277	2 895	7.77	1 369 635	2 594	6.68
Farm working expenses	643 305	1 232	3.31	765 263	1 449	3.73
Cash operating surplus	867 972	1 663	4.46	604 372	1 145	2.95
Interest	247 200	474	1.27	264 600	501	1.29
Rent and/or leases	0	0	0.00	0	0	0.00
Stock value adjustment	27 276	52	0.14	30 423	58	0.15
Minus depreciation	42 311	81	0.22	40 856	77	0.20
Farm profit before tax	605 737	1 160	3.11	329 339	624	1.61
Taxation	93 962	180	0.48	175 783	333	0.86
Farm profit after tax	511 776	980	2.63	153 556	291	0.75
Add back depreciation	42 311	81	0.22	40 856	77	0.20
Reverse stock value adjustment	-27 276	-52	-0.14	-30 423	-58	-0.15
Off-farm income	0	0	0.00	0	0	0.00
Discretionary cash	526 811	1 009	2.71	163 989	311	0.80
APPLIED TO:						
Net capital purchases	132 255	253	0.68	57 000	108	0.28
Development	79 016	151	0.41	40 000	76	0.20
Principal repayments	0	0	0.00	0	0	0.00
Drawings	64 111	123	0.33	80 000	152	0.39
New borrowings	0	0	0.00	0	0	0.00
Introduced funds	0	0	0.00	0	0	0.00
Cash surplus/deficit	251 429	482	1.29	-13 011	-25	-0.06
Farm surplus for reinvestment¹	462 700	886	2.38	83 989	159	0.41
ASSETS AND LIABILITIES						
Farm, forest and building (opening)	4 371 000	8 374	22.46	7 870 000	14 905	38.39
Plant and machinery (opening)	183 484	352	0.94	190 550	361	0.93
Stock valuation (opening)	1 281 377	2 455	6.58	1 308 653	2 479	6.38
Dairy company shares	1 330 840	2 550	6.84	1 091 720	2 068	5.33
Other farm related investments	0	0	0.00	0	0	0.00
Total farm assets	7 166 701	13 729	36.82	10 460 923	19 812	51.03
Total liabilities (opening)	2 930 000	5 613	15.06	2 930 000	5 549	14.29
Total equity (assets-liabilities)	4 236 701	8 116	21.77	7 530 923	14 263	36.74

Note

1 Farm surplus for reinvestment represents the cash available from the farming 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.

2 This figure may slightly differ between regional models due to being derived from rounded milksolids production values.

»» TABLE 10.4 SOUTHLAND DAIRY MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)
FARM WORKING EXPENSES						
Permanent wages	108 054	207	0.56	102 849	195	0.50
Casual wages	15 138	29	0.08	12 262	23	0.06
ACC	2 476	5	0.01	2 932	6	0.01
Total labour expenses	125 668	241	0.65	118 043	224	0.58
Animal health	31 466	60	0.16	33 000	63	0.16
Breeding	19 345	37	0.10	18 300	35	0.09
Dairy shed expenses	11 484	22	0.06	12 000	23	0.06
Electricity	18 792	36	0.10	20 064	38	0.10
Feed (hay and silage)	43 896	84	0.23	52 800	100	0.26
Feed (feed crops)	14 951	29	0.08	20 000	38	0.10
Feed (grazing)	102 933	197	0.53	152 064	288	0.74
Feed (other)	56 471	108	0.29	71 808	136	0.35
Fertiliser	66 460	127	0.34	108 765	206	0.53
Lime	1 495	3	0.01	1 273	2	0.01
Freight (not elsewhere deducted)	9 161	18	0.05	9 610	18	0.05
Regrassing costs	7 830	15	0.04	8 330	16	0.04
Weed and pest control	6 442	12	0.03	6 440	12	0.03
Fuel	17 981	34	0.09	23 760	45	0.12
Vehicle costs (excluding fuel)	17 572	34	0.09	18 500	35	0.09
Repairs and maintenance	40 716	78	0.21	29 040	55	0.14
Total other working expenses	466 996	895	2.40	585 754	1 109	2.86
Communication costs (phone and mail)	5 199	10	0.03	5 300	10	0.03
Accountancy	6 100	12	0.03	6 200	12	0.03
Legal and consultancy	3 070	6	0.02	3 400	6	0.02
Other administration	5 552	11	0.03	5 912	11	0.03
Water charges (irrigation)	0	0	0.00	0	0	0.00
Rates	11 484	22	0.06	12 184	23	0.06
Insurance	6 888	13	0.04	6 648	13	0.03
Other expenditure ¹	12 349	24	0.06	21 823	41	0.11
Total overhead expenses	50 642	97	0.26	61 467	116	0.30
Total farm working expenses	643 305	1 232	3.31	765 263	1 449	3.73
Wages of management	85 000	163	0.44	85 000	161	0.41
Depreciation	42 311	81	0.22	40 856	77	0.20
Total farm operating expenses	770 616	1 476	3.96	891 119	1 688	4.35
CALCULATED RATIOS						
Economic farm surplus (EFS ²)	767 937	1 471	3.95	508 939	964	2.48
Farm working expenses/NCI ³	43%			56%		
EFS/total farm assets	10.7%			4.9%		
EFS less interest and lease/equity	12.3%			3.2%		
Interest + rent + lease/NCI	16.4%			19.3%		
EFS/NCI	50.8%			37.2%		

Notes

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

2 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% of opening total farm assets to a maximum of \$85 000.

3 Net cash income.

After significant amounts are spent on capital, development and drawings, the cash deficit is expected to be \$13 000. This is equivalent to 1 percent of net cash income, or 1800 kilograms of milksolids, or 6 cents per kilogram of milksolids.

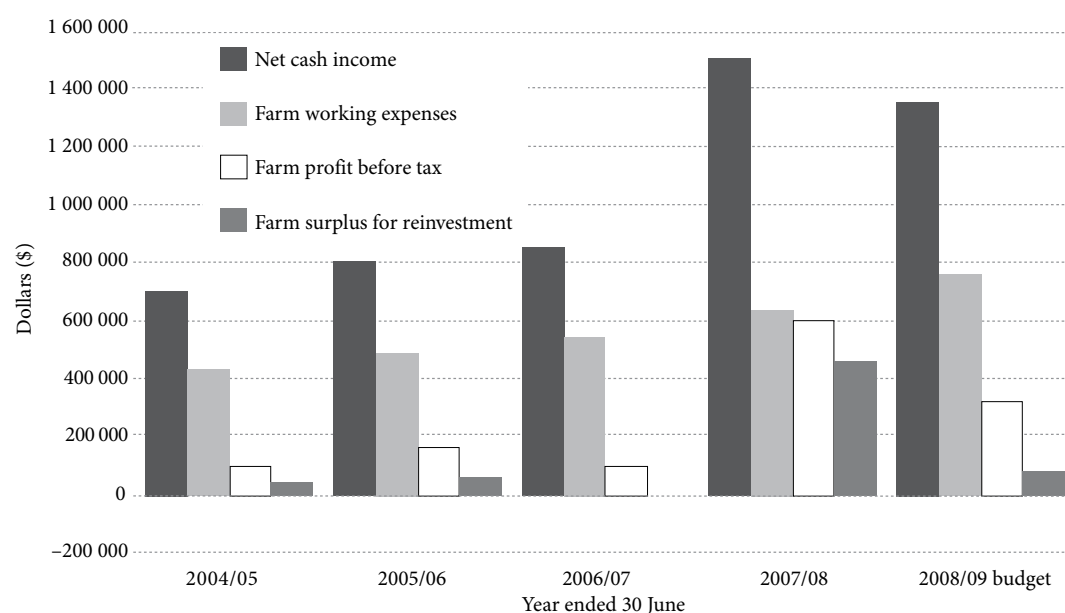
With recent high levels of income, farmers have very well-maintained properties and will look to continue development and replace machinery and equipment as required, although may defer some decisions until their likely returns become clear.

The model farm has not purchased additional run-off land, but many Southland dairy farmers are looking to purchase additional land as a run-off block. Major development costs will therefore be associated with fencing, water supply and fertiliser for those blocks.

Of most concern is the high-cost structure of these farms, requiring a \$5.00 plus payout for economic sustainability.

Return on assets is expected to decrease from 11 percent in 2007/08 to 5 percent in 2008/09. This is due to a reduced economic farm surplus and increased land and cow prices. These increases in land and herd value more than compensate for the drop in the dairy company share price.

»» FIGURE 10.2: SOUTHLAND DAIRY MODEL FARM PROFITABILITY TRENDS



Sources
MAF Monitoring Reports; 2005 to 2008.

WEST COAST

SOUTH ISLAND DAIRY

11

This commentary describes the collective dairy sector's perspective of dairying on the West Coast of the South Island.

»» KEY POINTS

- › Production levels were slightly above the 2006/07 season. Coupled with a payout over 50 percent higher, this led to a significant increase in the net cash income and cash surplus in 2007/08.
- › Variable weather through the mid-spring period saw feed surpluses and purchased high-energy supplements fed to maintain production levels.
- › Production peaked later in the 2007/08 season than for previous seasons.
- › On the back of a good payout in 2007/08, the outlook for 2008/09 is positive.
- › Dairy cow numbers on the West Coast are expected to increase by a further 7900 (6 percent) in the 2008/09 season. In total just under 140 000 cows are projected to be milked on just under 63 000 hectares on the West Coast.
- › There is concern about the impact that rapidly escalating expenditure costs will have on budgets if the higher payouts come to an end. Focus is moving to maximise the cost-effectiveness of major farming inputs.

»» FINANCIAL PERFORMANCE OF WEST COAST SOUTH ISLAND DAIRYING IN 2007/08

› REVENUE EXPECTATIONS CLIMBED THROUGHOUT THE SEASON

The advance by Westland Milk Products reached \$6.10 per kilogram of milksolids by 30 June 2008. As early as October 2007, the advance payout lifted from \$3.75 to \$4.65 per kilogram of milksolids and suppliers were informed of a lift in the expected final payout to between \$6.25 and \$6.40 per kilogram of milksolids. Budgets were again lifted in January, May, and June.

Regular announcements from Fonterra detailing forecast payout increases over 2007/08 continued to be met by Westland Milk Products statements that a comparable payout was expected. The total final payout (less retentions and DairyNZ levies) for 2007/08 was \$7.96 per kilogram of milksolids.

› PRODUCTION

The 2007/08 season started off slowly but positively, with initial supply 2 percent ahead of the 2006/07 season. By October, supply had fallen behind the previous season but was back on par by the end of December. Supply was adversely affected by the dry weather in December and, while comparable with last season, was below the levels budgeted. Excellent growing conditions prevailed over much of the region through most of the summer and autumn and supply maintained a 2 percent advantage over 2006/07 through the rest of the season. A 5 percent increase in cow numbers (5000 cows) over the supply area saw many farms' per cow production levels drop, despite more costly feed inputs being used.

FEED AND MILKING INTERVALS CLOSELY MANAGED TO MATCH PASTURE GROWTH

Favourable weather at calving saw the season get off to a good start, and pasture surpluses appeared early in the season. However, during September and October, pasture growth rates slowed and the feed surpluses were quickly

used to ensure cow nutritional intakes were not compromised in the lead-up to mating. In addition, the increased payout expectations saw higher-priced and high-energy supplements purchased to help maintain sagging production levels.

Variations in milking interval were used to manage periods of feed shortage, especially around the shoulders of the season. Even though the intention was to maximise milk production in a season where the payout was greater, the need to match feed supply with stock needs and ensure cows were in adequate condition for mating meant that a number of herds were on either once-a-day or 16-hourly milkings for the majority of the season.

Good growing conditions over summer and lower milk production levels meant that feed supply remained ahead of stock demand for long periods. Up to three cuts of silage were not uncommon through the late summer and autumn, with some silage being made as late as April. As a result, on-farm stocks of supplement, and pasture cover at drying off, are at reasonably typical levels.

➤ EXPENDITURE: ALL COSTS ABLE TO BE MET

While the final payout is expected to be over 50 percent higher than the original budget, the escalation in farm working expenses will absorb much of the increased revenue. Fuel, electricity, fertiliser and nitrogen costs, as well as labour charges, have been increasing significantly.

DEVELOPMENT ACTIVITY INCREASES

The constantly improving payout expectations have seen more of the “big ticket” expenditure items addressed. Development of more marginal land and bridging waterways have both been more common activities than would have been the case in an average season. The good growing conditions that prevailed through autumn accommodated many late sowings of new pasture. Financiers have been supportive and have extended further finance to strengthen the production base of many farms.

INPUT PRICES INCREASE

Electricity and fuel prices continue to move upwards and, while they are less noticeable in a high-income year, are still a cause for concern. They are an integral ingredient of farming and are more expensive on the West Coast.

NITROGEN USE INCREASES

Nitrogen use continues to be an important management tool on West Coast dairy farms. Slowing pasture growth rates through the spring resulted in regular applications of nitrogen throughout the season. Nitrogen application rates have tended to lift from around 30 kilograms per hectare to rates approaching 50 kilograms per hectare. As soil temperatures in some areas were still above 10 degrees Celsius in late May, applications continued to maintain the build-up of pasture cover going into winter.

STOCK HEALTH GOOD

Despite the fluctuating spring conditions, stock health has not been an issue in many of the West Coast supply areas through the 2007/08 season. To address energy shortages and maintain stock condition at a good level, most farms used their extra income to purchase extra meal throughout the season.

Reported mating submission rates were good, but only seemed to result in average conception rates. Veterinarians report typical empty rates of above 10 percent, depending on when mating finally ceased. There is still a desire to shorten the mating period, but this is being balanced by the need to maximise the number of cows in-calf for the following season. Minimising induction rates is likely to be an issue for many farmers to manage in the short term. Some farms through the Buller region experienced facial eczema for the first time, affecting cows rather than young stock.

› IMPROVED NET RESULT AS EXPECTED

The cash surplus has improved significantly compared with last season, though not by as much as would have been initially expected. The combination of a small increase in production, a dramatic increase in the payout and a significant increase in on-farm running costs has resulted in an increase in the cash surplus of 25 to 30 percent compared with 2006/07.

›› BUDGET FINANCIAL PERFORMANCE OF WEST COAST SOUTH ISLAND DAIRYING IN 2008/09

This commentary was compiled in June 2008 and is based on farmer and industry expectations at that time.

› RETURNS UNCERTAIN

In May, suppliers received positive news that the advance price for the 2008/09 season had been set at \$4.65 per kilogram of milksolids. It came with a note of caution that the two key drivers – commodity prices and the exchange rate – were both looking less favourable than in 2007/08, and that the payout will probably not be as high for the season ahead.

› PRODUCTION

Herd size on the West Coast is projected to continue the past decade's pattern of gradual increase. The need to lift per cow performance has slowed the increase in herd size. Milk supply has not mirrored the increase in overall cow numbers in the supply area. Cow census data indicates that cow numbers are set to increase by a further 7900 (6 percent) in the 2008/09 season, with just under 140 000 cows projected to be milked on just under 63 000 hectares. Westland Milk Products have budgeted for a 5 percent lift in production for the 2008/09 season compared with the 2007/08 result.

› ON-FARM EXPENDITURE LEVELS WILL CONTINUE TO INCREASE

Fertiliser and fuel costs are predicted to continue to increase, along with most other costs that form part of the production system. In many cases, the farmer is not in a strong position to reduce the cost.

The effects of the good payout year in 2007/08 will flow through into the 2008/09 season. Full levels of maintenance expenditure will be budgeted for, as will an allowance for increased tax payments. The effect of the increased input prices will be felt more in 2008/09, although some forward purchases were made in the 2007/08 season.

➤ NET RESULT EXPECTED TO BE SIMILAR TO 2007/08

At the time of budgeting, farmers were expecting to receive similar returns in 2008/09 to 2007/08. However, as global commodity prices have fallen and Fonterra has reduced its projected payout for the season, these expectations are likely to have been revised downwards.

NATIONAL DAIRY BUDGET

12

The national dairy budget depicted below has been constructed via a weighted average of the MAF dairy farm monitoring models. The weighting is based on the number of dairy cows in each region from the 2007 Livestock Improvement Survey. The weightings, on a model basis, are as follows:

- › Northland: 8.3 percent;
- › Waikato/Bay of Plenty: 42.8 percent;
- › Taranaki: 12.9 percent;
- › Lower North Island: 10.4 percent;
- › Canterbury: 14.4 percent;
- › Southland: 11.2 percent.

Based on these weightings, the 2007/08 national dairy model has an effective area of 131 hectares and milks 380 cows.

»» TABLE 12.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE NATIONAL DAIRY MODEL

	2004/05	2005/06	2006/07 ¹	2007/08	2008/09 BUDGET ⁶
YEAR ENDED 30 JUNE					
Total milksolids revenue/cow (\$)	1 400	1 405	1 488	2 538	2 261
Kg milksolids/ha	873	958	1 034	992	1 049
Kg milksolids/cow milked	327	346	361	342	359
Milksolids advance to end June (\$/kg)	3.95	3.60	3.65	6.62	5.41
Milksolids deferred payment (\$/kg)	0.50	0.64	0.50	0.81	1.00
Cattle income (\$)	37 981	42 923	40 004	55 854	50 052
Other farm income (\$)	1 225	1 654	2 347	2 690	2 614
Net cash Income (\$)	486 191	536 685	577 858	1 021 886	921 104
Farm working expenses (\$)	286 062	326 462	369 084	468 449	514 507
Cash operating surplus (\$)	200 129	210 223	208 774	553 438	406 597
Farm profit before tax (\$)	111 911	110 358	70 014	384 034	223 680
Farm surplus for reinvestment ² (\$)	39 575	33 563	1 677	263 472	90 804
EFS ³ per cow (\$)	302	302	300	1 175	762
FWE ⁴ /NCI ⁵ (%)	57.4	60.9	63	45.3	55.5
EFS/total farm assets (%)	3.0	2.5	2.1	7.5	4.1

Notes

1 Due to a revision of model parameters, the data for the 2006/07 year will not match that published in the *Pastoral Monitoring Report 2007*. Some previous years' data has also been revised.

2 Farm surplus for reinvestment represents the cash available for the farming 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 Economic farm surplus (or earnings before 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 working assets to a maximum of \$85 000.

4 Farm working expenses.

5 Net cash income.

6 The 2008/09 budget figures are based on a final total payout of \$7.00 per kilogram of milksolids. See Appendix 2 for information on the dairy payout calculation.

»» TABLE 12.2: NATIONAL DAIRY MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS ² (\$)
REVENUE						
Milksolids	967 585	2 546	7.45	872 558	2 278	6.30
Cattle	55 854	147	0.43	50 052	131	0.36
Other farm income	2 690	7	0.02	2 614	7	0.02
LESS:						
Cattle purchases	4 242	11	0.03	4 120	11	0.03
Net cash income	1 021 886	2 689	7.87	921 104	2 405	6.66
Farm working expenses	468 449	1 233	3.61	514 507	1 343	3.72
Cash operating surplus	553 438	1 456	4.26	406 597	1 062	2.93
Interest	141 315	372	1.09	152 111	397	1.11
Rent and/or leases	0	0	0.00	0	0	0.00
Stock value adjustment	7 042	19	0.05	7 856	21	0.06
Minus depreciation	35 131	92	0.27	38 662	101	0.27
Farm profit before tax	384 034	1 011	2.96	223 680	584	1.61
Taxation	84 233	222	0.65	95 361	249	0.71
Farm profit after tax	299 801	789	2.31	128 319	335	0.90
Add back depreciation	35 131	92	0.27	38 662	101	0.27
Reverse stock value adjustment	-7 042	-19	-0.05	-7 856	-21	-0.06
Off-farm income	13 594	36	0.10	9 922	26	0.07
Discretionary cash	341 483	899	2.63	169 047	441	1.19
APPLIED TO:						
Net capital purchases	70 536	186	0.54	24 568	64	0.20
Development	37 046	97	0.29	30 288	79	0.21
Principal repayments	26 493	70	0.20	26 792	70	0.20
Drawings	64 417	170	0.50	68 321	178	0.49
New borrowings	0	0	0.00	0	0	0.00
Introduced funds	0	0	0.00	21 681	57	0.14
Cash surplus/deficit	142 991	376	1.10	40 759	106	0.23
Farm surplus for reinvestment¹	263 472	693	2.03	90 804	237	0.63
ASSETS AND LIABILITIES						
Farm, forest and building (opening)	3 980 225	10 474	30.64	5 170 449	13 500	35.20
Plant and machinery (opening)	135 332	356	1.04	162 770	425	1.21
Stock valuation (opening)	915 471	2 409	7.05	922 513	2 409	6.69
Dairy company shares	911 229	2 398	7.01	762 055	1 990	5.49
Other farm related investments	0	0	0.00	0	0	0.00
Total farm assets (opening)	5 942 256	15 638	45.75	7 017 786	18 323	48.60
Total liabilities (opening)	1 574 948	4 145	12.12	1 579 916	4 125	11.50
Total equity (assets-liabilities)	4 367 308	11 493	33.62	5 437 870	14 198	39.57

Note

1 Farm surplus for reinvestment represents the cash available from the farming 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.

2 This figure may slightly differ between regional models due to being derived from rounded milksolids production values.

»» TABLE 12.3: NATIONAL DAIRY MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)	WHOLE FARM (\$)	PER COW (\$)	PER KG OF MILKSOLIDS (\$)
FARM WORKING EXPENSES						
Permanent wages	64 317	169	0.50	66 084	173	0.48
Casual wages	5 133	14	0.04	5 863	15	0.04
ACC	1 490	4	0.01	1 656	4	0.01
Total labour expenses	70 939	187	0.55	73 602	192	0.54
Animal health	26 166	69	0.20	28 183	74	0.21
Breeding	14 654	39	0.11	14 339	37	0.10
Dairy shed expenses	8 285	22	0.06	8 123	21	0.06
Electricity	21 304	56	0.16	23 020	60	0.17
Feed (hay and silage)	51 635	136	0.40	47 405	124	0.34
Feed (feed crops)	3 024	8	0.02	3 794	10	0.03
Feed (grazing)	51 043	134	0.39	61 498	161	0.45
Feed (other)	39 391	104	0.30	39 023	102	0.28
Fertiliser	58 458	154	0.45	85 672	224	0.62
Lime	1 737	5	0.01	2 212	6	0.02
Freight (not elsewhere deducted)	4 907	13	0.04	4 762	12	0.03
Regrassing costs	6 535	17	0.05	6 404	17	0.05
Weed and pest control	3 827	10	0.03	3 996	10	0.03
Fuel	12 267	32	0.09	15 021	39	0.11
Vehicle costs (excluding fuel)	13 325	35	0.10	13 371	35	0.10
Repairs and maintenance	39 848	105	0.31	35 839	94	0.26
Total other working expenses	356 405	938	2.74	392 663	1 025	2.86
Communication costs (phone and mail)	3 600	9	0.03	3 628	9	0.03
Accountancy	4 119	11	0.03	4 245	11	0.03
Legal and consultancy	3 146	8	0.02	3 079	8	0.02
Other administration	3 792	10	0.03	3 948	10	0.03
Water charges (irrigation)	1 232	3	0.01	1 331	3	0.01
Rates	10 198	27	0.08	10 590	28	0.08
Insurance	6 427	17	0.05	6 669	17	0.05
Other expenditure ¹	8 590	23	0.07	14 752	39	0.11
Total overhead expenses	41 104	108	0.32	48 241	126	0.35
Total farm working expenses	468 449	1 233	3.61	514 507	1 343	3.74
Wages of management	83 610	220	0.64	83 720	219	0.61
Depreciation	35 131	92	0.27	38 662	101	0.28
Total farm operating expenses	587 189	1 545	4.52	636 888	1 663	4.64
CALCULATED RATIOS						
Economic farm surplus (EFS ²)	446 458	1 175	3.44	291 749	762	2.12
Farm working expenses/NCI ³	45%			56%		
EFS/total farm assets	8%			4%		
EFS less interest and lease/equity	7%			3%		
Interest + rent + lease/NCI	14%			16%		
EFS/NCI	42%			30%		
PHYSICAL PARAMETERS						
Effective area (ha)	131			131		
Cows milked	380			383		
Milksolids (kg)	129 889			137 408		

Notes

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

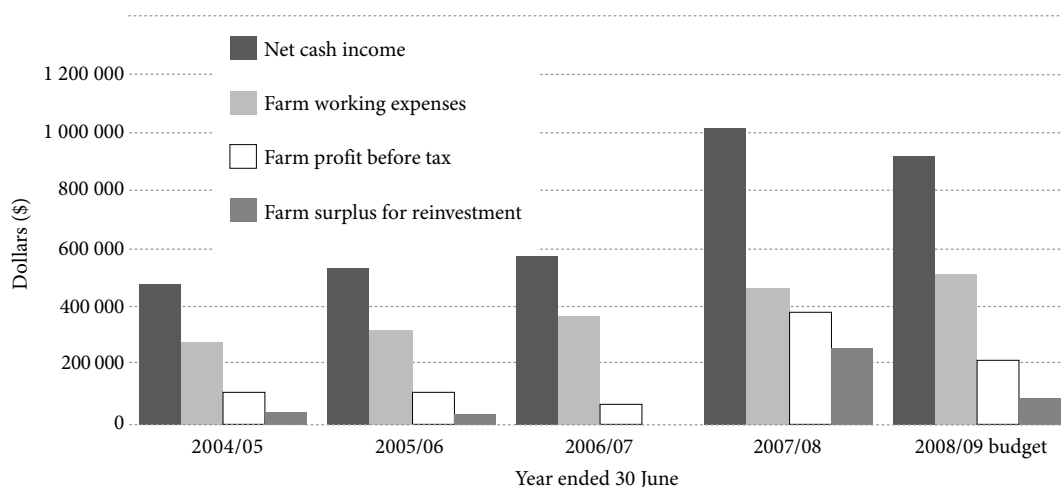
2 EFS (or earnings before interest and tax) is calculated as follows: net cash income plus change in livestock values less farm working expenses less depreciation less wages of management (WOM). WOM is calculated as follows: \$38 000 allowance for labour input plus 1% of opening total farm assets to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

3 Net cash income.

»» KEY POINTS

- › A major drought affected most dairying areas, particularly the Waikato, southern Taranaki and northern Southland. As a result, national milksolids production in 2007/08 dropped 4 percent compared with 2006/07.
- › Despite the drought, profitability as measured by farm profit before tax rose 449 percent due to a record payout of \$7.90 per kilogram of milksolids.
- › Farm working expenses rose 27 percent, largely fuelled by significant spending on supplementary feed as farmers sought to combat the drought.
- › Total feed costs jumped an average of \$43 000, or 44 percent, in 2007/08.
- › Profitability is expected to drop back in 2008/09, with farm profit before tax expected to be down 42 percent (the expected higher production is offset by a lower payout). Despite this, profitability is still strong compared with two to three years earlier.
- › Although many farms entered the 2008 winter in less-than-ideal condition as a result of the drought, farmer morale is buoyed by the expected higher payouts.

»» FIGURE 12.1: NATIONAL DAIRY BUDGET PROFITABILITY TRENDS



Sources

MAF Monitoring Reports; 2005 to 2008.

DAIRY SECTOR

PERCENTILE ANALYSIS

13

The following tables are based on an analysis of the actual dairy farms monitored as part of the MAF monitoring programme. The programme takes a total national sample of 189 farms, and breaks them down from the bottom 10 percent of farms to the top 10 percent, on both a physical and a financial basis. The analysis was based on sorting the farms according to their 2007/08 farm profit before tax per hectare.

»» TABLE 13.1: PERCENTILE ASSESSMENT OF FINANCIAL DATA FROM DAIRY MONITORING FARMS, 2007/08

	BOTTOM 10% (\$)	AVERAGE OF BOTTOM 25% (\$)	BOTTOM 25-50% (\$)	MEAN (\$)	MEDIAN (\$)	TOP 50-75% (\$)	AVERAGE OF TOP 25% (\$)	TOP 10% (\$)
Farm profit before tax/ha (\$)	-300	390	1 547	2 109	2 016	2 511	4 074	5 018
Negative farm profit after tax (%)	47	0	0	5	5	0	0	0
Negative farm surplus for reinvestment (%)	32	3	0	4	4	0	0	0
REVENUE								
Milksolids	866 141	893 548	878 681	1 030 060	862 460	1 079 791	1 281 066	1 551 943
Cattle sales	59 857	53 306	54 136	66 799	40 885	74 644	86 030	130 670
Other revenue	9 142	5 760	11 100	6 177	1 189	3 718	3 985	4 730
Cattle purchases	104 283	64 600	6 562	20 837	0	7 492	4 590	6 065
Net cash income	830 857	888 214	937 711	1 082 824	910 026	1 151 980	1 367 102	1 682 047
Farm working expenses	505 047	496 208	467 757	500 905	419 583	486 570	556 460	653 259
Cash operating surplus	325 810	392 006	469 954	581 918	456 401	665 411	810 641	1 028 788
Rent	12 130	8 603	7 344	9 116	0	13 181	7 206	7 687
Interest	198 928	186 503	148 895	175 598	136 705	198 909	167 828	227 796
Stock value adjustment	117 079	74 747	11 628	23 069	8 247	4 909	669	-34 968
Depreciation	51 682	40 790	34 887	37 757	28 000	43 877	31 121	39 295
Farm profit before tax	-54 009	81 363	267 200	336 378	262 986	404 534	603 817	788 979
Taxation	31 260	34 287	43 073	65 212	38 801	75 049	110 635	136 004
Farm profit after tax	-85 269	47 076	224 127	271 166	200 935	329 486	493 181	652 975
Add back depreciation	51 682	40 790	34 887	37 757	28 000	43 877	31 121	39 295
Reverse stock value adjustment	117 079	74 747	11 628	23 069	8 247	4 909	669	-34 968
Off-farm income	58 328	27 391	5 675	12 231	0	9 334	6 480	2 975
Discretionary cash	141 820	190 004	276 317	344 222	266 500	387 606	531 451	660 277
Capital purchases	171 570	178 092	54 419	109 305	35 764	61 185	147 335	192 957
Development	61 878	50 845	23 113	34 338	0	20 799	43 514	66 882
Principal repayments	13 990	11 359	15 598	23 287	0	25 801	41 265	26 354
Drawings	66 360	62 026	53 810	57 918	56 000	64 228	51 278	42 980
New borrowings	151 053	153 191	40 458	92 926	0	100 000	78 400	134 400
Cash surplus/deficit	-46 314	24 988	158 381	181 926	151 321	243 952	304 793	465 502
Farm surplus for reinvestment	17 133	100 587	216 832	274 074	192 783	314 044	473 693	614 321

»» TABLE 13.2: PERCENTILE ASSESSMENT OF PRODUCTION DATA FROM DAIRY MONITORING FARMS, 2007/08

	BOTTOM 10%	AVERAGE OF BOTTOM 25%	BOTTOM 25-50%	MEAN	MEDIAN	TOP 50-75%	AVERAGE OF TOP 25%	TOP 10%
Milking area (ha)	214	201	176	171	140	161	147	157
Opening cow numbers	430	409	389	419	368	420	460	556
Closing cow numbers	512	464	401	437	375	428	458	531
Total opening stock numbers	550	531	496	536	459	542	578	701
Total closing stock numbers	665	607	508	560	456	546	582	676
Cows in milk (15 December)	430	400	364	387	340	389	398	471
Total milk production (kilograms of milksolids)	122 336	124 487	120 470	139 487	113 433	143 368	171 300	206 521
Milksolids per hectare (kg/ha)	607	646	740	865	818	947	1 141	1 304
Milksolids production per cow	284	305	324	338	326	354	370	392
Stocking rate (cows/ha)	2.2	2.2	2.3	2.5	2.6	2.7	2.7	3.1

»» DIFFERENCE BETWEEN HIGHEST AND LOWEST-DECILE FARMS

- › The main difference between the highest- and lowest-decile farms is significantly higher production levels (see Table 13.3).
- › While farm working expenses on the top-decile farms are only 18 percent higher, their total feed costs are 66 percent higher (\$495 per cow versus \$298 per cow), indicating that much more supplementary feed is being bought in and more stock are being grazed off-farm.
- › The top-decile farms also spend much more on animal health (\$70 per cow versus \$57 per cow).
- › Interest costs are 56 percent higher on the top-decile farms, indicating that they are carrying much more debt.
- › The lowest-decile farms have the greatest cost of cattle purchases, highest depreciation cost, and very high capital expenditure and new borrowings, which would indicate that they are rapidly expanding.

»» TABLE 13.3: COMPARISON BETWEEN LOW AND HIGH-DECILE FARMS, 2007/08

SOURCE OF ESTIMATE	AVERAGE OF BOTTOM 10%	AVERAGE OF TOP 10%
Milksolids per ha (kg/ha)	607	1 304
Milksolids production per cow (kg/cow)	284	392
Stocking rate (cow/ha)	2.2	3.1
Farm working expenses per cow (\$)	1 174	1 387
Interest costs per ha (\$)	929	1 451
Farm profit before tax per ha (\$)	-300	5 018

DAIRY SECTOR

ISSUES AND DEVELOPMENTS

14

»» FONTERRA CAPITAL RESTRUCTURING

Industry commentators report that some dairy farmers were pleased that the Fonterra capital restructuring, proposed in November 2007, has been parked for the moment. They thought there would be a conflict of interest between the co-operative and the new company, with concerns as to how accurate the milk transfer price would be between the two entities. Some farmers also feared they would sooner or later lose control of their co-operative, and believe the stated requirement for capital is not an issue at present. Farmers seem to prefer joint venture arrangements.

There was general surprise with the decline in Fonterra's share value from \$6.79 to \$5.57 per kilogram of milksolids. This is a reduction of \$1.22 per kilogram of milksolids, and the size of the decline surprised most farmers. Most farmers will take advantage and redeem any surplus shareholding at the higher share price; few are worried about the share value, believing the overall value of dairy farms will not decline with the drop in share price. Most farmers accept that higher commodity prices mean a lower return from the value-added component from Fonterra. There will be an increasing proportion of "unshared milk" in the 2008/09 year as farmers defer the purchase of shares to take advantage of the lower share price in 2008/09.

»» NEW DAIRY FACTORIES

Up to two new milk processors may be operating in Southland. New Zealand Dairy Trust has committed suppliers for the 2008/09 season at its factory in Awarua. No shares are required to supply and tactical pricing with both existing and potential Fonterra suppliers is creating a competitive payout environment. A second proposed factory, Maitua Valley, is located near Gore and also requires no shares from suppliers. Maitua Valley is planning to start production in the 2009/10 season depending on meeting certain key milestones.

Industry feedback is that farmers are divided on the emergence of these two new processors. Some see this as a fragmentation of the industry, which they consider will not be good for suppliers in the long term. Others embrace competition and the lower capital requirement to supply milk for processing.

In Canterbury, industry commentators note that the emergence of two strong alternative milk-processing companies is creating mixed feelings among dairy farmers. More choice of supply arrangement is expected to become available for new and existing suppliers. There has been more flexibility through the Fonterra shareholding system to work out a suitable combination of share-based and contract milk supply to suit personal situations. Influences on land prices are being seen, as share and supply arrangements alter. However, many farmers see these developments as the start of the end of the co-operative model and are concerned about its long-term viability.

New Zealand Dairy Trust is also considering opening a milk powder factory in Wanganui, which would open up competition in southern Taranaki and northern Manawatu.

»» LABOUR

There is a continuing shortage of skilled labour, especially managers and herd managers. Finding staff, including relief milkers, is becoming more difficult, and the salary and wages of farm staff have continued to rise. Increasingly,

overseas labour is being brought into the country, with most farmers who have taken this option being very happy with the results and the calibre of staff.

Industry commentators report that the Southland dairy farming community is becoming more ethnically diverse as a result of the influx of overseas workers to fill dairy industry labour shortages. Dairy workers are coming from the Philippines, Chile and Romania, and integration into the dairy industry and the Southland community is mixed. It has provided an opportunity for the Southland community to gain more exposure to different cultures, but has also created challenges to provide better immigration support to retain these overseas workers.

Farmers commented that, while traditionally young employees were encouraged to share accommodation, often they are now demanding more “separate” housing and are reluctant to share. Owners are concerned at both the capital invested in extra housing and the repairs and maintenance, which tends to be higher. However, the ratio of one full-time equivalent worker per 180 to 200 cows indicates more staff are being employed and so hours worked are improving. Farmers hope that, by providing better working conditions for staff (for example, single accommodation and structured time off), they will be better able to retain staff.

The tight labour market and the ability to invest in new systems have heightened interest in adopting greater technology in the milking shed and beyond, such as cow identification collars, automatic drafting, weighing, cup removers, feed systems and teat spraying. The new systems should increase labour productivity on-farm and/or allow staff greater time off. One weekend off per month used to be acceptable practice, whereas an average of one day off per week (plus annual leave) is now becoming normal.

Of particular note this season was the impact of high cow prices on the ability to recruit 50:50 sharemilkers for smaller units (fewer than 250 cows). While most positions were filled, it has often been a struggle to find suitable sharemilkers.

Recruiting and retaining staff on-farm, as well as in the wider agribusiness industry, is a perennial issue.

»» STOCK

The demand for dairy livestock has also increased sharemilker equity. Stock prices in July 2008 were typically as follows: six-month old heifers, \$950; in-calf heifers, \$1900; mixed-age cows, \$2200. Demand seems certain to continue through 2008/09.

Stock prices have lifted dramatically, to an average of around \$2200 for mixed-age cows and \$1800 for rising two-year heifers. As a result, many farmers have now begun to synchronise oestrus and use artificial insemination in their yearling heifers to increase the number of quality heifer replacements available for rearing. These will be used either to improve the herd by increasing the level of culling or for sale as surplus stock. As a result, more heifers, and significantly fewer bull calves, are likely to be reared.

Early in the season, there was greater interest in keeping empty cows. However, with the drought, many have been culled and not retained for breeding. Also, as a result of high stock prices, some 50:50 sharemilkers have sold their herds to capitalise on the high prices and either invested in land ownership or taken management positions on dairy farms. The price for 8- to 10-month heifers and export heifers has increased to around \$1000 to \$1200 per head, reflecting the high demand for dairy stock.

»» SUPPLEMENTARY FEED

The use of bought-in feed on dairy farms has increased substantially over the past ten years. The significant increase in 2007/08 is due to the dry weather and the high milk payout. On many farms, purchased feed now equals 8 to 12 percent of total feed used in a standard year. An increasingly high proportion of this is feed that is imported into the country (mainly palm kernel but also other feedstuffs such as molasses and tapioca). Imports of palm kernel in 2007/08 more than doubled from 364 000 tonnes in 2006/07 to 809 000 tonnes, particularly fuelled by demand as a result of drought. (See the box and Figure 14.1 below.)

Maize silage in the North Island and other crop silages in the South Island are increasingly popular. The area grown for maize silage increased by 43 percent in the 2007/08 season, and this is expected to increase again by 10 to 20 percent in 2008/09, given increasing demand from the dairy industry. This is despite the unit cost increasing from around 25 cents per kilogram of dry matter to 30 to 40 cents per kilogram of dry matter.

There are some concerns that farms are becoming increasingly dependent on supplementary feeds and again could face a squeeze if the payouts drop.

PALM KERNEL EXPELLER MEAL

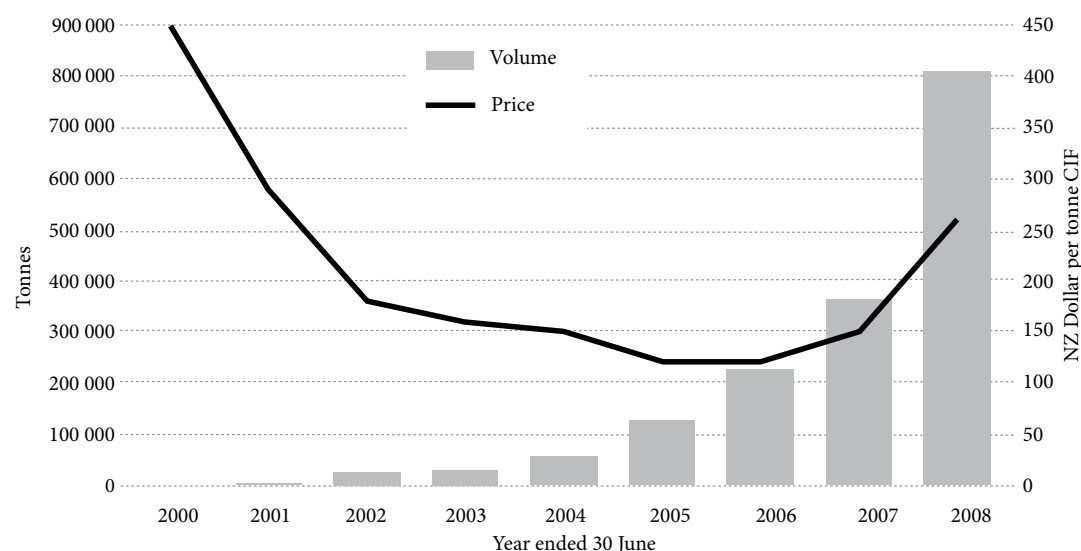
Palm kernel expeller (PKE) is a powdery meal that is rich in oil, protein and energy. New Zealand imports of PKE have grown a thousand-fold between 30 June 2000 and 30 June 2007. PKE is normally fed at 2 to 3 kilograms per milking cow per day when required to supplement pasture.

PKE meal is a by-product of the mechanical extraction of palm oil from the fruit and seeds of the oil palm tree. The political push for more renewable energy content in automotive fuel consumption (primarily in the United States and the European Union) is expected to expand future production of palm oil – and the supply of PKE.

As a consequence of the drought, import volumes of PKE tripled to 186 000 tonnes in the March 2008 quarter compared with 2007, while the import price doubled to \$284 per tonne.

The 510 000 tonnes imported for the nine months to March 2008 would on average have provided about 50 days' ration to the national dairy herd. During the drought, many farmers lifted the PKE content to around 50 percent of the daily 12 to 14 kilograms of dry matter required for a milking cow at this time of year.

»» FIGURE 14.1: PALM KERNEL IMPORTS BY VOLUME AND PRICE



Source
Statistics New Zealand.

»» CONVERSIONS

Farms continue to convert to dairying. Southland industry feedback indicates there will be approximately 100 new dairy farms supplying by December 2008, with a similar number again the following season. This increases demand for builders and associated trade staff. The rising price of raw materials (steel rose 15 percent in June) and labour is pushing up the cost of conversions, which concerns farmers who are converting.

Equity partnerships are more common, and sought-after managers are employed as equity partners with a 5 to 15 percent share of the company and an attractive salary.

In Taranaki, there are four to five large conversions of dry stock land to dairy farms, mainly in south Taranaki. These will come into production for the 2008/09 season, along with a few smaller conversions or old dairy farms returning to dairying. In Taranaki, minimal land is left for conversions from dry stock. There are a lot of run-offs that were once small dairy farms that could go back into milking, although these and other small farm blocks tend to be used as dairy support blocks with grazing and forage crops.

In Canterbury, there are around 80 new conversions for the 2008/09 season. They are existing sheep farms, run-offs or some arable farms on poorer soils, and most have secure irrigation water. Consultants report unprecedented interest through the year for conversion feasibility investigations. Delays in securing building contractors and sourcing irrigation equipment are the main constraints.

Some observers in Canterbury feel that the boundaries are being pushed, as dairy expands onto increasingly marginal land in climatically challenging parts of the region. Feed supply over the region always fluctuates but has always been adequate in years of shortage as other land uses have surpluses and feed is readily traded. However, there is some concern that traditional feed surpluses are disappearing, regardless of any changes in climate that may be occurring. Sheep and beef farmers are likely to move to fill this gap by planting increased acreages of crops, as returns are better than for sheep, while arable farmers are virtually fully engaged in producing feed for dairy systems and crops for other uses.

In the Waikato, more farms are coming into production in the Central Plateau, following conversion from forestry. Nine will start production in 2008/09, and a possible 21 in 2009/10.

»» ENVIRONMENTAL ISSUES

Environmental impacts are a major issue within the industry. Considerable work continues around such initiatives as the Dairying and Clean Streams Accord, and significant funding from both farmers and other partners is being directed into research on practical means to address environmental impacts. Farmers increasingly accept they will need to meet high standards of environmental management. Considerable efforts have been made to ensure compliance with effluent discharge consents following the publicity surrounding non-compliance. Farmers remain concerned at the potential costs associated with constraints on nitrogen leaching, as in the Lake Taupo and Rotorua Lakes catchments, and the Emissions Trading Scheme.

»» LAND PRICES

In Southland, the price of existing dairy farms has increased by 40 to 50 percent per kilogram of milksolids over the past 12 months to around \$43 per kilogram of milksolids. The best quality conversion land is selling for \$42 000 per hectare before conversion costs. Land suitable for run-offs, even on the margins, rose by 60 to 80 percent, to \$20 000 per hectare before development costs. Established run-offs were valued at \$30 000 per hectare.

In Taranaki, there has been a high level of farm sales throughout the region. The farms sold will be used as a mix of stand-alone dairy farms or dairy support run-offs or amalgamated with a neighbouring farm. Most were purchased by existing landowners and the average farm size continues to increase as farm numbers decrease. Land prices have increased by around 25 percent over the year, with prices in the range of \$32 000 to \$62 000 per hectare for dairy or good run-off land. This equals \$42 to \$52 per kilogram of milksolids produced in addition to the cost of dairy company shares, stock and plant.

In the Waikato, purchase prices have continued to improve. Prices of \$60 per kilogram of milksolids or over \$60 000 per hectare are not uncommon, although the typical value of a Waikato/Bay of Plenty dairy farm is more around \$40 000 to \$50 000 per hectare.

In the lower North Island, the price of dairy farms has also increased significantly over the last 12 months, with some increasing by as much as 30 percent. Current average market values are \$50 to \$55 per kilogram of milksolids in the Manawatu region, and \$38 to \$42 per kilogram of milksolids in the East Coast/Wairarapa regions.

»» WATER ISSUES IN CANTERBURY CONTINUE

On farm practices to improve irrigation water management continues in Canterbury. Farms continue to convert from old border dyke to pivot irrigation by building on-farm buffer ponds, despite the inherent loss of land. The level of this activity has increased significantly, only held back by the ability to source contractors. Unfortunately, conversion to centre pivots also requires the removal of shelter trees, which is a visual change that catches the attention of the general public.

Farmers generally accept that volumetric consents and metered supplies will be required in the near future. Environment Canterbury's Natural Resources Regional Plan hearings process has continued throughout the year. There is some concern among farmers, especially dairy farmers, about the outcome of the process, especially whether the final allocations will be adequate given their current irrigation system and management.

Individual groundwater irrigators are still working through some very specific issues, depending on their location in relation to "red zones" (areas where ground water is deemed to be fully or over-allocated).

There is a slowly increasing demand to purchase water (by way of transfer of consents) from existing consent holders. The nature and extent of such transfers and prices paid and the terms of the transaction are not publicly available because there is no mechanism to do this.

»» FARMER MORALE

Farmers are very happy with the current and projected high payouts but, while they have a lot of confidence in their industry, this has been dented by the effects of the drought. Their main concerns are around rising costs, over which they have little control, and what this might mean when the payouts drop.

PART 3

DEER SECTOR

This section provides information on the production and financial status of deer farmers, as well as commentary on deer sector issues and developments.

The deer farm models presented typify an average deer farm within a region. The two deer models (a North Island model and a South Island model) represent owner-operated, stand-alone deer farms. Each model presents actual figures for 2007/08 and a budget for 2008/09. Budgets are based on farmer views collected in May 2008, augmented with input from those servicing the sector. Appendix 2 contains further information on the models.

NORTH ISLAND

DEER

15

The North Island deer model farm is a small stand-alone deer farm that is big enough to support a family, does not run sheep or beef cattle and is theoretically situated in the central North Island/East Coast/Hawkes Bay region.

Appendix 2 contains more details about the model farm.

Note: Prior to 2008, the theoretical location of this model farm was near Rotorua, and it incorporated farm monitoring data from the Waikato and Bay of Plenty. As a result, comparisons with earlier years need to be treated with care.

»» KEY POINTS

- › The 2007/08 cash operating surplus of \$51 000 was similar to 2006/07. This was the result of significant increases in feed- and fuel-related expenditure offsetting increases in revenue.
- › The 2007/08 net cash income of \$155 000 was 4 percent higher than for the previous year. Net cash income would have been significantly higher if velvet returns had not been well below earlier expectations.
- › Venison prices are steadily improving and revenue from the venison herd in 2007/08 was up 26 percent on 2006/07.
- › The peak of the venison schedule was higher in 2007 than in 2006 and held for longer. This provided good returns for venison producers and allowed late sellers to be rewarded by increasing prices.
- › 2007/08 was a disappointing season for velvet. Pre-season optimism was not realised with average per kilogram velvet prices down around 25 percent.
- › Inconsistent velvet pricing, industry marketing issues and the increasing age of the average deer farmer has started to impact on farm decisions, with some farmers reducing their velveted herds in favour of venison production.
- › The North Island deer model farm's budget for 2008/09 is for increased returns, as further gains in venison prices and similar velvet prices are expected.

»» FINANCIAL PERFORMANCE OF THE NORTH ISLAND DEER MODEL FARM IN 2007/08

The cash operating surplus for the North Island deer model farm in 2007/08 was \$51 000. This is only slightly higher in dollar terms than the cash operating surplus of \$50 000 in 2006/07, and static at \$23 per deer stock unit for both years. Lower velvet returns, increased expenditure for feed, fuel and fertiliser, and overall higher costs of living impacted on the resulting cash surplus. See Tables 15.2 and 15.3 for details of the model's budget and expenditure in 2007/08.

Unusual weather throughout 2007/08 caused various problems depending on the location of deer farms. Deer farmers in the eastern regions of the North Island were still recovering from the effects of the 2007 drought, while the 2008 drought particularly affected the central North Island and kept affected deer farmers busy feeding out what feed they had on hand. Farmers who got rain in the "green belt" had problems too, with facial eczema in these areas severe and some farmers lost stock. Facial eczema had previously not been considered to be a significant animal health issue with deer.

»» TABLE 15.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR NORTH ISLAND DEER MODEL

	2004/05	2005/06	2006/07 ³	2007/08	2008/09 BUDGET
YEAR ENDED 30 JUNE					
Effective area (ha)	140	140	140	140	140
Opening deer stock units	2 184	2 197	2 197	2 197	2 198
Mixed age breeding hinds (head)	440	440	440	440	440
Rising 2-year hinds (head)	100	100	100	100	110
Rising 1-year hinds and stags (head)	446	454	454	454	486
Rising 2-year stags (head)	25	25	25	25	25
Rising 3-year plus stags (head)	80	80	80	80	57
Stocking rate (stock units/ha)	15.6	15.7	15.7	15.7	15.7
FAWNING¹					
Farm average (%)	86	86	86	85	83
Mixed age hinds (%)	88	88	88	88	88
2-year-old hinds (%)	76	76	74	70	65
VELVET					
Average price (\$/kg)	44	44	100	75	80
Farm average (includes re-growth but excludes yearling velvet) (kg/stag)	2.2	2.3	2.5	3.6	3.6
Mixed age stags (kg/stag)	4.0	4.2	4.5	4.7	4.7
3-year-old stags (kg/stag)	3.5	3.7	4.1	4.1	4.1
2-year old stags (kg/stag)	1.8	2.0	2.2	2.4	2.4
CARCASS WEIGHTS					
2-year-old stags (kg)	69	69	70	72	73
Yearling stags (kg)	55	55	56	57	58
INCOME					
Net cash income (\$)	103 363	110 632	148 688	155 043	185 440
Farm working expenses (\$)	75 404	86 661	98 322	103 828	108 330
Farm profit before tax (\$)	3 985	233	23 390	23 523	53 280
Farm surplus for reinvestment ² (\$)	-36 754	-53 622	-34 140	-14 748	16 627

Notes

1 Fawning percentage is live calves available for sale as a percentage of hinds mated.

2 Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

3 The differences in velvet and venison carcass weights between 2006/07 and 2007/08 reflect the change in the theoretical location of the model farm and so comparisons between these years should be made with care.

➤ REVENUE UP FOUR PERCENT

Net cash income for the model was \$155 000 in 2007/08 (\$71 per deer stock unit), up 4 percent from \$149 000. Improvements in venison prices received by farmers were somewhat eroded by lighter slaughter weights of yearling hinds (25 percent of the model farm's deer sales), as a result of drought on the east coast in 2007 and in the Bay of Plenty/Waikato in 2008, and lower-than-expected velvet returns.

VENISON PRICES ARE UP AND BACK ON THE MENU

The North Island deer model farm recorded an increase of 26 percent to \$146 000 in deer sales revenue from the venison herd, compared with 2006/07.

Sale prices of mixed-sex weaners were up \$1 per kilogram compared with 2006/07. This was the result of lower weaner numbers and early market indications of significantly higher venison schedules. The effect of the drought also meant weaner weights in these areas were down by two or three kilograms.

Table 15.1 shows a small increase in carcass weight for two-year-old and yearling stags. This is a feature of the change in the North Island model farm's theoretical location. However, farmers affected by drought felt that carcass weights had dropped around two to four kilograms from 2006/07. Drought-affected farmers killed stock at lighter weights at the usual peak of the schedule, and were forced to destock and reduce on-farm feed demands as part of their drought management strategy.

The venison schedule provided higher returns to farmers and continued to strengthen on the improved prices received in 2006/07. Through winter, 2007 venison schedules were 50 cents per kilogram higher than the equivalent period the previous year and, by spring (the traditional peak period), prices were 65 cents per kilogram higher at \$6.65 per kilogram. The spring schedule did not decline as usual as the season progressed. Schedules held at these levels through summer and autumn and reached \$7.00 per kilogram and above by the end of the financial year. This flatter schedule gave farmers more flexibility in deciding when to sell stock, while still receiving peak prices. Late sellers profited from the strengthening schedule.

Sale values for surplus hinds suitable for breeding increased markedly as a result of the lift in venison prices: breeding hinds that made \$300 per head in 2006/07 made \$425 plus per head in 2007/08. Processors and farmers have been willing to pay more due to the increased profitability of venison and expectations of further price increases as venison supply falls. The improved hind prices have meant that farmers looking at potential revenue from dairy grazing or who want to get out of deer farming have seen an opportunity to quit stock at good prices. Although monitored farmers did not reflect significant increases in hind kills, discussion groups and industry are quite concerned about this. The industry reports 54 percent of the 633 000 deer processed for the 12 months ended 29 February 2008 were hinds. This indicates that the deer herd is contracting.

FARMERS REPORT A LACK OF CONFIDENCE IN VELVET

The model farm experienced a 39 percent drop in velvet revenue to \$26 000 for 2007/08, contributing just 17 percent of the model farm's net cash income in 2007/08, compared with 28 percent in 2006/07. The consistently high New Zealand dollar against the Korean won and variable demand contributed to the lower velvet prices.

The average velvet price (excluding spiker) per kilogram for 2007/08 was \$75, down 25 percent from \$100 in 2006/07. This average of \$75 per kilogram is in line with the industry's 10-year weighted average but is below what farmers require for a reasonable return on their investment. Not only was the velvet price unsatisfactory, the average velvet price received greatly varied – monitored farms received from \$65 to \$95 per kilogram. Farmers also noted only small variations in price for different velvet grades. These inconsistencies in velvet pricing have led some monitored farmers to alter stocking numbers away from velvet in favour of venison production.

Table 15.1 shows a 1.1 kilogram increase in the model farm's average velvet production. This increase is a result of the change to the North Island deer model farm's theoretical location rather than a gain in velvet production in 2007/08. In fact, for some farmers, the lack of substantial gains in velvet production and the fall in velvet prices had a significant impact on farm profitability and negated some of the gains made from improved venison values.

Poorer-than-expected velvet returns, the continued variability of velvet pricing, limited feed availability for older stock due to drought and the high feed prices all contributed to the model farm reducing its velveting herd in favour of venison production. As a result the model farm ended the year with fewer older stags and increased numbers of rising 1-year stags and hinds and rising 2-year hinds. The model's stocking rate was unchanged and the farm was heavily stocked at 15.7 stock units per hectare. These farm management changes have meant a higher cost in deer purchasing in 2007/08 compared with 2006/07.

► FUEL AND FEED DRIVE 6 PERCENT EXPENDITURE INCREASE

Farm working expenses increased 6 percent to \$104 000 in 2007/08. This was due to significant price rises for fuel (up 23 percent to \$10 000) and feed (up 25 percent to \$15 000). Usual inflationary price increases of other key expenses (for example, electricity, rates and wages) also added to the ever-increasing farm working expenses.

Fertiliser more than doubled in price during the 2007/08 year to \$23 000. Monitored farmers are planning to apply fertiliser up to a set dollar amount and have completed below-maintenance fertiliser programmes, many skipping the autumn fertiliser dressing and shifting to cheaper sources of phosphate (from Di-ammonium Phosphate (DAP) to superphosphate), to keep total fertiliser costs down in a poor-weather season.

Breeding costs for the model farm fell 21 percent to 41 cents per stock unit, while animal health costs increased 9 percent to \$6000, due mainly to inflationary price rises. The industry reports that less artificial insemination occurred in 2007/08 than was initially anticipated, as hinds were below optimal condition as a result of the drought. However, industry sources report that more farmers are experimenting with this technology, although on fewer animals. Changes to bovine tuberculosis (Tb) testing have also moderated animal health costs. Triennial testing for

Tb in low-risk areas has been introduced in place of biennial testing and the existing sample testing regime has been retained.

High demand for supplementary feed, due to the combined effects of the drought and the higher dairy payout, pushed feed costs up significantly. Deer farmers looked for cheaper options to keep expenses down and also experienced difficulty in sourcing the higher-priced silage. This is reflected in the 150 percent increase for “other feed” to about \$4000 in the 2007/08 North Island deer model.

Bucking the trend of the increasing business costs, repairs and maintenance expenditure is down 20 percent to \$7000 on 2006/07 figures. This is a deliberate measure by farmers to balance the books in the short term.

➤ NET RESULT SIMILAR TO PREVIOUS YEAR

Farm profit before tax in 2007/08 was \$24 000 or \$11 per deer stock unit. This was only slightly up on the model farm’s 2006/07 result of \$23 000. Taxation has increased markedly to \$9000 in 2007/08 compared with less than \$1000 in 2006/07. The tax payment in 2007/08 includes \$4500 of terminal tax resulting from the increase in taxable income in 2006/07 from the very low levels in prior years. As a result farm profit after tax fell 37 percent or \$8000 to just \$14 000 in 2007/08.

Personal drawings increased \$1700 in 2007/08 compared with 2006/07. Drawings of \$38 000 are low compared with other pastoral models, with living costs being supplemented by off-farm income.

Development costs of \$800 are minimal and reflect the relative lack of profitability of this model as a farming business. Despite the current good venison prices, this model farm suffers from a lack of scale and the adverse impacts of rising input costs.

➤➤ BUDGET FINANCIAL PERFORMANCE OF THE NORTH ISLAND DEER MODEL FARM IN 2008/09

The expected cash operating surplus for the North Island deer model farm in 2008/09 is expected to improve 51 percent to \$77 000 (\$35 per deer stock unit). The main drivers are continued rises in venison prices, and less need for and a lower cost of bought-in feed, both of which were driven up in 2007/08 by drought. Farm management changes to favour venison production rather than velvet will also contribute to North Island deer farmers’ improved cash operating surplus. See Tables 15.2 and 15.3 for details of the model’s budget and expenditure in 2008/09. This budget was compiled in June 2008 and is based on farmer and industry expectations at that time.

➤ RISING REVENUE FOR DEER FARMERS

The model farm’s net cash income is expected to increase 20 percent to \$185 000 (\$84 per deer stock unit) in 2008/09.

VENISON PRODUCTION AND PRICES EXPECTED TO INCREASE

The model’s venison sales revenue for 2008/09 is expected to rise 19 percent to \$174 000 (\$79 per deer stock unit).

Venison producers are optimistic about better venison returns and a more stable, longer peak in the schedule. Farmers anticipate a season average price of \$7.50 to \$8.00 per kilogram for 2008/09.

Liveweight production is also expected to improve coming out of a drought year.

FARMERS EXPECT VELVET PRICE TO RISE SLIGHTLY

The model farm's budget for 2008/09 is for a 7 percent increase in velvet prices from an average of \$75 per kilogram in 2007/08 to \$80 per kilogram. This modest budget possibly reflects deer farmer optimism and velvet price variability.

Unless velvet values return to 2006/07 levels (average prices of around \$100 per kilogram), deer farmers are expected to further rationalise their velveting herds and cull lower-yielding stags.

› EXPENDITURE UP

The 2008/09 budget for the model farm is for total farm working expenses to increase 4 percent to \$108 000. The most significant increases in expenditure are expected for fertiliser (up 25 percent to \$29 000), lime (up 32 percent to \$2000), freight (up 15 percent to \$1000), regrassing (up 20 percent to \$3000), and fuel (up 15 percent to \$12 000).

Fertiliser price increases reflect increased global demand driven by high commodity prices and the biofuel industry. The physical constraints on the speed with which the fertiliser industry can increase production are also contributing to these substantial price increases. Farmers are looking at changing to cheaper fertiliser products, minimising waste and using more lime to meet nutrient demands.

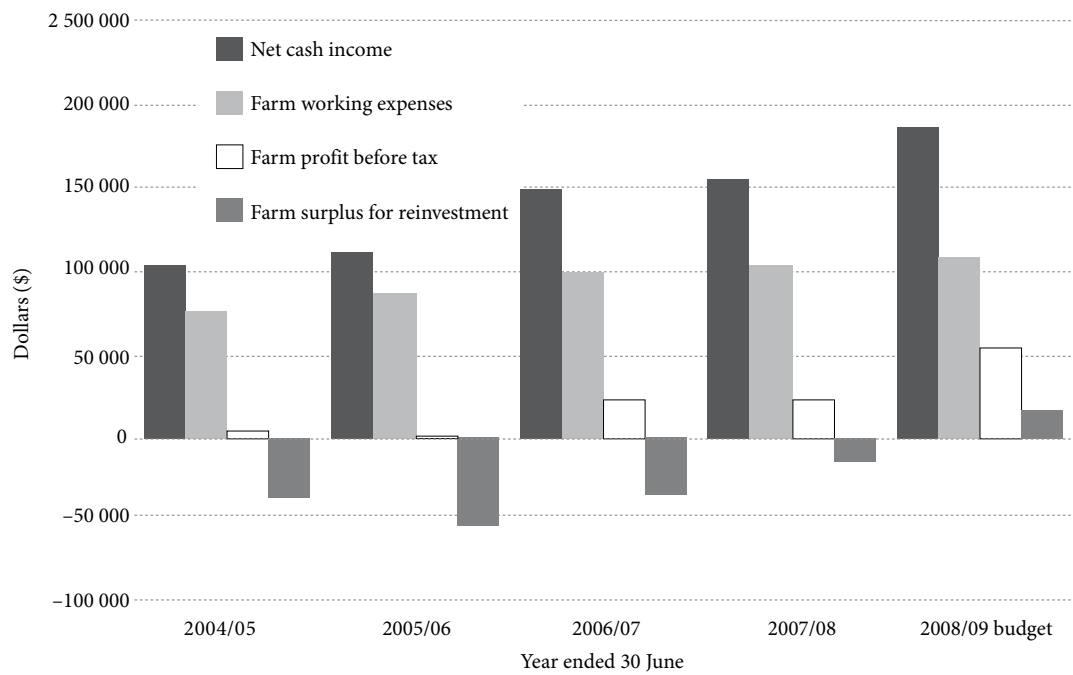
Price increases in freight are directly related to increased fuel prices, as transport companies pass on their increased fuel costs to consumers.

Regrassing and weed and pest expenses are expected to increase due to poor germination of new pasture and crops as a result of droughts around the North Island.

› NET RESULT MUCH IMPROVED

Farm profit before tax is expected to increase 127 percent to \$53 000 (\$24 per deer stock unit) in 2008/09 as a result of improving venison prices and expenditure holding fairly constant. Taxation falls to \$3000 but the expected increase in income in 2008/09 means that there will be terminal tax of \$5000 payable in 2009/10. The combined impact of increasing income and falling tax means that farm profit after tax is expected to increase by \$35 000, or 252 percent to \$50 000 in 2008/09.

»» FIGURE 15.1: NORTH ISLAND DEER MODEL FARM PROFITABILITY TRENDS



Source
MAF Monitoring Reports; 2005 to 2008.

»» TABLE 15.2: NORTH ISLAND DEER MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER DEER STOCK UNIT (\$)	WHOLE FARM (\$)	PER HA (\$)	PER DEER STOCK UNIT (\$)
REVENUE						
Deer sales	146 101	1 044	66.50	174 358	1 245	79.32
Velvet (per stag stock unit)	25 706	184	37.61	27 530	197	42.91
Other farm income	0	0	0.00	0	0	0.00
LESS:						
Deer purchases	16 764	120	7.63	16 448	117	7.48
Net cash income	155 043	1 107	70.57	185 440	1,325	84.36
Farm working expenses	103 828	742	47.26	108 330	774	49.28
Cash operating surplus	51 215	366	23.31	77 110	551	35.08
Interest	18 461	132	8.40	17 920	128	8.15
Rent and/or leases	0	0	0.00	0	0	0.00
Stock value adjustment	-2 279	-16	-1.04	0	0	0.00
Minus depreciation	6 953	50	3.16	5 910	42	2.69
Farm profit before tax	23 523	168	10.71	53 280	381	24.24
Taxation	9 302	66	4.23	3 217	23	1.46
Farm profit after tax	14 220	102	6.47	50 063	358	22.78
Add back depreciation	6 953	50	3.16	5 910	42	2.69
Reverse stock value adjustment	2 279	16	1.04	0	0	0.00
Off-farm income	28 875	206	13.14	28 875	206	13.14
Discretionary cash	52 327	374	23.82	84 848	606	38.60
APPLIED TO:						
Net capital purchases	10 000	71	4.55	0	0	0.00
Development	800	6	0.36	640	5	0.29
Principal repayments	8 653	62	3.94	10 034	72	4.57
Drawings	38 200	273	17.39	39 346	281	17.90
New borrowings	10 000	71	4.55	0	0	0.00
Introduced funds	0	0	0.00	0	0	0.00
Cash surplus/deficit	4 673	33	2.13	34 828	249	15.84
Farm surplus for reinvestment¹	-14 748	-105	-6.71	16 627	119	7.56
ASSETS AND LIABILITIES						
Farm, forest and building (opening)	2 564 100	18 315	1 167.14	2 564 100	18,315	1 166.51
Plant and machinery (opening)	46 350	331	21.10	39 398	281	17.92
Stock valuation (opening)	320 705	2 291	145.98	318 426	2 274	144.86
Other farm related investments (opening)	0	0	0.00	0	0	0.00
Total farm assets (opening)	2 931 155	20 937	1 334.22	2 921 924	20 871	1 329.30
Total liabilities (opening)	217 185	1 551	98.86	218 532	1,561	99.42
Total equity (assets-liabilities)	2 713 970	19 386	1 235.36	2 703 392	19 310	1 229.88

Note

¹ Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

»» TABLE 15.3: NORTH ISLAND DEER MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER DEER STOCK UNIT (\$)	WHOLE FARM (\$)	PER HA (\$)	PER DEER STOCK UNIT (\$)
FARM WORKING EXPENSES						
Permanent wages	0	0	0.00	0	0	0.00
Casual wages	6 400	46	2.91	6 592	47	3.00
ACC	167	1	0.08	156	1	0.07
Total labour expenses	6 567	47	2.99	6 748	48	3.07
Animal health	6 000	43	2.73	6 240	45	2.84
Breeding	900	6	0.41	927	7	0.42
Electricity	3 080	22	1.40	3 172	23	1.44
Feed (hay and silage)	7 696	55	3.50	6 926	49	3.15
Feed (feed crops)	4 175	30	1.90	3 758	27	1.71
Feed (grazing)	0	0	0.00	0	0	0.00
Feed (other)	3 500	25	1.59	1 750	13	0.80
Fertiliser	23 321	167	10.62	29 045	207	13.21
Lime	1 656	12	0.75	2 190	16	1.00
Freight (not elsewhere deducted)	900	6	0.41	1 035	7	0.47
Regrassing costs	2 134	15	0.97	2 561	18	1.17
Weed and pest control	1 600	11	0.73	1 792	13	0.82
Fuel	10 000	71	4.55	11 500	82	5.23
Vehicle costs (excluding fuel)	5 500	39	2.50	5 610	40	2.55
Repairs and maintenance	6 900	49	3.14	6 900	49	3.14
Total other working expenses	77 362	553	35.21	83 406	596	37.94
Communication costs (phone and mail)	2 500	18	1.14	2 550	18	1.16
Accountancy	2 700	19	1.23	2 754	20	1.25
Legal and consultancy	1 100	8	0.50	1 133	8	0.52
Other administration	0	0	0.00	0	0	0.00
Rates	5 880	42	2.68	6 174	44	2.81
Insurance	3 450	25	1.57	3 450	25	1.57
Water charges (irrigation)	0	0	0.00	0	0	0.00
Other expenditure ¹	4 268	30	1.94	2 115	15	0.96
Total overhead expenses	19 898	142	9.06	18 176	130	8.27
Total farm working expenses	103 828	742	47.26	108 330	774	49.28
Wages of management	60 312	431	27.45	60 219	430	27.40
Depreciation	6 953	50	3.16	5 910	42	2.69
Total farm operating expenses	171 092	1 222	77.88	174 459	1 246	79.41
CALCULATED RATIOS						
Economic farm surplus (EFS ²)	41 983	300	19.11	71 200	509	32.39
Farm working expenses/NCI ³	67%			58%		
EFS/total farm assets	1.4%			2.4%		
EFS less interest and lease/equity	0.9%			2.0%		
Interest + rent + lease/NCI	11.9%			9.7%		
EFS/NCI	27.1%			38.4%		

Notes

1 Includes the Accident Compensation Corporation (ACC) employer levy.

2 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% of opening total farm assets to a maximum of \$85 000.

3 Net cash income.

SOUTH ISLAND

DEER

16

This model represents deer farms in Southland and south Otago that stock deer only. Appendix 2 contains more detail about the model farm.

»»» KEY POINTS

- › The venison schedule held above \$6.30 per kilogram for most of the 2007/08 production season, which is well above the prices achieved in 2006/07.
- › Farmer confidence in venison has returned due to early announcements of higher spring contracts in 2008/09 and subsequent strength in the traditional frozen supply period.
- › The velvet price in 2007/08 was down 21 percent on 2006/07 to \$75 per kilogram.
- › The cash operating surplus increased 30 percent to \$118 000 in 2007/08.
- › The dry conditions throughout the South Island affected production in 2007/08 and will have consequences in the 2008/09 season, particularly for reproductive rates.
- › Farm surplus for reinvestment in 2007/08 increased to \$28 000, up 158 percent on 2006/07.
- › Equity increased 96 percent to \$4.5 million in the year ended 30 June 2008 due to the demand for land suitable for dairy conversion or dairy support.

»»» FINANCIAL PERFORMANCE OF THE SOUTH ISLAND DEER MODEL FARM IN 2007/08

The 2007/08 cash operating surplus for the South Island deer model farm was \$118 000 (\$42 per stock unit). This was an improvement of 30 percent on 2006/07.

See Tables 16.2 and 16.3 for details of the model's budget and expenditure in 2007/08.

» REVENUE IMPROVES THANKS TO VENISON PRICE BUOYANCY

Net cash income increased 24 percent to \$228 000 (\$80 per stock unit) in 2007/08. This was the second consecutive year that net cash income improved and was due to higher and more sustained venison prices throughout the season. The fawning percentages were also up slightly in both mixed-age hinds and 2-year-old hinds (to 87 and 78 percent, respectively).

VENISON PRICE RISES TO MORE THAN \$7.00 PER KILOGRAM

The venison price was above \$5.50 per kilogram in early spring and climbed to stay above \$6.50 per kilogram for the summer of 2008. The venison price then increased again in the autumn of 2008 to above \$7.00 per kilogram. This is 35 to 45 percent above the corresponding autumn schedule in 2006/07. Farmers, in general, are quietly optimistic about venison prices going into the 2008/09 season. The average rising 1-year stag returned \$333 per head in 2007/08 compared with \$272 per head in 2006/07, representing a 22 percent increase.

Stag carcass weights stayed remarkably constant for the model. Improved carcass weights and earlier kill dates remain a target for the industry. However, both were adversely affected by climatic conditions this season. A cool spring and very dry summer reduced feed levels.

»» TABLE 16.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR SOUTH ISLAND DEER MODEL

	2004/05	2005/06	2006/07	2007/08	2008/09 BUDGET
YEAR ENDED 30 JUNE					
Effective area (ha)	180	180	180	180	180
Opening deer stock units	2 832	2 860	2 752	2 848	2 748
Mixed age breeding hinds (head)	540	540	540	563	568
Rising 2-year hinds (head)	130	130	100	100	82
Rising 1-year hinds and stags (head)	560	552	564	538	514
Rising 2-year stags (head)	60	65	50	81	78
Rising 3-year plus stags (head)	105	95	104	119	109
Stocking rate (stock units/ha)	15.7	15.9	15.3	15.8	15.3
FAWNING¹					
Farm average (%)	84	84	84	86	85
Mixed age hinds (%)	86	87	86	87	86
2-year-old hinds (%)	74	72	74	78	79
VELVET					
Average price (\$/kg)	42	42	95	75	78
Farm average (includes re-growth but excludes yearling velvet) (kg/stag)	3.1	3.0	3.4	3.7	3.7
Mixed age stags (kg/stag)	4.0	4.0	4.3	4.7	4.7
3-year-old stags (kg/stag)	3.0	2.9	3.6	3.9	3.9
2-year old stags (kg/stag)	1.8	1.8	2.3	2.7	2.7
CARCASS WEIGHTS					
2-year-old stags (kg)	65	65	65	65	65
Yearling stags (kg)	55	56	55	55	55
INCOME					
Net cash income (\$)	143 681	142 508	183 216	227 602	234 245
Farm working expenses (\$)	95 901	78 230	92 254	109 172	116 902
Farm profit before tax (\$)	7 834	12 500	51 088	53 222	63 697
Farm surplus for reinvestment ² (\$)	-31 278	-15 104	10 952	28 258	26 881

Notes

1 Fawning percentage is live calves available for sale as a percentage of hinds mated.

2 Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

Even farmers in areas with normally reliable summer rainfall had reduced pasture growth leading to reduced yearling growth rates and consequently later killing dates. This actually helped the average sale price that farmers received in 2007/08, as deer killed later in the summer and autumn benefited from a rising venison schedule.

Some farms that traditionally buy weaners to finish over winter held off purchasing their usual numbers due to a lack of pasture cover, fewer stored supplements and only average to below-average brassica crop yields. This held store weaner prices down in autumn 2008, but the price is likely to escalate in late winter when feed starts to come away and contract prices are still high.

The dairy industry provides a ready market for the feed on deer farms. Many farmers are working out how much profit per kilogram of dry matter they are making and carefully considering what mix of systems will be most profitable on their farms.

VELVET PRICE FALLS

The model farm's average net velvet price in 2007/08 was \$75 per kilogram, equivalent to the weighted average pool price for the season. This was 21 percent down on the 2006/07 average price. Production per head was up slightly.

Farmers who farm primarily for velvet generally feed appropriately, select for genetic gain and harvest velvet at the optimal time. On farms where velvet is not a focus, grade quality and subsequently price can suffer. Velvet made up 17 percent of the model farm's net cash income.

OFF-FARM INCOME STILL IMPORTANT

Although it only made up the equivalent of 9 percent of net cash income, off-farm income continues to be a feature of this model, with \$21 000 of off-farm income in 2007/08.

➤ EXPENDITURE INCREASES INEVITABLE

In the past three seasons, deer farmers have trimmed their costs to bare maintenance. With the improvement in venison returns, some full maintenance expenditure resumed, but the major increase in total farm working expenditure was due to the increasing cost of inputs. Farm working expenditure was \$109 000 (\$38 per stock unit) and accounted for 48 percent of net cash income in 2007/08.

The most notable total increases during 2007/08 reflected the rising price of fuel, fertiliser and feed. Increases in fuel price affect many other farm inputs, such as contractor prices, freight and fertiliser spreading. Major items to increase in 2007/08 compared with 2006/07 were electricity (up 63 percent to \$5000), feed (up 37 percent overall to \$20 000) and fuel (up 24 percent to \$10 000). One of the few categories to reduce was repairs and maintenance (down 57 percent to \$4000), as farmers stopped other than essential repairs.

Feed costs increased due to a cool spring and then a dry summer in some areas. Hay and silage yields were well down on previous years. This resulted in more feed, such as baleage and grain, being purchased.

Fertiliser and lime expenditure stayed at similar levels to 2006/07 at \$6.50 per stock unit, but this represented a reduction in the total tonnage applied. The increasing price of Di-ammonium Phosphate (DAP), which farmers use on feed crops or new grass, encouraged farmers to look at other ways of applying nitrogen and phosphate, such as urea plus superphosphate.

Expenditure on overheads continued to increase in areas such as insurance premiums, rates and professional fees (lawyers and accountants).

DEBT SERVICING READJUSTED

The South Island deer model farm has adjusted its total amount of debt in line with industry recommendations and monitored farms. The model has \$447 000 (\$248 per hectare) of term debt on a mixture of fixed and floating interest rates, giving an average interest rate in 2007/08 of 8.6 percent. The overdraft interest rate was 12 percent. No principal was repaid.

➤ NET RESULT UP 4 PERCENT

Due to the increase in venison income, farm profit before tax was up 4 percent to \$53 000 in 2007/08. After adjusting for capital purchases, development and drawings and the addition of \$21 000 of off-farm income, the model made a cash surplus of \$46 000. This was a welcome return to profitability for the deer sector.

➤➤ BUDGET FINANCIAL PERFORMANCE OF THE SOUTH ISLAND DEER MODEL FARM IN 2008/09

The cash operating surplus is expected to decrease 1 percent to \$117 000 in 2008/09 (\$43 per stock unit). See Tables 16.2 and 16.3 for details of the model's budget and expenditure in 2008/09. This budget was compiled in June 2008 and is based on farmer and industry expectations at that time.

➤ NET CASH INCOME UP

Confidence in the venison schedule and hope that the velvet price will improve slightly means the model farm's net cash income is expected to increase 3 percent to \$234 000 in 2008/09. Farm working expenditure is expected to rise due to increases in the prices of fuel, fertiliser and feed, giving a cash operating surplus of \$117 000, similar to 2007/08.

VENISON PRICES EXPECTED TO REMAIN UP

Venison was over \$7 per kilogram in the late autumn of 2008. Farmers are expecting an increase of at least 10 to 15 percent in the average schedule throughout the season.

Rising 1-year stags are expected to net \$381 per head, giving an average price per kilogram of \$6.90 for a 55.2 kilogram carcass.

Fawning is expected to be similar to 2007, at 86 percent in the mixed-age hinds. The total number of deer carried will also stay at similar levels.

VELVET PRICES EXPECTED TO BE STEADY

Farmers expect the velvet price to increase 4 percent to \$78 per kilogram, based on reduced volumes, rather than clear marketing signals. Positive signs for velvet include a softening New Zealand currency and an anticipated low throughput of velvet in 2008/09.

► EXPENDITURE CONTINUES TO RISE

Despite the best efforts of deer farmers to keep a lid on costs, the average farm working expenditure is expected to rise 7 percent to \$43 per stock unit. Farm working expenditure is expected to be \$117 000, accounting for 50 percent of net cash income.

As in 2007/08, feed, fertiliser, fuel and vehicle costs will be major expense items and together comprise 55 percent of all farm working expenditure.

The increasing cost of fuel also affects other farm working expenses, such as contracting rates, freight on inputs and fertiliser spreading.

Most farmers intend to apply fertiliser. However, they will spend to a total budgeted dollar amount rather than applying a set volume of fertiliser. This means fewer tonnes will be applied to keep costs under control. Full maintenance fertiliser will go on feed crops and new grass paddocks.

Spring growth in 2008/09 needs to be at least average to give pasture covers a chance to reach targets and to replenish supplementary feed reserves. Farmers expect an average season with less reliance on bought-in feed. However, any feed that is bought in will cost more due to strong competition from the dairy industry for hay, silage, baleage and grain.

Farmers plan to keep expenditure on capital purchases and development low. These rates are below maintenance and may mean more repairs and maintenance will be required in the long term.

Drawings will increase in line with increases in food prices and general inflation.

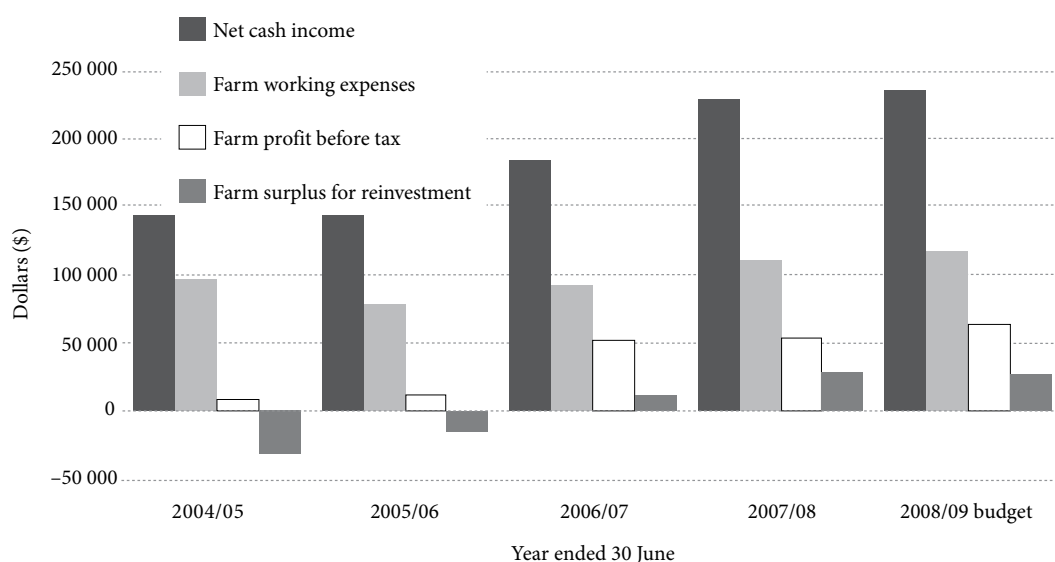
► NET RESULTS SIMILAR

The farm surplus for reinvestment is predicted to be \$27 000, a decrease of 5 percent. However, the cash surplus, after limited discretionary spending, is expected to increase 4 percent to \$48 000.

This model has experienced a tremendous increase in land value. The land and buildings as at 1 July 2008 were worth \$4 500 000. This corresponds to a 96 percent increase in equity over the past season, but reduces the return on capital to 2 percent.

The increase in land price was driven by dairy conversion potential, dairy run-off potential and “cashed up” farmers looking for bigger units on the hills. Another factor is the growing number of established deer farmers reaching an age where retirement decisions also feature in land sales. Increasing land prices have encouraged some older farmers to take “early retirement” with the benefit of high levels of equity, and this has increased the number of farm sales. This also has significant industry impacts, as capital stock is sent for slaughter rather than being sold in a difficult live sale market. The industry is very concerned with this trend and its potential impact on venison supply.

►► FIGURE 16.1: SOUTH ISLAND DEER MODEL FARM PROFITABILITY TRENDS



Source
MAF Monitoring Reports; 2005 to 2008.

»» TABLE 16.2: SOUTH ISLAND DEER MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER DEER STOCK UNIT (\$)	WHOLE FARM (\$)	PER HA (\$)	PER DEER STOCK UNIT (\$)
REVENUE						
Deer sales	186 421	1 036	65.46	189 892	1 055	69.10
Velvet (per stag stock unit)	39 281	218	39.26	40 853	227	43.08
Other farm income	6 900	38	2.42	8 500	47	3.09
LESS:						
Deer purchases	5 000	28	1.76	5 000	28	1.82
Net cash income	227 602	1 264	79.92	234 245	1 301	85.24
Farm working expenses	109 172	607	38.34	116 902	649	42.54
Cash operating surplus	118 430	658	41.59	117 342	652	42.70
Interest	41 021	228	14.40	41 423	230	15.07
Rent and/or leases	0	0	0.00	0	0	0.00
Stock value adjustment	-13 282	-74	-4.66	-1 622	-9	-0.59
Minus depreciation	10 905	61	3.83	10 600	59	3.86
Farm profit before tax	53 222	296	18.69	63 697	354	23.18
Taxation	9 627	53	3.38	7 038	39	2.56
Farm profit after tax	43 595	242	15.31	56 659	315	20.62
Add back depreciation	10 905	61	3.83	10 600	59	3.86
Reverse stock value adjustment	13 282	74	4.66	1 622	9	0.59
Off-farm income	20 600	114	7.23	23 000	128	8.37
Discretionary cash	88 382	491	31.04	91 881	510	33.44
APPLIED TO:						
Net capital purchases	1 500	8	0.53	600	3	0.22
Development	1 200	7	0.42	1 200	7	0.44
Principal repayments	0	0	0.00	0	0	0.00
Drawings	39 524	220	13.88	42 000	233	15.28
New borrowings	0	0	0.00	0	0	0.00
Introduced funds	0	0	0.00	0	0	0.00
Cash surplus/deficit	46 158	256	16.21	48 081	267	17.50
Farm surplus for reinvestment¹	28 258	157	9.92	26 881	149	9.78
ASSETS AND LIABILITIES						
Farm, forest & building (opening)	2 250 000	12 500	790.11	4 500 000	25 000	1 637.55
Plant and machinery (opening)	107 036	595	37.59	97 631	542	35.53
Stock valuation (opening)	420 049	2 334	147.50	406 767	2 260	148.02
Other farm related investments (opening)	0	0	0.00	0	0	0.00
Total farm assets (opening)	2 777 085	15 428	975.20	5 004 398	27 802	1 821.11
Total liabilities (opening)	467 000	2 594	163.99	467 000	2 594	169.94
Total equity (assets-liabilities)	2 310 085	12 834	811.21	4 537 398	25 208	1 651.16

Note

¹ Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

»» TABLE 16.3: SOUTH ISLAND DEER MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER DEER STOCK UNIT (\$)	WHOLE FARM (\$)	PER HA (\$)	PER DEER STOCK UNIT (\$)
FARM WORKING EXPENSES						
Permanent wages	0	0	0.00	0	0	0.00
Casual wages	3 417	19	1.20	3 400	19	1.24
ACC	68	0	0.02	81	0	0.03
Total labour expenses	3 485	19	1.22	3 481	19	1.27
Animal health	7 205	40	2.53	6 952	39	2.53
Breeding	570	3	0.20	1 924	11	0.70
Electricity	5 325	30	1.87	5 950	33	2.17
Feed (hay and silage)	11 191	62	3.93	12 478	69	4.54
Feed (feed crops)	3 780	21	1.33	3 900	22	1.42
Feed (grazing)	0	0	0.00	0	0	0.00
Feed (other)	5 488	30	1.93	4 251	24	1.55
Fertiliser	15 126	84	5.31	19 724	110	7.18
Lime	3 381	19	1.19	2 280	13	0.83
Freight (not elsewhere deducted)	1 902	11	0.67	2 402	13	0.87
Regrassing costs	2 715	15	0.95	2 700	15	0.98
Weed and pest control	3 018	17	1.06	2 800	16	1.02
Fuel	10 125	56	3.56	13 125	73	4.78
Vehicle costs (excluding fuel)	7 543	42	2.65	7 600	42	2.77
Repairs and maintenance	3 750	21	1.32	7 700	43	2.80
Total other working expenses	81 119	451	28.49	93 786	521	34.13
Communication costs (phone and mail)	2 094	12	0.74	2 100	12	0.76
Accountancy	2 379	13	0.84	2 400	13	0.87
Legal and consultancy	2 088	12	0.73	2 200	12	0.80
Other administration	1 018	6	0.36	1 000	6	0.36
Rates	4 591	26	1.61	4 700	26	1.71
Insurance	4 505	25	1.58	4 595	26	1.67
Water charges (irrigation)	0	0	0.00	0	0	0.00
Other expenditure ¹	7 893	44	2.77	2 640	15	0.96
Total overhead expenses	24 568	136	8.63	19 635	109	7.15
Total farm working expenses	109 172	607	38.34	116 902	649	42.54
Wages of management	58 771	327	20.64	75 000	417	27.29
Depreciation	10 905	61	3.83	10 600	59	3.86
Total farm operating expenses	178 848	994	62.80	202 502	1 125	71.11
CALCULATED RATIOS						
Economic farm surplus (EFS ²)	94 243	524	33.09	105 120	584	38.25
Farm working expenses/NCI ³	48%			50%		
EFS/total farm assets	3.4%			2.1%		
EFS less interest and lease/equity	2.3%			1.4%		
Interest + rent + lease/NCI	18.0%			17.7%		
EFS/NCI	41.4%			44.9%		

Notes

1 Includes the Accident Compensation Corporation (ACC) employer levy.

2 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% of opening total farm assets to a maximum of \$85 000.

3 Net cash income.

DEER SECTOR

ISSUES AND DEVELOPMENTS

17

»» DAIRY INDUSTRY OFFERS DEER FARMERS A PROFITABLE ALTERNATIVE

Deer farmers continue to leave the industry. Statistics New Zealand reports in the Agriculture Production Census 2007 that deer numbers fell from 1.6 million in 2006 to 1.4 million in 2007. In addition, the number of deer mated in 2007 (680 000) was 8 percent fewer than in 2006.

The deer industry has slowly eroded over the past few years, with the average deer farmer's age moving closer to retirement and dairy grazing or dairy conversion becoming very tempting. While the North Island deer farmers monitored have either kept stock numbers the same or made marginal increases, many deer farmers are beginning to consider whether to convert to dairying or are re-evaluating their livestock mix. The South Island deer model in particular is showing the effects of dairying profitability, with its land value increasing about 100 percent compared with the 2007/08 season.

Farmers are concerned that increased hind kills and capital stock slaughter is in part a flow-on effect of a booming dairy industry. Farmers expect it will adversely impact on the deer industry's ability to sufficiently supply venison and meet market demand. Deer Industry New Zealand already reports that production shortages are beginning to frustrate some North American and European buyers.

»» LONG-TERM PROSPECTS FOR THE INDUSTRY

Following basic supply and demand principles, the long-term prospects for committed deer farmers appear to be good. As more farmers leave the deer industry, supply falls while demand for venison overseas is slowly increasing due to well-directed marketing programmes and increasing commodity prices. However, the industry is cautious that venison production does not drop too much further, otherwise venison could become overpriced.

The long-term prospects for velvet producers are variable. If stability in velvet pricing cannot be achieved, farmers are likely to reduce velvet herds and put more energy into venison production, as is currently being seen.

Small family-owned deer farms are losing their appeal. Some deer farmers have commented that their children are not interested in farming deer. Fewer, larger farm operations will result, as smaller farms cash up while good land prices, dairy land-use pressures and good venison prices remain. Anecdotal comments from industry sources suggest those staying in the deer industry are looking to expand. The South Island's dominance is expected to continue, with 69 percent of the national deer herd currently located there.

Productivity gains through science-based programmes and genetic monitoring are contributing to the industry's longevity. Deer industry "focus farms" are working to improve performance and environmental best practice standards. The original focus farms in Otago and Southland have run for three years and a further four throughout New Zealand are operating in Rotorua, central Hawkes Bay, north Canterbury and south Canterbury. "Making the Difference" focus-farm projects are also aiming to increase carcass weights by 1 kilogram per year over the next five years. Productivity gains in deer are essential for the deer industry's future competitiveness.

In addition to farmed venison and velvet production, a small but vibrant trophy stag market has developed, which will add another dimension to the industry. Safari outfitting and hunting in New Zealand has a good reputation for quality and this niche market looks to become well established.

»» VELVET DEVELOPMENTS

Velvet price variability is a key issue for the industry. The Velconz model lacked the support it needed, with less velvet sold (271 tonnes) than was targeted (280 tonnes). This has sparked a review by PGG Wrightson of the Velconz model.

Velvet prices did not meet expectations at early sales, which caused a substantial amount of product to be passed in. However, later in the year, velveters received good news with the development of fixed-price contracts with a Chinese consortium (a first for the New Zealand velvet industry), which led to increased volume being sold.

Deer Industry New Zealand (DINZ) reports that, anecdotally, only a relatively small quantity of velvet is still on-farm and only a small quantity remains unsold at the pool. DINZ's levy income is down by approximately 15 percent compared with 2006/07 and it is unclear whether this is due to the late, unusual velvet season or lower velvet production.

Uncertainty exists about future velvet prices and producers feel that at least \$100 per kilogram is required to keep velveters from changing to alternative deer or other livestock systems. However, some velvet producers are enthusiastic and passionate about their product and they are working together to develop more markets for velvet, such as wound healing and pet health.

Velvet's traditional use in oriental medicine should benefit deer farmers under the China–New Zealand Free Trade Agreement, as all tariffs will be reviewed and removed by 2012.

»» DEER HEALTH INITIATIVES

Johnes disease, bovine tuberculosis (Tb) and drench resistance are still key health issues affecting deer. Johnes Management Limited continues to fight the incidence of Johnes disease and is putting together a network of veterinarians and information to help farmers manage the disease. Tb is still an issue, though decreasing in incidence. Drench-resistance research continues.

»» LABOUR

Some deer farmers and the industry continue to express concern at the increasing age of deer farmers and lack of veterinarians skilled in deer matters. Reasons given for the lack of labour succession planning are the boom-bust history of deer farming revenues, the perception that the dairy industry is more lucrative, and health and safety issues in handling large animals.

»» CLOSURE OF VENISON PROCESSING PLANTS

Silver Fern Farms recently announced the closure of its Oringi plant in the North Island at Dannevirke and its Burnside venison processing plant near Dunedin. The Burnside plant employed 138 staff in its venison processing facility, cold storage facility and tannery. The predicted drop in deer and lamb numbers for processing was one of the key reasons for this rationalisation.

Silver Fern Farms has assured South Island suppliers that its four other South Island venison processing facilities have sufficient capacity to handle the continued deer kill. North Island deer farmers have reported they are confident that additional capacity is available if needed, despite the Dannevirke closure.

»» ENVIRONMENTAL PRESSURES INCREASE

Increasingly more pressure is coming on deer farmers to improve environmental performance, especially around water quality. Southland farmers are conscious of the need to exclude stock from waterways when strip grazing during winter. South Island farmers are dominating deer industry environmental awards and many Southland farmers are reporting a higher use of nutrient budgeting.

PART 4

SHEEP AND BEEF SECTOR

This section provides information on the production and financial status of sheep and beef farmers and commentary on issues and developments in the sheep and beef sector.

Sheep and beef farm models are presented that typify an average sheep and beef farm within a region. Each model presents actual figures for 2007/08 and a budget for 2008/09.

Since 2007, the Meat & Wool New Zealand Ltd (M&WZN) sheep and beef farm survey data has been the basis for the models. To create the final model, the data from this survey is augmented with input from farmers and those servicing the sectors.

To provide a comprehensive picture of what is occurring on high country land in the South Island, the South Island merino model has been replaced with the South Island high country model. A comment on the merino industry is also included in the chapter. For more information about the models, see Appendix 2.

Caution should be taken when comparing data in this report with data prior to 2005/06. Generally, the 2005/06 values in the parameter tables and graphs are based on recalculated budgets using the M&WZN farm survey data. For models that changed significantly, only data from 2005/06 is shown in the tables and graphs.

STOP PRESS

At the time of publishing, there is significant uncertainty about the world economic situation, making predictions for 2008/09 very difficult. Price expectations for New Zealand's agricultural commodities in export markets are generally lower than initially anticipated due to the widening economic downturn emanating from the global financial crisis. However, the falling exchange rate in October and November 2008 may offset some of the weakening in international market prices. Faced with such uncertainty farmers are expected to defer decisions where this is possible until their likely returns become clear. These sheep and beef farm models were prepared in August 2008 and are based on farmer and industry expectations at that time.

NORTHLAND

SHEEP AND BEEF

18

The Northland sheep and beef model farm represents 983 intensive finishing farms from Auckland north. The model farm is a family partnership that employs casual labour. The cattle to sheep ratio is high with cattle making up 75 percent of total stock units.

Several key expense items have been altered from the previous report to more accurately reflect farmers' decisions in the 2007/08 budget. Where appropriate, these items were also applied retrospectively to the 2006/07 budget. All tables in this chapter have been updated to reflect these changes.

»» KEY POINTS

- › The cash operating surplus for the Northland sheep and beef model farm was up a modest 3 percent to \$98 000 in 2007/08 compared with 2006/07, but it is expected to improve a further 23 percent to \$121 000 in 2008/09.
- › Net cash income improved 3 percent in 2007/08 compared with 2006/07 and is expected to improve a further 15 percent in 2008/09. This improvement is a result of an expected fall in the exchange rate and higher global meat prices, which translate to higher farm gate prices for both sheep and cattle.
- › Farm working expenses continue their upward trend. This trend is driven predominantly, in both the actual and budget periods, by higher fuel, freight and fertiliser costs. In 2007/08, the increase was 3 percent while in 2008/09 it is expected to be a further 9 percent.
- › Farmers on the model farm continue to mine the fertility of the farm's soil by applying fertiliser at less-than-maintenance levels in an attempt to constrain fertiliser expenditure. In 2007/08, this was necessary because of continued poor returns from sheep and beef farming. In 2008/09 reduced fertiliser use is expected because of further substantial increases in fertiliser prices.
- › Farmer confidence in the sector remains at a low ebb, primarily because of continued poor returns from sheep. This is exacerbated by the good returns currently enjoyed by the dairy sector and has resulted in increasing numbers of Northland farmers including a proportion of dairy support in their farm policies.
- › Land prices in the Northland sheep and beef sector are being strongly influenced by the farm's suitability for dairying or dairy support. Suitable properties in dairying areas are experiencing 10 to 15 percent increases in value while those less suitable are experiencing little growth in value.

»» FINANCIAL PERFORMANCE OF THE NORTHLAND SHEEP AND BEEF MODEL FARM IN 2007/08

The cash operating surplus for the Northland sheep and beef model farm was up a modest 3 percent to \$98 000 in 2007/08 compared with 2006/07. Drivers of the result include small increases in net revenue derived from both sheep and cattle and constrained farm expenditure in the face of rapidly rising costs in fertiliser and fuel.

See Tables 18.3 and 18.4 for details of the model's budget and expenditure in 2007/08.

› REVENUE INCREASES MODESTLY

Northland experienced a severe storm during the winter of 2007 and an unusually dry October. However, in late November rain quickly lifted pasture covers and allowed farmers some flexibility with lamb-marketing decisions. A 5 percent reduction in sheep numbers over the year in favour of cattle and a modest increase in the schedule

»» TABLE 18.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR NORTHLAND SHEEP AND BEEF MODEL

	2004/05	2005/06	2006/07 ^R	2007/08	2008/09 BUDGET
YEAR ENDED 30 JUNE					
Effective area (ha)	314	314	314	314	314
Breeding ewes (head)	585	621	616	614	572
Replacement ewe hoggets (head)	180	188	180	175	173
Other sheep (head)	55	75	60	60	58
Breeding cows (head)	129	99	99	108	116
Rising 1-year cattle (head)	238	235	235	242	250
Other cattle (head)	121	159	151	156	158
Opening sheep stock units	751	806	785	780	735
Opening cattle stock units	2 331	2 372	2 367	2 436	2 526
Opening total stock units (su)	3 082	3 178	3 152	3 216	3 261
Stocking rate (stock unit/ha)	9.8	10.1	10.0	10.2	10.4
Ewe lambing (%)	124	127	128	123	126
Average lamb price (\$/head)	66.62	57.29	55.78	59.00	75.00
Average wool price (\$/kg)	2.47	2.27	2.24	2.26	2.42
Total wool produced (kg)	3 818	3 821	3 690	3 587	3 477
Wool production (kg/ssu)	5.09	4.80	4.70	4.60	4.73
Average rising 2-year steer (\$/head)	840	738	775	750	855
Average cull cow (\$/head)	580	600	571	435	496
Net cash income (\$)	221 920	213 170	209 566	215 641	248 954
Farm working expenses (\$)	135 791	120 163	114 599	118 064	128 449
Farm profit before tax (\$)	59 835	41 286	47 888	48 577	67 103
Farm surplus for reinvestment (\$) ¹	12 141	1 920	11 209	1 403	28 614

Notes

¹ Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

Symbol

^R The model parameters have been revised so the data for 2006/07 will not match that published in the *Pastoral Monitoring Report 2007*.

translated to a 4 percent increase in net sheep revenue (sales less purchases to \$42 000). Wool income remained flat with a 2 cents per kilogram price increase unable to offset the reduction in flock size.

Net cattle revenue (sales less purchases) improved 3 percent to \$157 000 compared with 2006/07. Gross cattle revenue was up 4 percent, but this was offset by increased purchasing costs as the cattle herd was expanded to replace the less profitable sheep flock.

Some farms also sold surplus hay and baleage to the drought-affected Waikato. This is reflected in the model farm by the addition of a small amount of grazing income (see Table 18.2).

»» TABLE 18.2: NORTHLAND SHEEP AND BEEF CASH FARM INCOME

	2004/05	2005/06	2006/07	2007/08	2008/09 BUDGET
	(\$)	(\$)	(\$)	(\$)	(\$)
YEAR ENDED 30 JUNE					
Sheep sales less purchases	42 268	43 330	40 195	41 913	47 186
Cattle sales less purchases	165 195	152 060	152 806	157 071	184 719
Wool	10 488	8 780	8 266	8 107	8 414
Grazing income (including hay and silage sales)	0	0	0	249	0
Other income	300	9 000	8 300	8 300	8 634
Net cash income	221 920	213 170	209 566	215 641	248 954

» EXPENDITURE CONSTRAINED WHERE POSSIBLE

On the back of a poor financial result in 2006/07 and with little prospect of prices improving significantly, farmers acted early to constrain expenditure in 2007/08. Farmers also cut discretionary expenditure such as weed and pest control (down 11 percent to \$4000) and repairs and maintenance (down 6 percent to \$16 000).

Significant expenditure items such as fertiliser, fuel and freight proved more difficult to control in the face of large unit cost increases (expenditure rising 12 percent, 19 percent and 15 percent respectively).

In 2006/07, farmers cut fertiliser expenditure in response to poor sales prices for sheep and cattle. Lower fertiliser application rates continued into 2007/08 and were exacerbated late in the season by substantial price increases for in both urea and superphosphate. Although the fertiliser companies clearly signalled the price increases, farmers without storage were left with little choice but to apply less fertiliser if they wanted to limit their total fertiliser expenditure. For many farmers, that meant less than maintenance application rates, although they still spent more than they budgeted for fertiliser.

» NET RESULT IS FLAT

A 3 percent increase to \$98 000 in the model farm's cash operating surplus was eroded by a 1 percent increase in interest costs to \$34 000, resulting from higher interest rates and new borrowings, a 10 percent reduction in the stock value adjustment, and a 3 percent increase in depreciation to \$22 000. This left only a 1 percent increase in farm profit before tax to \$49 000 – a result that has done little for the spirits of Northland sheep and beef farmers.

The model farm moved to interest-only payments on outstanding debt as a result of the ongoing modest returns made by the model farm and the wider sector.

»» BUDGET FINANCIAL PERFORMANCE OF THE NORTHLAND SHEEP AND BEEF MODEL FARM IN 2008/09

The outlook for Northland sheep and beef farmers appears brighter in 2008/09 than in 2007/08. Improvements in cattle and sheep prices look likely and should be underpinned by a lower exchange rate, higher international lamb prices, and a lower supply as a result of the 2007/08 drought. This improvement, in turn, is expected to lead to a 23 percent improvement in the model farm's cash operating surplus, to \$120 000.

See Tables 18.3 and 18.4 for details of the model's forecast budget and expenditure in 2008/09. This budget was compiled in August 2008 and is based on farmer and industry expectations at that time.

» REVENUE INCREASE EXPECTED

Substantial reductions in the national sheep flock over recent years because of drought and poor farm gate prices are expected to result in supply shortages in 2008/09. Some industry commentators suggest that strong competition between meat processors to procure lambs may result in a serious procurement competition. Furthermore, the exchange rate is expected to fall during the year, suggesting that higher farm gate prices for sheep will be possible in 2008/09. It is expected that overall sheep sales less purchases will increase a healthy 13 percent to \$47 000 in the 2008/09 season compared with the 2007/08 season.

Cattle revenues are also expected to improve on the back of improved global demand, an expected decline in the exchange rate, and reduced supply because of the widespread drought felt outside Northland in 2007/08. Although this revenue increase will be offset by higher purchase prices for replacement cattle, the expectation is for cattle revenue less purchases to improve by around 18 percent to \$185 000 compared with 2007/08.

» EXPENDITURE EXPECTED TO INCREASE

Farm working expenditure, driven by inflationary pressures across the board and further substantial rises in the unit costs of fuel and fertiliser, is expected to increase 9 percent in 2008/09 from 2007/08.

If revenues improve as expected, it is likely that farmers will increase their expenditure to address deferred expenditure from the previous year. However, in 2008/09 many farmers are still expected to apply less than maintenance levels of fertiliser as they attempt to minimise cost over-runs in this area.

Expenditure on wages for casual staff in 2008/09 is expected to increase 20 percent from 2007/08 to \$9000. This expenditure will be driven by increased spending on repairs and maintenance (up 10 percent to \$17 000) and weed and pest control (up 13 percent to \$5000), as well as farm owners taking more time out from the farm.

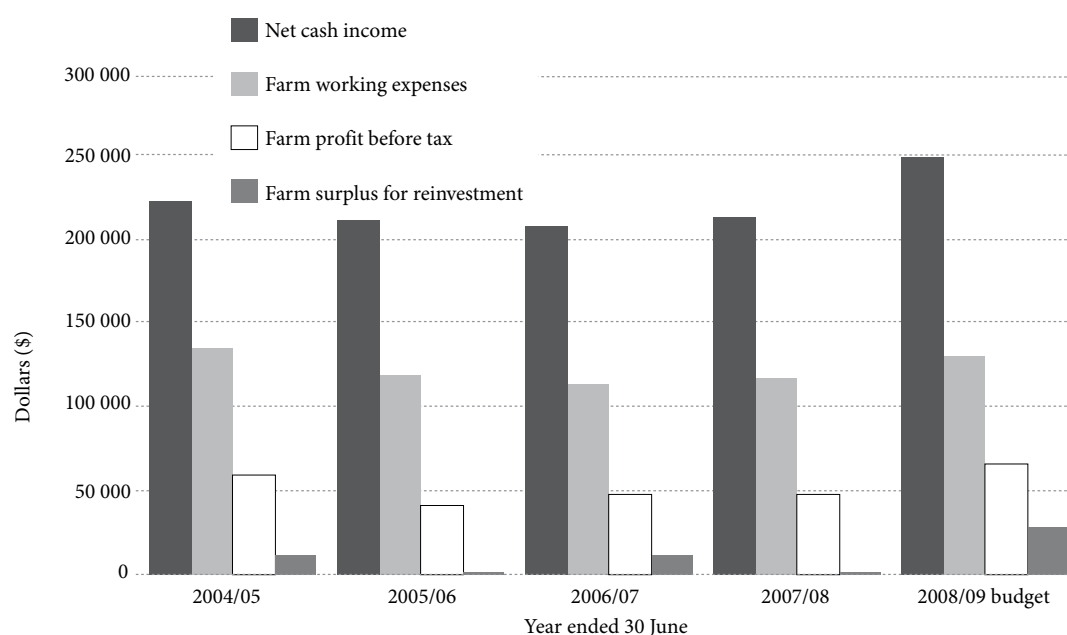
Fuel and freight expenses are expected to increase by 15 percent and 13 percent respectively, as an anticipated lower exchange rate leads to higher prices at the pumps for both farmers and trucking firms. However, the recent variability in fuel prices makes it difficult to anticipate what the actual fuel expenditure will be in 2008/09.

Fertiliser expenses are expected to increase 12 percent from 2007/08 to \$29 000, despite farmers attempting to control total spending by reducing the amount of fertiliser they apply by 29 percent.

➤ NET RESULT EXPECTED TO IMPROVE

The overall picture for the Northland sheep and beef model farm is one of improving profitability in 2008/09 (see Figure 18.1). Farm profit before tax is expected to increase 38 percent to \$67 000, while discretionary cash is predicted to increase 49 percent to \$90 000. Once the increased profit before tax is applied to drawings (up 5 percent to \$51 000), development (up from \$3000 to \$4000), capital purchases (up 1 percent to \$17 000) and with new borrowings of about \$17 000, the model farm is left with a cash surplus of \$35 000. This surplus represents a significant improvement on the 2007/08 surplus of just \$9000.

➤➤ FIGURE 18.1: NORTHLAND SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS



Source
MAF Monitoring Reports; 2005 to 2008.

»» TABLE 18.3: NORTHLAND SHEEP AND BEEF MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
REVENUE						
Sheep	45 027	143	57.76	51 885	165	70.62
Wool	8 107	26	10.40	8 414	27	11.45
Cattle	229 918	732	94.37	266 780	850	105.60
Grazing income (including hay and silage sales)	249	1	0.08	0	0	0.00
Other farm income	8 300	26	2.58	8 634	27	2.65
LESS						
Sheep purchases	3 114	10	4.00	4 699	15	6.40
Cattle purchases	72 847	232	29.90	82 061	261	32.48
Net cash income	215 641	687	67.05	248 954	793	76.34
Farm working expenses	118 064	376	36.71	128 449	409	39.39
Cash operating surplus	97 577	311	30.34	120 505	384	36.95
Interest	34 326	109	10.67	35 452	113	10.87
Rent and/or leases	0	0	0.00	0	0	0.00
Stock value adjustment	7 430	24	2.31	4 536	14	1.39
Minus depreciation	22 104	70	6.87	22 485	72	6.90
Farm profit before tax	48 577	155	15.11	67 103	214	20.58
Taxation	13 198	42	4.10	5 339	17	1.64
Farm profit after tax	35 379	113	11.00	61 764	197	18.94
ALLOCATION OF FUNDS						
Add back depreciation	22 104	70	6.87	22 485	72	6.90
Reverse stock value adjustment	-7 430	-24	-2.31	-4 536	-14	-1.39
Income equalisation	0	0	0.00	0	0	0.00
Off-farm income	10 500	33	3.27	10 500	33	3.22
Discretionary cash	60 553	193	18.83	90 214	287	27.66
Farm surplus for reinvestment²	1 403	4	0.44	28 614	91	8.77
APPLIED TO						
Net capital purchases	16 750	53	5.21	16 950	54	5.20
Development	2 850	9	0.89	3 990	13	1.22
Principal repayments	0	0	0.00	0	0	0.00
Drawings	48 650	155	15.13	51 100	163	15.67
New borrowings	16 560	53	5.15	16 560	53	5.08
Introduced funds	0	0	0.00	0	0	0.00
Cash surplus/deficit	8 863	28	2.76	34 734	111	10.65
ASSETS AND LIABILITIES						
Farm, forest and building (opening)	2 927 875	9 324	910.44	3 210 237	10 224	984.43
Plant and machinery (opening)	84 171	268	26.17	88 296	281	27.08
Stock valuation (opening)	313 302	998	97.42	320 732	1 021	98.35
Other produce on hand (opening)	192	1	0.06	214	1	0.07
Total farm assets (opening)	3 325 540	10 591	1 034.09	3 619 478	11 527	1 109.93
Total assets (opening)	3 379 240	10 762	1 050.79	3 684 929	11 735	1 130.00
Total liabilities (opening)	300 218	956	93.35	316 778	1 009	97.14
Total equity (farm assets–liabilities)	3 025 322	9 635	940.74	3 302 700	10 518	1 012.79

Notes

1 Sheep stock units are used in the per stock unit calculation for sheep and wool income and sheep purchases. Cattle stock units are used for cattle income and purchases. In the remainder of cases, total stock units are used.

2 Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

»» TABLE 18.4: NORTHLAND SHEEP AND BEEF MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
FARM WORKING EXPENSES						
Permanent wages	0	0	0.00	0	0	0.00
Casual wages	7 700	25	2.39	9 240	29	2.83
ACC	215	1	0.07	183	1	0.06
Total labour expenses	7 915	25	2.46	9 423	30	2.89
Animal health	10 357	33	3.22	10 803	34	3.31
Breeding	1 351	4	0.42	1 500	5	0.46
Electricity	2 329	7	0.72	2 478	8	0.76
Feed (hay and silage)	2 734	9	0.85	2 804	9	0.86
Feed (feed crops)	900	3	0.28	1 011	3	0.31
Feed (grazing)	0	0	0.00	0	0	0.00
Feed (other)	1 608	5	0.50	1 696	5	0.52
Fertiliser	25 916	83	8.06	29 050	93	8.91
Lime	2 727	9	0.85	2 826	9	0.87
Cash crop expenses	213	1	0.07	225	1	0.07
Freight (not elsewhere deducted)	4 136	13	1.29	4 679	15	1.43
Regrassing costs	780	2	1.00	847	3	0.26
Shearing expense	5 003	16	6.42	5 100	16	6.94
Weed and pest control	4 193	13	1.30	4 744	15	1.45
Fuel	5 717	18	1.78	6 575	21	2.02
Vehicle costs (excluding fuel)	6 334	20	1.97	6 778	22	2.08
Repairs and maintenance	15 700	50	4.88	17 270	55	5.30
Total other working expenses	89 997	287	27.99	98 386	313	30.17
Communication costs (phone & mail)	1 576	5	0.49	1 598	5	0.49
Accountancy	1 704	5	0.53	1 826	6	0.56
Legal and consultancy	997	3	0.31	1 076	3	0.33
Other administration	1 962	6	0.61	2 087	7	0.64
Water charges (irrigation)	0	0	0.00	0	0	0.00
Rates	6 052	19	1.88	6 275	20	1.92
Insurance	2 741	9	0.85	2 868	9	0.88
Other expenditure ²	5 120	16	1.59	4 909	16	1.51
Total overhead expenses	20 151	64	6.27	20 640	66	6.33
Total farm working expenses	118 064	376	36.71	128 449	409	39.39
Wages of management	64 255	205	19.98	67 195	214	20.61
Depreciation	22 104	70	6.87	22 485	72	6.90
Total farm operating expenses	204 423	651	63.57	218 129	695	66.89
CALCULATED RATIOS						
Economic farm surplus (EFS ³)	18 648	59	5.80	35 361	113	10.84
Farm working expenses/NCI ⁴	55%			52%		
EFS/total farm assets	0.6%			1.0%		
EFS less interest and lease/equity	-0.5%			0.0%		
Interest + rent + lease/NCI	15.9%			14.2%		
EFS/NCI	8.6%			14.2%		

Notes

1 Shearing expense per stock units based on sheep stock units.

2 Includes Accident Compensation Corporation (ACC) employer levy.

3 EFS (or earnings before 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: \$31 000 allowance for labour input plus 1 percent of opening total farm working assets to a maximum of \$75 000.

4 Net cash income.

WAIKATO/BAY OF PLENTY

INTENSIVE SHEEP AND BEEF

19

The Waikato/Bay of Plenty intensive sheep and beef model represents 722 farms that bound the predominantly dairying districts of the Waikato/Bay of Plenty region. The model farm is 300 hectares (effective) and represents a typical finishing beef cattle and sheep farm with rolling-to-easy hill contour and volcanic ash soil.

This model has been reviewed to take into account changes in farms in the area so caution should be taken when comparing figures in this report with figures in previous monitoring reports.

»»» KEY POINTS

- › A significant drought affected the whole Waikato/Bay of Plenty region for much of the 2007/08 season.
- › While returns for prime lambs were well down, cattle margins improved from 2006/07.
- › Farm costs continued to rise and farmers are particularly concerned about the implications of the recent significant increase in the cost of fertiliser.
- › Farm profitability will improve in 2008/09 on the back of rising lamb and cattle returns. There is some concern at the supply and likely cost of store stock because of the flow-on effects of the drought.
- › Land prices for this class of country will continue to firm, being influenced by demand from the dairy industry.

»»» FINANCIAL PERFORMANCE OF THE WAIKATO/BAY OF PLENTY INTENSIVE SHEEP AND BEEF MODEL FARM IN 2007/08

The cash operating surplus for the Waikato/Bay of Plenty intensive sheep and beef model farm in 2007/08 at \$108 000 remains at the same low level as in 2006/07. While net cash income increased (up 10 percent to \$271 000), driven mostly by improved cattle margins, this was offset by higher farm working expenditure (up 15 percent to \$163 000).

See Tables 19.3 and 19.4 for details of the model's budget and expenditure in 2007/08.

› REVENUE HIGHER DESPITE DROUGHT

The season started reasonably well with good lamb survival rates over the spring. However, the overall lambing percentage ended down slightly at 126 percent (compared with 131 percent in 2006/07). The weather started turning dry in November 2007 and eventually developed into one of the worst droughts ever recorded, affecting much of the country. This directly reduced production levels and many farmers were forced to sell off stock earlier than anticipated. The drought finally broke in late April/early May 2008.

Net sheep returns (sales less purchases) dropped 26 percent to \$59 000 in 2007/08 compared with 2006/07. This was mostly due to poor lamb returns, which were in part the result of lambs being sold at lighter weights than in the previous year. While returns for wool dropped 1 percent due to lower production and lower prices, wool is not a significant income item for this model at \$15 000.

Net cattle income (sales less purchases) increased 41 percent compared with 2006/07 to \$178 000 due to schedules holding up and increased margins with lower store cattle prices resulting from drought-induced destocking.

Capital sheep numbers remained relatively static between the start and finish of 2007/08, while cattle numbers increased slightly.

»» TABLE 19.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR WAIKATO/BAY OF PLENTY SHEEP AND BEEF MODEL FARM

	2004/05	2005/06	2006/07 ^R	2007/08	2008/09 BUDGET
YEAR ENDED 30 JUNE					
Effective area (ha)	300	300	300	300	300
Breeding ewes (head)	1 230	1 230	1 014	1 014	1 009
Replacement ewe hoggets (head)	400	400	336	336	336
Other sheep (head)	50	52	123	123	160
Rising 1-year cattle (head)	205	205	186	186	200
Other cattle (head)	158	158	108	108	116
Opening sheep stock units	1 545	1 545	1 584	1 584	1 608
Opening cattle stock units	1 975	1 975	1 696	1 510	1 621
Opening total stock units (su)	3 520	3 520	3 280	3 094	3 228
Stocking rate (stock unit/ha)	11.7	11.7	10.9	10.3	10.8
Ewe lambing (%)	132	129	132	126	111
Average lamb price (\$/head)	63.40	58.47	56.37	56.51	74.89
Average wool price (\$/kg)	2.74	2.35	2.32	2.24	2.61
Total wool produced (kg)	7 425	5 701	7 424	6 869	7 901
Wool production (kg/ssu)	4.81	4.09	4.70	4.34	4.91
Average rising 2-year steer (\$/head)	1 020	812	840	682	1 011
Net cash income (\$)	298 569	269 728	247 035	270 839	350 591
Farm working expenses (\$)	136 869	141 635	141 907	162 659	178 430
Farm profit before tax (\$)	132 155	98 654	49 501	59 837	102 461
Farm surplus for reinvestment (\$) ¹	65 034	22 219	-14 456	-19 333	49 997

Note

¹ Farm surplus for reinvestment represents the cash available from the farm business, after meeting living costs, which is available for investment on the farm or for repaying principal. It is calculated as discretionary cash less off-farm income and drawings.

Symbol

^R The model parameters have been revised, so the data for 2006/07 will not match that published in *Pastoral Monitoring Report 2007*.

» EXPENDITURE INCREASES AS COSTS RISE

Total farm working expenditure per stock unit lifted by 18 percent to \$52.58 per stock unit in 2007/08, with increases in costs across the board compared with 2006/07.

Animal health expenditure per stock unit was up 36 percent to \$3.72 per stock unit in 2007/08 compared with 2006/07. This was due to the impacts of the drought and outbreaks of clinical facial eczema on many farms. The range of expenditure on animal health from the survey varied from \$0.89 per stock unit to \$5.09 per stock unit.

»»» TABLE 19.2: WAIKATO/BAY OF PLENTY INTENSIVE SHEEP AND BEEF CASH FARM INCOME

	2004/05	2005/06	2006/07	2007/08	2008/09 BUDGET
	(\$)	(\$)	(\$)	(\$)	(\$)
YEAR ENDED 30 JUNE					
Sheep sales less purchases	107 866	89 934	80 630	59 316	80 120
Cattle sales less purchases	143 245	136 095	126 070	177 570	228 369
Wool	20 337	16 849	17 249	15 400	20 599
Grazing income (including hay and silage sales)	27 120	27 120	16 786	12 152	15 104
Other income	0	0	6 300	6 400	6 400
Net cash income	298 569	269 728	247 035	270 839	350 591

Fertiliser expenditure increased 21 percent to \$34 000 as many farmers applied similar levels to those applied in 2006/07 but paid higher prices.

Regrassing expenditure increased 118 percent to \$9000, a direct legacy of the drought, as many farmers re-sowed once the drought had broken.

Fuel and vehicle expenditure increased 22 percent to \$9000 and 10 percent to \$7000 respectively, while repairs and maintenance expenditure was relatively constant in 2007/08 compared with 2006/07 at \$15 000.

The total cost of interest payments per stock unit rose 15 percent to \$13.19 per stock unit through a combination of increased debt and higher interest rates. Interest is now 17 percent of net cash income in 2007/08.

» NET RESULT NEGATIVE

Farm profit before tax per stock unit increased 28 percent to just over \$19 per stock unit in 2007/08. Increased spending is also noted for capital purchases, development and drawings. Because of poor farm profitability overall, farmers suspended principal debt repayments and debt servicing was reduced to interest-only payments. Overall, the model farm had a cash deficit of \$12 000 despite the input of \$23 000 new borrowings and \$17 000 of off-farm income.

Land values have increased rapidly on this class of farm to \$1330 per stock unit in 2007/08. The dairy boom has driven this increase, with many of the farms in this class suitable for dairying or, more commonly, dairy support.

»»» BUDGET FINANCIAL PERFORMANCE OF THE WAIKATO/BAY OF PLENTY INTENSIVE SHEEP AND BEEF MODEL FARM IN 2008/09

The cash operating surplus is expected to increase 59 percent to \$172 000 in 2008/09 compared with 2007/08. The expected strong rise in net cash income (up 29 percent to \$351 000) through improved sheep, wool and beef prices will be offset only slightly by the expected 10 percent rise in farm working expenditure to \$178 000.

See Tables 19.3 and 19.4 for details of the model's budget and expenditure in 2008/09. This budget was compiled in August 2008 and is based on farmer and industry expectations at that time.

➤ REVENUE BUDGETED TO IMPROVE

While the drought had broken by early May 2008, temperatures remained cool, which slowed pasture recovery. The rain brought outbreaks of facial eczema and problems with internal parasites. Pasture covers and stock conditions on most farms were well below desirable levels going into the winter of 2008. Late July and August 2008 turned very wet, which exacerbated the problems in adequately feeding animals.

Farms depicted in this model are largely based on trading stock, which gives these farmers a greater degree of flexibility compared with hill country farmers. Many waited until pasture covers recovered before re-stocking, and while the drought brought about a severely depressed store market, many farmers are concerned that the prices will swing the other way in 2008/09.

Net sheep returns (sales less purchases) are expected to be up 35 percent in 2008/09 compared with 2007/08 to \$80 000. This is mainly due to an expected lift in lamb returns, even though the expected lambing percentage drops to 111 percent (compared with 126 percent in 2007/08). Farmers are budgeting on \$75 to \$80 per head for prime lambs.

Wool returns are expected to rise 34 percent to \$21 000, driven by a 15 percent increase in production and a 16 percent increase in price. Farmers are budgeting on an average \$2.61 per kilogram across their whole clip (compared with \$2.24 per kilogram in 2007/08).

Net cattle returns (sales less purchases) are expected to increase 29 percent to \$228 000. While gross returns are expected to increase 36 percent, this is dragged down by an expectation of much higher store prices and a return to more normal margins.

➤ EXPENDITURE EXPECTED TO INCREASE

Total farm working expenditure per stock unit is expected to increase 5 percent, to \$55.27 per stock unit in 2008/09. The main influences on this increase in total expenditure are:

- casual labour expenditure, up 26 percent to \$14 000 as farmers restore spending to 2006/07 levels;
- fuel expenditure, up 20 percent to \$11 000;
- fertiliser expenditure, up 18 percent to \$40 000.

In the face of significant increases in fertiliser prices, farmers appear to be budgeting a dollar figure for fertiliser expenditure rather than making a volume-based decision. While fertiliser expenditure is expected to increase 18 percent in 2008/09 compared with 2007/08, farmers will purchase 30 percent less physical product. At the currently budgeted figure, the model shows less than half of the maintenance fertiliser is expected to be applied.

Farmers are expected to hold expenditure on repairs and maintenance to levels similar to those in 2007/08.

»» TABLE 19.3: WAIKATO/BAY OF PLENTY INTENSIVE SHEEP AND BEEF MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
REVENUE						
Sheep	65 631	219	41.43	90 224	301	56.12
Wool	15 400	51	9.72	20 599	69	12.81
Cattle	278 337	928	184.37	379 649	1 265	234.27
Grazing income (including hay and silage sales)	12 152	41	3.93	15 104	50	4.68
Other farm income	6 400	21	2.07	6 400	21	1.98
LESS						
Sheep purchases	6 315	21	3.99	10 104	34	6.29
Cattle purchases	100 767	336	66.75	151 280	504	93.35
Net cash income	270 839	903	87.55	350 591	1 169	108.60
Farm working expenses	162 659	542	52.58	178 430	595	55.27
Cash operating surplus	108 180	361	34.97	172 161	574	53.33
Interest	40 793	136	13.19	41 204	137	12.76
Rent and/or leases	6 400	21	2.07	6 500	22	2.01
Stock value adjustment	12 651	42	4.09	-4 742	-16	-1.47
Minus depreciation	13 800	46	4.46	17 255	58	5.35
Farm profit before tax	59 837	199	19.34	102 461	342	31.74
Taxation	14 519	48	4.69	6 361	21	1.97
Farm profit after tax	45 318	151	14.65	96 100	320	29.77
ALLOCATION OF FUNDS						
Add back depreciation	13 800	46	4.46	17 255	58	5.35
Reverse stock value adjustment	-12 651	-42	-4.09	4 742	16	1.47
Income equalisation	0	0	0.00	0	0	0.00
Off-farm income	17 400	58	5.62	17 600	59	5.45
Discretionary cash	63 867	213	20.64	135 697	452	42.04
Farm surplus for reinvestment²	-19 333	-64	-6.25	49 997	167	15.49
APPLIED TO:						
Net capital purchases	21 000	70	6.79	24 400	81	7.56
Development	11 400	38	3.68	3 600	12	1.12
Principal repayments	0	0	0.00	0	0	0.00
Drawings	65 800	219	21.27	68 100	227	21.10
New borrowings	22 700	76	7.34	26 000	87	8.05
Introduced funds	0	0	0.00	0	0	0.00
Cash surplus/deficit	-11 633	-39	-3.76	65 597	219	20.32
ASSETS AND LIABILITIES						
Farm, forest & building (opening)	4 104 977	13 683	1 326.89	4 514 659	15 049	1 398.53
Plant and machinery (opening)	71 720	239	23.18	79 200	264	24.53
Stock valuation (opening)	227 637	759	73.58	240 288	801	74.44
Other produce on hand (opening)	14 696	49	4.75	18 990	63	5.88
Total farm assets (opening)	4 419 030	14 730	1 428.40	4 853 136	16 177	1 503.39
Total assets (opening)	4 782 725	15 942	1 545.96	5 120 736	17 069	1 586.28
Total liabilities (opening)	420 266	1 401	135.85	428 386	1 428	132.70
Total equity (farm assets–liabilities)	3 998 764	13 329	1 245.18	4 424 750	14 749	1 370.68

Notes

1 Sheep stock units are used in the per stock unit calculation for sheep and wool income and sheep purchases. Cattle stock units are used for cattle income and purchases. In the remainder of cases, total stock units are used.

2 Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

»» TABLE 19.4: WAIKATO/BAY OF PLENTY INTENSIVE SHEEP AND BEEF MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
FARM WORKING EXPENSES						
Permanent wages	0	0	0.00	0	0	0.00
Casual wages	11 152	37	3.60	14 249	47	4.41
ACC	325	1	0.10	265	1	0.08
Total labour expenses	11 477	38	3.71	14 514	48	4.50
Animal health	11 521	38	3.72	12 314	41	3.81
Breeding	0	0	0.00	0	0	0.00
Electricity	3 232	11	1.04	3 336	11	1.03
Feed (hay and silage)	12 180	41	3.94	12 720	42	3.94
Feed (feed crops)	0	0	0.00	0	0	0.00
Feed (grazing)	0	0	0.00	0	0	0.00
Feed (other)	0	0	0.00	0	0	0.00
Fertiliser	33 935	113	10.97	39 900	133	12.36
Lime	1 920	6	0.62	1 908	6	0.59
Cash crop expenses	0	0	0.00	0	0	0.00
Freight (not elsewhere deducted)	6 721	22	2.17	7 387	25	2.29
Regrassing costs	9 121	30	5.76	9 572	32	2.97
Shearing expense	10 935	36	6.90	11 193	37	6.96
Weed and pest control	4 320	14	1.40	4 549	15	1.41
Fuel	9 399	31	3.04	11 315	38	3.51
Vehicle costs (excluding fuel)	6 961	23	2.25	7 535	25	2.33
Repairs and maintenance	15 241	51	4.93	15 842	53	4.91
Total other working expenses	125 486	418	40.56	137 571	459	42.62
Communication costs (phone & mail)	2 291	8	0.74	2 456	8	0.76
Accountancy	3 028	10	0.98	3 247	11	1.01
Legal and consultancy	1 732	6	0.56	1 857	6	0.58
Other administration	1 829	6	0.59	1 961	7	0.61
Water charges (irrigation)	0	0	0.00	0	0	0.00
Rates	8 815	29	2.85	9 423	31	2.92
Insurance	4 062	14	1.31	4 432	15	1.37
Other expenditure ²	3 938	13	1.27	2 968	10	0.92
Total overhead expenses	25 696	86	8.31	26 344	88	8.16
Total farm working expenses	162 659	542	52.58	178 430	595	55.27
Wages of management	75 000	250	24.24	75 000	250	23.23
Depreciation	13 800	46	4.46	17 255	58	5.35
Total farm operating expenses	251 459	838	81.28	270 685	902	83.85
CALCULATED RATIOS						
Economic farm surplus (EFS ³)	32 031	107	10.35	75 164	251	23.28
Farm working expenses/NCI ⁴	60%			51%		
EFS/total farm assets	0.7%			1.5%		
EFS less interest and lease/equity	-0.4%			0.6%		
Interest + rent + lease/NCI	17.4%			13.6%		
EFS/NCI	11.8%			21.4%		

Notes

1 Shearing expense per stock units based on sheep stock units.

2 Includes Accident Compensation Corporation (ACC) employer levy.

3 EFS (or earnings before 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: \$31 000 allowance for labour input plus 1 percent of opening total farm working assets to a maximum of \$75 000.

4 Net cash income.

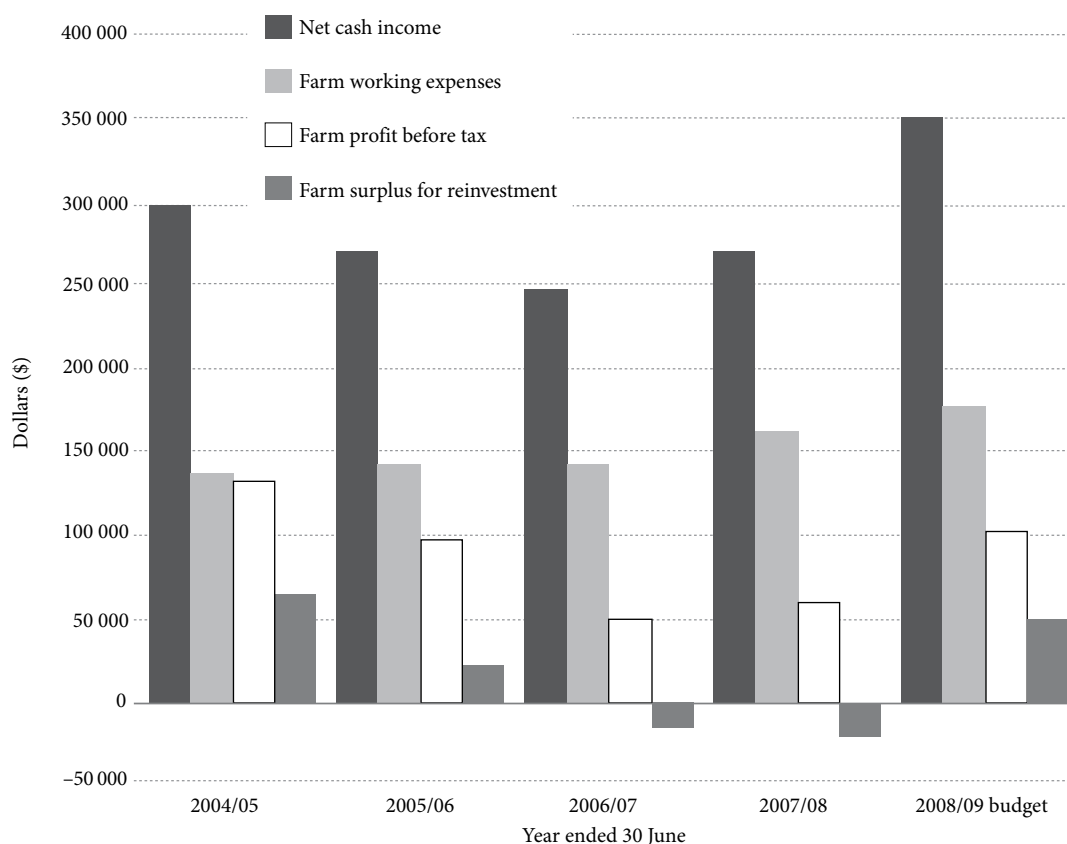
Overhead expenses are expected to increase only 3 percent to \$26 000.

Total interest costs are expected to increase just 1 percent to \$41 000, and, while term debt will increase slightly, overdraft levels are expected to be lower and interest rates much the same as in 2007/08.

► NET RESULT EXPECTED TO BE FAVOURABLE

Farm profit before tax is expected to be up 71 percent to just over \$102 000 in 2008/09 compared with 2007/08, which will affect tax payments in 2009/10. Spending on capital purchases and personal drawings is expected to remain healthy, although spending on development is expected to drop 68 percent to \$4000. With the addition of \$18 000 of off-farm income and further borrowings of \$26 000, the model farm will finish the year with a cash surplus of \$66 000. Farmers are very likely to revise their budgets throughout the year, and, if the projected surplus eventuates, farmers expect to increase their spending on fertiliser, repairs and maintenance, and development.

»» FIGURE 19.1: WAIKATO/BAY OF PLENTY INTENSIVE SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS



Source
MAF Monitoring Reports; 2005 to 2008.

CENTRAL NORTH ISLAND

HILL COUNTRY SHEEP AND BEEF

20

The central North Island hill country sheep and beef model farm represents 1272 hill country farms from across the central area of the North Island. It includes the Waikato, Taranaki and Manawatu/Wanganui regions.

»» KEY POINTS

- › A severe drought adversely affected the entire region, forcing farmers to reduce capital stock numbers. It will take several years for farms to recover from the effects of the drought.
- › At the close of 2007/08, breeding ewe numbers were down 8 percent, replacement ewe hoggets were down 15 percent, breeding cows were down 5 percent, and finishing cattle were down 10 percent from 2006/07.
- › The drought exacerbated the sector's poor profitability, with the model running at a loss and expecting a further loss in 2008/09 – the third consecutive seasonal loss. Many farmers are borrowing to stay afloat.
- › Farmer morale is low. While there is some optimism about higher returns in 2008/09, there is also significant concern at the price of fertiliser and the impact this may have on profitability. Currently, the model is budgeting to apply less than half the fertiliser required for maintenance in 2008/09.

»» FINANCIAL PERFORMANCE OF THE CENTRAL NORTH ISLAND HILL COUNTRY SHEEP AND BEEF MODEL FARM IN 2007/08

The cash operating surplus for the central North Island hill country sheep and beef model farm of \$113 000 in 2007/08 is about the same as in 2006/07, but includes a \$31 000 decrease in capital stock.

See Tables 20.3 and 20.4 for details of the model's budget and expenditure in 2007/08.

› REVENUE INCREASES FROM SALE OF CAPITAL STOCK

Net cash income for 2007/08 increased to \$310 000, slightly higher than in 2006/07. This was mainly the result of cattle prices holding up and capital stock being sold.

SHEEP REVENUE DOWN 12 PERCENT

Poor prime lamb returns and the virtual collapse of the store market due to widespread drought-led destocking caused an 11 percent decrease in total sheep returns (sales less purchases) compared with 2006/07 to \$137 000. The rush of stock into the meat works resulted in a backlog, especially for cull ewes. Resulting prices for cull ewes were very low.

The decrease in sheep returns was also masked by farmers selling off capital stock in order to reduce the demand for feed during the drought. The average decrease from the central North Island survey of 105 farms was an 8 percent decrease in breeding ewes and a 15 percent decrease in replacement ewe hoggets. Many farmers sold their ewe hoggets, despite the implication of this action for future farm production, because this class of stock attracted higher prices compared with other classes.

Wool returns dropped 6 percent to \$40 000 due to a combination of lower prices (the average price across the whole clip was \$2.26 per kilogram) and lower production, as farmers tried to sell lambs unshorn whenever possible.

»» TABLE 20.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR CENTRAL NORTH ISLAND SHEEP AND BEEF MODEL FARM

	2004/05	2005/06	2006/07	2007/08	2008/09 BUDGET
YEAR ENDED 30 JUNE					
Effective area (ha)	550	635	635	635	635
Breeding ewes (head)	2 850	2 700	2 754	2 727	2 509
Replacement ewe hoggets (head)	800	850	860	851	723
Other sheep (head)	65	70	77	77	71
Breeding cows (head)	145	145	145	157	148
Rising 1-year cattle (head)	142	153	153	153	137
Other cattle (head)	119	120	120	108	100
Opening sheep stock units	3 459	3 348	3 414	3 380	3 068
Opening cattle stock units	2 045	2 002	2 002	2 018	1 864
Opening total stock units (su)	5 504	5 350	5 416	5 399	4 932
Stocking rate (stock unit/ha)	10.0	8.4	8.5	8.5	7.8
Ewe lambing (%)	122	124	123	121	109
Average lamb price (\$/head)	59.00	50.00	49.00	45.83	62.62
Average wool price (\$/kg)	2.84	2.46	2.31	2.26	2.47
Total wool produced (kg)	17 512	18 317	18 492	17 799	16 219
Wool production (kg/ssu)	5.10	5.50	5.01	5.27	5.29
Average rising 2-year steer (\$/head)	806	791	669	605	722
Average cull cow (\$/head)	557	558	571	511	580
Net cash income (\$)	321 779	299 900	307 918	309 763	309 184
Farm working expenses (\$)	166 028	179 560	194 106	196 492	207 824
Farm profit before tax (\$)	105 700	138 943	29 743	-12 108	12 174
Farm surplus for reinvestment (\$)¹	132 875	148 514	-13 537	-26 363	-34 207

Notes

¹ Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

CATTLE REVENUE INCREASES

Net cattle income (sales less purchases) was up almost 22 percent in 2007/08 to \$127 000 compared with 2006/07. This increase was due to a combination of prime cattle prices remaining relatively firm and capital stock being sold off. Despite cattle often being killed at lighter weights, their returns were often better. The number of breeding cows decreased an average 6 percent, while the number of other cattle was down 4 percent. This situation varied widely with several farms selling off almost all their breeding cows.

»» TABLE 20.2: CENTRAL NORTH ISLAND HILL COUNTRY SHEEP AND BEEF CASH FARM INCOME

	2004/05	2005/06	2006/07	2007/08	2008/09 BUDGET
	(\$)	(\$)	(\$)	(\$)	(\$)
YEAR ENDED 30 JUNE					
Sheep sales less purchases	170 352	148 158	154 386	136 712	144 934
Cattle sales less purchases	101 767	102 668	104 333	127 242	118 773
Wool	49 660	42 750	42 898	40 209	40 076
Grazing income (including hay and silage sales)	0.0	2 411	24 00	1 300	1 300
Other income	0.0	3 913	39 00	4 300	4 100
Net cash income	321 779	299 900	307 918	309 763	309 184

» EXPENDITURE HOLDS STEADY AS FARMERS BALANCE THE BOOKS

Total farm working expenses lifted only 1 percent to \$310 000 in 2007/08 compared with 2006/07. This was a significant achievement as most costs had increased. Expenditure on farm working expenses from the survey showed a range from \$15.51 per stock unit to \$95.92 per stock unit, with an average of \$36.62 per stock unit.

Significant increases were noted in fertiliser and fuel (both up 18 percent) and total overhead expenses (up 8 percent to \$26 000). Despite the lift in fertiliser prices throughout 2007/08, many farmers tried to apply levels of fertiliser similar to the levels they applied in 2006/07. The big rise in prices came at the end of the financial year, which will affect costs in 2008/09. Total shearing costs dipped slightly, mainly due to fewer sheep being shorn. Many farmers are looking to do as much of their own dagging and crutching as possible in order to save costs.

The counter-balance to the increased expenditure was a 25 percent drop in repairs and maintenance expenditure \$19 000 as farmers tried to hold their overall spending to a level similar to 2006/07. The survey showed expenditure on repairs and maintenance ranged from \$1.29 per stock unit to \$5.02 per stock unit, with an average of \$4.23 per stock unit.

Interest costs on debt rose 8 percent to \$61 000 due to a combination of increasing debt levels, slightly higher overdraft levels and higher interest rates compared with 2006/07.

» NET RESULT POSITIVELY AFFECTED BY INTRODUCED CAPITAL

The cash operating surplus for 2007/08 at \$113 000 was on a par with the surplus in 2006/07. The slightly higher net income was offset by slightly higher farm working expenditure. However, farm profit before tax was negative. Although the model shows some tax being paid, many farmers will be looking to reassess their liability and decrease the amount.

Principal repayments have been suspended and the model achieves a cash surplus only through a combination of some off-farm income, substantial new borrowing and the sale of capital stock.

»» BUDGET FINANCIAL PERFORMANCE OF THE CENTRAL NORTH ISLAND HILL COUNTRY SHEEP AND BEEF MODEL FARM IN 2008/09

The cash operating surplus is expected to decrease to \$101 000 in 2008/09 as a result of lower stock numbers, reduced stock performance and restocking following the drought in 2007/08.

See Tables 20.3 and 20.4 for details of the model's forecast budget and expenditure in 2008/09. This budget was compiled in August 2008 and is based on farmer and industry expectations at that time.

» ADVERSE PHYSICAL FACTORS EXPECTED TO MAKE REVENUE VOLATILE

The drought broke in most areas by the end of April 2008 but the weather remained relatively dry through May and June. With a string of frosts in northern areas over this period, pasture recovery was relatively slow. From mid-July through August it was extremely wet. The rain along with snow storms made farming through this period more difficult than usual. Stock are not in good condition and higher-than-normal death rates are expected during lambing and calving in 2008/09.

Despite increased sheep revenue, the cash operating surplus for the model is expected to drop 11 percent to \$101 000 in 2008/09 compared with 2007/08. This directly reflects the carry-over effects of the drought that has led to lower stock numbers and is expected to result in lower farm performance.

LAMBING PERCENTAGE FALLS BUT PRICES EXPECTED TO IMPROVE

Ewes went to the ram in relatively poor condition, and scanning figures show a 20 to 30 percent reduction in the lambing percentage in 2008/09 compared with 2007/08. The expectation for lambing is around 109 percent, down from 121 percent in 2007/08. Capital sheep numbers are budgeted to increase very little by June 2009, as farmers look to balance the need for cash flow against rebuilding stock numbers.

There was some optimism among survey respondents around increased lamb returns, with farmers budgeting \$68 to \$70 for prime lamb and hopeful of even higher returns if the New Zealand dollar fell further.

WOOL REVENUE STATIC DESPITE SLIGHTLY HIGHER PRICES

Total wool returns in 2008/09 are budgeted to be similar to returns in 2007/08, with a smaller wool clip offset by slightly higher prices. To save costs, many farmers did not winter shear in 2007. The downside of this is that many farms have had outbreaks of lice, which can adversely affect lambs, and the increased likelihood of more cast ewes over lambing.

CATTLE REVENUE FALLS AS NUMBERS ARE REBUILT

Total cattle revenue (sales less purchases) are expected to reduce by around 7 percent to \$119 000 in 2008/09 compared with 2007/08. An expected drop in the calving percentage, the lower capital stock base, and the fact many farmers will be looking to increase cattle numbers up towards pre-drought levels, all contribute to an expected reduction in the number of stock available for sale. This reduction will directly offset a predicted increase in price.

Breeding cow numbers for the model farm at the end of June 2009 are up 4 percent compared with the start of the 2008/09 year; whereas total other cattle numbers will remain the same.

➤ EXPENDITURE EXPECTED TO INCREASE

Farm working expenditure for the model is expected to lift by 6 percent compared with 2007/08, driven by across-the-board increases in costs.

FERTILISER EXPENDITURE INCREASES ARE DRIVEN BY PRICES WHILE APPLICATION RATES FALL

Expenditure budgeted for fertiliser is expected to increase 12 percent to \$51 000. In light of the major increase in fertiliser prices in June 2008, many farmers are currently budgeting a dollar figure for fertiliser. Farmers will then buy only as much fertiliser as the budgeted amount allows. For the model, this equates to just under half the superphosphate applied in 2007/08, which represents about 40 percent of the fertiliser needed for maintenance. Fertiliser spending will be reviewed in the autumn, once farmers have a better idea of actual income and expenditure.

FARMERS MANAGE EXPENDITURE TO REDUCE THE IMPACT OF PRICE INCREASES

Shearing expenses are expected to be up on a sheep stock unit basis, but similar to 2007/08 in total because of the smaller number of sheep in 2008/09.

Repairs and maintenance expenditure is expected to decrease 9 percent to \$17 000. Many farmers are likely to cut this expenditure further as they attempt to balance budgets.

Interest costs are also expected to rise on the back of higher debt levels.

➤ NET RESULT EXPECTED TO BE DEFICIENT

Farm profit before tax is forecast to be positive, but only just, in 2008/09. The model is budgeting on a small tax refund due to the loss made in 2007/08 but this is likely to vary widely between farms.

Farmers will again suspend principal payments. While some farmers are budgeting for capital purchases, they are budgeting little for development as was the case in 2007/08.

Off-farm income and new borrowing will again be required for the farm budget to break even.

Possibly the best indicator of farm profitability is the farm surplus before reinvestment calculation, which essentially shows the farm's cash position and the surplus available for reinvestment via capital spending, development, or principal repayments. The model budget shows an increasingly negative figure from -\$26 000 in 2007/08 to -\$34 000 in 2008/09. This shows that the current financial health of hill country farming is poor, and with costs increasing farmers are concerned about the future.

»» TABLE 20.3: CENTRAL NORTH ISLAND HILL COUNTRY SHEEP AND BEEF MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
REVENUE						
Sheep	140 374	221	41.53	148 679	234	48.46
Wool	40 209	63	11.89	40 076	63	13.06
Cattle	139 004	219	68.87	134 256	211	72.03
Grazing income (including hay and silage sales)	1 300	2	0.24	1 300	2	0.26
Other farm income	4 300	7	0.80	4 100	6	0.83
LESS						
Sheep purchases	3 662	6	1.08	3 745	6	1.22
Cattle purchases	11 762	19	5.83	15 483	24	8.31
Net cash income	309 763	488	57.38	309 184	487	62.69
Farm working expenses	196 492	309	36.40	207 824	327	42.14
Cash operating surplus	113 270	178	20.98	101 360	160	20.55
Interest	61 025	96	11.30	65 670	103	13.31
Rent and/or leases	8 700	14	1.61	8 800	14	1.78
Stock value adjustment	-36 753	-58	-6.81	3 565	6	0.72
Minus depreciation	18 900	30	3.50	18 282	29	3.71
Farm profit before tax	-12 108	-19	-2.24	12 174	19	2.47
Taxation	5 659	9	1.05	-3 904	-6	-0.79
Farm profit after tax	-17 766	-28	-3.29	16 077	25	3.26
ALLOCATION OF FUNDS						
Add back depreciation	18 900	30	3.50	18 282	29	3.71
Reverse stock value adjustment	36 753	58	6.81	-3 565	-6	-0.72
Income equalisation	0	0	0.00	0	0	0.00
Off-farm income	14 600	23	2.70	14 700	23	2.98
Discretionary cash	52 487	83	9.72	45 493	72	9.22
Farm surplus for reinvestment²	-26 363	-42	-4.88	-34 207	-54	-6.94
APPLIED TO						
Net capital purchases	9 650	15	1.79	21 200	33	4.30
Development	500	1	0.09	2 000	3	0.41
Principal repayments	0	0	0.00	0	0	0.00
Drawings	64 250	101	11.90	65 000	102	13.18
New borrowings	55 700	88	10.32	47 300	74	9.59
Introduced funds	0	0	0.00	0	0	0.00
Cash surplus/deficit	33 787	53	6.26	4 593	7	0.93
ASSETS AND LIABILITIES						
Farm, forest & building (opening)	4 100 000	6 457	759.43	4 200 000	6 614	851.57
Plant and machinery (opening)	84 982	134	15.74	81 885	129	16.60
Stock valuation (opening)	425 693	670	78.85	388 940	613	78.86
Other produce on hand (opening)	2 725	4	0.50	2 857	4	0.58
Total farm assets (opening)	4 613 400	7 265	854.53	4 673 681	7 360	947.61
Total assets (opening)	4 802 999	7 564	889.65	4 791 681	7 546	971.54
Total liabilities (opening)	628 023	989	116.33	683 723	1 077	138.63
Total equity (farm assets–liabilities)	3 985 377	6 276	738.20	3 989 958	6 283	808.98

Notes

1 Sheep stock units are used in the per stock unit calculation for sheep and wool income and sheep purchases. Cattle stock units are used for cattle income and purchases. The remainder of the time total stock units are used.

2 Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

»» TABLE 20.4: CENTRAL NORTH ISLAND HILL COUNTRY SHEEP AND BEEF MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
FARM WORKING EXPENSES						
Permanent wages	0	0	0.00	0	0	0.00
Casual wages	16 196	26	3.00	17 262	27	3.50
ACC	351	1	0.06	385	1	0.08
Total labour expenses	16 547	26	3.06	17 648	28	3.58
Animal health	20 195	32	3.74	19 641	31	3.98
Breeding	0	0	0.00	0	0	0.00
Electricity	2 879	5	0.53	2 940	5	0.60
Feed (hay and silage)	11 524	18	2.13	12 352	19	2.50
Feed (feed crops)	0	0	0.00	0	0	0.00
Feed (grazing)	0	0	0.00	0	0	0.00
Feed (other)	0	0	0.00	0	0	0.00
Fertiliser	45 240	71	8.38	50 840	80	10.31
Lime	0	0	0.00	0	0	0.00
Cash crop expenses	0	0	0.00	0	0	0.00
Freight (not elsewhere deducted)	4 829	8	0.89	5 201	8	1.05
Regrassing costs	1 646	3	0.49	4 334	7	0.88
Shearing expense	23 490	37	6.95	23 137	36	7.54
Weed and pest control	4 171	7	0.77	4 442	7	0.90
Fuel	13 547	21	2.51	15 322	24	3.11
Vehicle costs (excluding fuel)	7 626	12	1.41	8 309	13	1.68
Repairs and maintenance	18 768	30	3.48	17 037	27	3.45
Total other working expenses	153 915	242	28.51	163 556	258	33.16
Communication costs (phone & mail)	2 804	4	0.52	2 851	4	0.58
Accountancy	3 707	6	0.69	3 769	6	0.76
Legal and consultancy	2 120	3	0.39	2 155	3	0.44
Other administration	2 239	4	0.41	2 277	4	0.46
Water charges (irrigation)	0	0	0.00	0	0	0.00
Rates	8 857	14	1.64	9 385	15	1.90
Insurance	4 027	6	0.75	4 069	6	0.82
Other expenditure ²	2 276	4	0.42	2 115	3	0.43
Total overhead expenses	26 030	41	4.82	26 621	42	5.40
Total farm working expenses	196 492	309	36.40	207 824	327	42.14
Wages of management	75 000	118	13.89	75 000	118	15.21
Depreciation	18 900	30	3.50	18 282	29	3.71
Total farm operating expenses	290 392	457	53.79	301 106	474	61.05
CALCULATED RATIOS						
Economic farm surplus (EFS ³)	-17 383	-27	-3.22	11 644	18	2.36
Farm working expenses/NCI ⁴	63%			67%		
EFS/total farm assets	-0.4%			0.2%		
EFS less interest and lease/equity	-2.2%			-1.6%		
Interest + rent + lease/NCI	22.5%			24.1%		
EFS/NCI	-5.6%			3.8%		

Notes

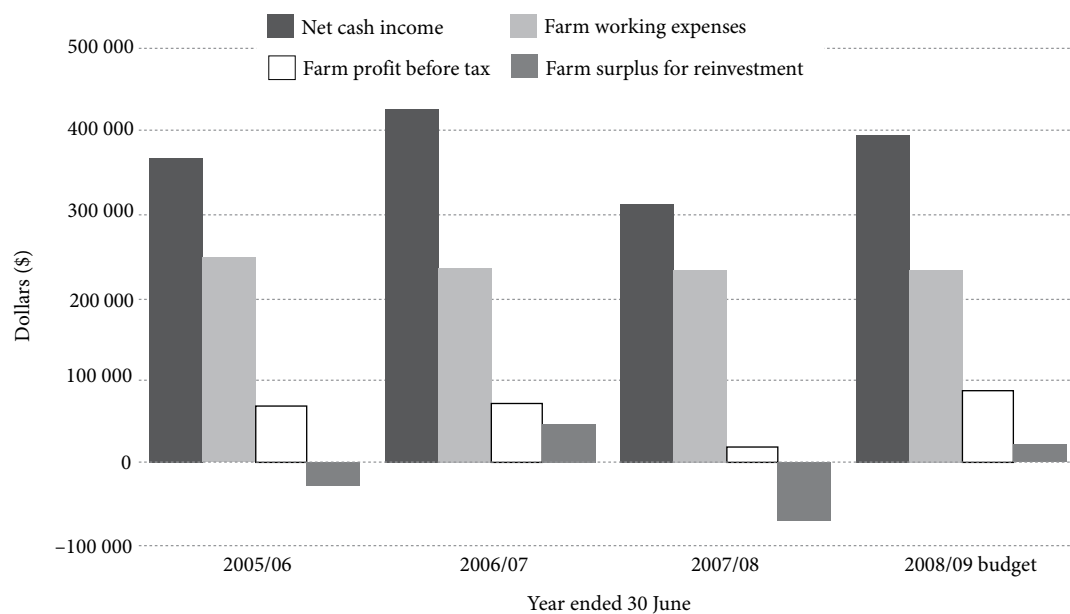
1 Shearing expense per stock units based on sheep stock units.

2 Includes Accident Compensation Corporation (ACC) employer levy.

3 EFS (or earnings before 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: \$31 000 allowance for labour input plus 1 percent of opening total farm working assets to a maximum of \$75 000.

4 Net cash income.

»» FIGURE 20.1: CENTRAL NORTH ISLAND HILL COUNTRY SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS



Source

MAF Monitoring Reports; 2005 to 2008.

GISBORNE HILL COUNTRY

SHEEP AND BEEF

21

The Gisborne hill country sheep and beef model farm represents about 600 farms on steep hill country and easier hill country, on mudstone soils with some pumice overlay, in the Gisborne and Wairoa districts. The model farm's stock policy is based on breeding ewes and cows with replacement stock retained, surplus stock sold prime or store, and some trading stock for finishing or margin trading.

»» KEY POINTS

- › The Gisborne region largely escaped the drought that affected most of New Zealand during 2007/08.
- › The 2006/07 drought in this region reduced the amount of stock for sale in 2007/08, leading to 27 percent decrease in net cash income compared with 2006/07.
- › Expenditure in 2007/08 was kept at a similar level as in the previous year. The rapid rise in fertiliser prices lead to a reduction in application rates, and the same is expected for 2008/09.
- › The outlook for 2008/09 is for an improvement in profitability driven by higher prices for sheep and cattle and restrained expenditure.
- › Although the farm surplus for reinvestment in 2008/09 is expected to improve significantly from 2007/08, it is not a large amount (\$20 000) for reinvestment.

»» FINANCIAL PERFORMANCE OF THE GISBORNE HILL COUNTRY SHEEP AND BEEF MODEL FARM IN 2007/08

The cash operating surplus for the Gisborne hill country sheep and beef model farm was 58 percent lower in 2007/08 than in 2006/07 when income rose as a result of destocking during the 2007 drought. The numbers of stock sold in 2007/08 were significantly lower and prices were also generally lower.

The 2007/08 cash operating surplus at \$80 000 was also considerably lower (33 percent) than the surplus in 2005/06.

See Tables 21.5 and 21.6 for details of the model's budget and expenditure in 2007/08.

› REVENUE SLUMPS FOLLOWING DROUGHT YEAR

Net cash income of \$310 000 in 2007/08 was about 27 percent lower than the previous year. Fewer stock sold in 2007/08 was the main contributor to the decline in income. Lower opening stock numbers and lower lambing and calving percentages, both a consequence of the 2007 autumn drought, lead to lower volumes of stock being available for sale in 2007/08.

Climatic conditions were much kinder in 2007/08 than in the previous year. Although the 2007 winter began with soil moisture and feed deficits from the autumn drought, timely rain from July to August improved the situation. Warmer-than-usual temperatures through winter and early spring improved pasture covers and the survival rates of stock in light condition. Most of the region had good levels of rain for the rest of 2007/08. The exceptions were the northern East Coast, the summer-safe western ranges (Motu and Matawai), Rere, Ngatapa, Pehiri and Hangaroa, which all experienced drought conditions to varying degrees.

>>> TABLE 21.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR GISBORNE HILL COUNTRY SHEEP AND BEEF MODEL FARM

	2005/06	2006/07 ^R	2007/08	2008/09 BUDGET
YEAR ENDED 30 JUNE				
Effective area (ha)	821	821	821	821
Breeding ewes (head)	2 985	3 070	2 990	3 000
Replacement ewe hoggets (head)	1 070	1 128	1 060	1 120
Other sheep (head)	299	250	167	229
Breeding cows (head)	263	272	262	254
Rising 1-year cattle (head)	235	234	216	235
Other cattle (head)	185	201	177	191
Opening sheep stock units	3 949	4 041	3 855	3 950
Opening cattle stock units	3 310	3 429	3 168	3 284
Opening total stock units (su)	7 259	7 470	7 022	7 234
Stocking rate (stock unit/ha)	8.8	9.1	8.6	8.8
Ewe lambing (%)	117	124	113	109
Average lamb price (\$/head)	52.46	47.15	48.17	64.81
Average wool price (\$/kg)	2.24	2.23	2.25	2.58
Total wool produced (kg)	19 071	18 771	19 356	19 875
Wool production (kg/ssu)	4.83	4.65	5.02	5.03
Average rising 3-year steer (\$/head)	954	957	947	1 113
Average cull cow (\$/head)	594	542	525	609
Net cash income (\$)	366 701	426 213	310 305	394 603
Farm working expenses (\$)	247 635	234 505	230 471	232 049
Farm profit before tax (\$)	67 207	68 929	18 029	84 999
Farm surplus for reinvestment (\$)¹	-29 106	46 266	-70 728	20 367

Note

¹ Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

Symbol

R The 2006/07 model has been revised. The latest data from Meat & Wool New Zealand indicates destocking in 2006/07 was less than that shown in the 2006/07 model published in 2007.

SHEEP INCOME DOWN 20 PERCENT

Sheep income (sales less purchases) was down \$35 000 (20 percent) from 2006/07. The number of sheep sold decreased 22 percent in 2007/08, mainly due to fewer lambs being available for sale.

Opening sheep numbers were down 5 percent in 2007/08, following destocking in 2006/07, and the lambing percentage fell to 113 percent from 124 percent, resulting in about 500 fewer lambs being born. Some restocking in 2007/08 also reduced the amount of stock available for sale during 2007/08.

The average lamb price improved about \$1 per head as prime lamb prices improved \$5 per head while store lamb prices fell by the same amount. Lower prices were received for hoggets (down \$10) and store and prime ewes (down about \$8).

Wool income rose 4 percent in 2007/08 compared with 2006/07. This was a result of higher volumes with per head performance lifting 0.4 kilograms per stock unit with the price remaining at a similar level to that in 2006/07.

CATTLE INCOME DECREASES 43 PERCENT

Cattle income (sales less purchases) was \$84 000 (43 percent) lower in 2007/08 than in 2006/07 when destocking drove a rise in income.

Opening cattle numbers were down about 7 percent due to the previous year's drought. The numbers of steers and bulls sold in 2007/08 were well down on 2006/07 with this class of cattle heavily destocked during the 2006/07 drought. Cattle purchases increased in 2007/08 to restock the model farm. Sale prices were generally lower than in the previous year as there was no demand on the spring market.

The calving percentage was down slightly on the previous year as the condition of cows was poorer than usual following the drought. During spring, some cows died from metabolic problems, but the season was generally favourable for calving.

A few farms in the region took in dairy cows for grazing during 2007/08, as drought in most other regions in the North Island increased demand for grazing. However, with the drought over, dairy grazing is not expected to continue or expand in the Gisborne region.

»» **TABLE 21.2: GISBORNE HILL COUNTRY SHEEP AND BEEF CASH FARM INCOME**

	2005/06	2006/07 ^R	2007/08	2008/09 BUDGET
	(\$)	(\$)	(\$)	(\$)
YEAR ENDED 30 JUNE				
Sheep sales less purchases	175 997	181 211	145 726	180 839
Cattle sales less purchases	142 733	197 644	113 427	153 186
Wool	42 525	41 858	43 551	51 277
Grazing income (including hay and silage sales)	0	0	200	200
Other income	5 446	5 500	7 400	9 100
Net cash income	366 701	426 213	310 305	394 603

Symbol

R The 2006/07 model has been revised. The latest data from Meat & Wool New Zealand indicates destocking in 2006/07 was less than that shown in the 2006/07 model published in 2007.

► EXPENDITURE IS RESTRAINED

Farm working expenses were down 2 percent in 2007/08 compared with 2006/07 to \$230 000. However, on a per stock unit basis farm working expenses increased \$1.43. Farm working expenses as a percentage of net cash income increased to 74 percent from 55 percent. Significant price increases occurred in some key farm inputs during the year but the reduction in income caused farmers to reduce expenditure, especially on discretionary items.

SPENDING IS CUT WHERE POSSIBLE

The main areas where farmers reduced expenditure were casual labour (down \$3000) and repairs and maintenance (down \$6000). Feed expenditure was down 4 percent on 2006/07 (the drought year) but still higher than normal for this model as farmers replenished their feed stocks following the drought. Shearing expenditure was lower due to the lower sheep numbers.

FERTILISER AND FUEL PRICES INCREASE

Fertiliser expenditure increased 9 percent to \$41 000. This increase was driven by rising prices, although the amount of fertiliser applied fell about 10 percent. In anticipation of rising fertiliser prices, some farmers bought fertiliser purchases forward but most did not have the cash surplus to do this.

Rising fuel prices increased expenditure on fuel and freight while electricity expenditure increased 10 percent.

Animal health expenditure increased 3 percent. Facial eczema was widespread in the region, and there were some cases of magnesium deficiency in cattle and salmonella problems in sheep in the Wairoa area.

Expenditure on communications costs rose driven by farmers' increasing uptake of broadband and rising postal charges.

A rise in interest rates from 8.0 to 9.1 percent was the main contributor to the increase in interest payments.

► NET RESULT PLUMMETS

Farm profit before tax was \$51 000 less in 2007/08 than in 2006/07. This was mainly caused by the decline in net cash income.

A farm surplus for reinvestment deficit of \$71 000 led to farmers spending little on capital purchases and development and no principal debt repayments were made. New borrowings were necessary to meet living costs.

»» BUDGET FINANCIAL PERFORMANCE OF THE GISBORNE HILL COUNTRY SHEEP AND BEEF MODEL FARM IN 2008/09

The cash operating surplus is expected to more than double in 2008/09 compared with the previous year. A 27 percent rise in net cash income, with expenditure down slightly (1 percent) compared with 2007/08, is expected to drive this improvement.

See Tables 21.5 and 21.6 for details of the model's budget and expenditure in 2008/09. This budget was compiled in August 2008 and is based on farmer and industry expectations at that time.

► REVENUE EXPECTED TO RISE

Higher prices for stock and wool are expected to increase net cash income by \$84 000 in 2008/09. Larger volumes of cattle, but not sheep, are expected to be sold in the budget year.

SHEEP PRICES IMPROVE

Higher prices will drive the expected 24 percent improvement in sheep income (sales less purchases). Although sheep numbers are expected to open 3 percent higher than in the previous year, the model expects no increase in the number of total sheep sold in 2008/09. Fewer lambs are expected to be available for sale in 2008/09, and farmers are expected to continue restocking.

Two-tooth ewes in light condition from the 2006/07 drought and widespread facial eczema in the region are expected to cause a further decrease in the lambing percentage (to 109 percent) in 2008/09. Scanning results at the time of writing (August 2008) show some areas with percentages as much as 20 to 25 percent less than the previous year. However, if lamb survival is higher than normal and the lambing percentage is similar to that in 2007/08, sheep income would improve a further 8 percent. Hogget mating in the region has continued to decline.

Higher schedule prices and improved weights are expected to increase the price per head of prime lamb, while a smaller supply of store lambs than in 2007/08 and the linking of store price to prime prices is expected to lift store prices. The improvement in the expected prices is shown in Table 21.3.

»» TABLE 21.3: SHEEP PRICES

	2006/07 (\$/HEAD)	2007/08 (\$/HEAD)	2008/09 BUDGET (\$/HEAD)
Prime lambs	53.34	58.26	75.00
Store lambs	33.37	28.58	49.45
Prime hoggets	70.19	60.33	80.45
2-tooth ewes	90.43	85.20	106.32
Mixed age store ewes	41.86	32.85	57.25
Mixed age prime ewes	37.91	30.73	41.89

Source
Meat & Wool New Zealand.

Wool revenue is expected to improve with an expected 15 percent increase in wool prices. A lower New Zealand dollar, a reduced supply of crossbred wool (due to the decrease in sheep numbers), and an increase in the competitiveness of wool against synthetic fibres used in carpet making are expected to contribute to the lift in wool prices.

CATTLE INCOME IMPROVES

Cattle income (sales less purchases) is expected to increase 35 percent in 2008/09 from 2007/08. Higher prices for stock sold will be the main contributor to improved income and the numbers of steers and bulls sold are also expected to increase.

Prices are expected to be higher in 2008/09, driven by an increase in prime schedules of around 15 percent on last season. An increase in store prices is expected to be driven by a shortage of supply (as the North Island recovers from drought) and fewer calves reared due to the lack of profitability for rearers.

»» TABLE 21.4: CATTLE PRICES

	2006/07 (\$/HEAD)	2007/08 (\$/HEAD)	2008/09 BUDGET (\$/HEAD)
Cows	542.03	525.04	609.14
2–2.5-year heifers	673.55	645.96	764.99
1–1.5-year steers	497.68	682.97	794.70
2 year and over steers	957.10	947.19	1,112.49
Bull beef	767.45	792.52	921.32

Source
Meat & Wool New Zealand.

A slight improvement in the calving percentage (1 percentage point) is expected in 2008/09 with stock condition improving on the previous season.

» EXPENDITURE EXPECTED TO BE KEPT IN CHECK

Farm working expenses are expected to rise 1 percent in 2008/09 with farmers continuing to reduce expenditure where possible to lower the impact of rising prices. Expenditure as a proportion of net cash income is expected to fall to 59 percent (from 74 percent in 2007/08).

Expenditure on most items is expected to creep up slightly in 2008/09, but expenditure on feed, casual labour and accident compensation is expected to decrease.

Rising fuel and electricity prices will continue to push expenditure on these items up.

Fertiliser prices are expected to increase further in 2008/09 but farmers plan to continue reducing applications in order to hold expenditure at the same level as in the previous year. This is expected to slow restocking in the region. However, if the anticipated improvement in stock prices eventuates, farmers are likely to increase their fertiliser budgets during the year.

Interest rates are expected to have been fixed at the same rate as in the previous year but interest payments will increase by \$6000 because of new borrowings taken out in 2007/08.

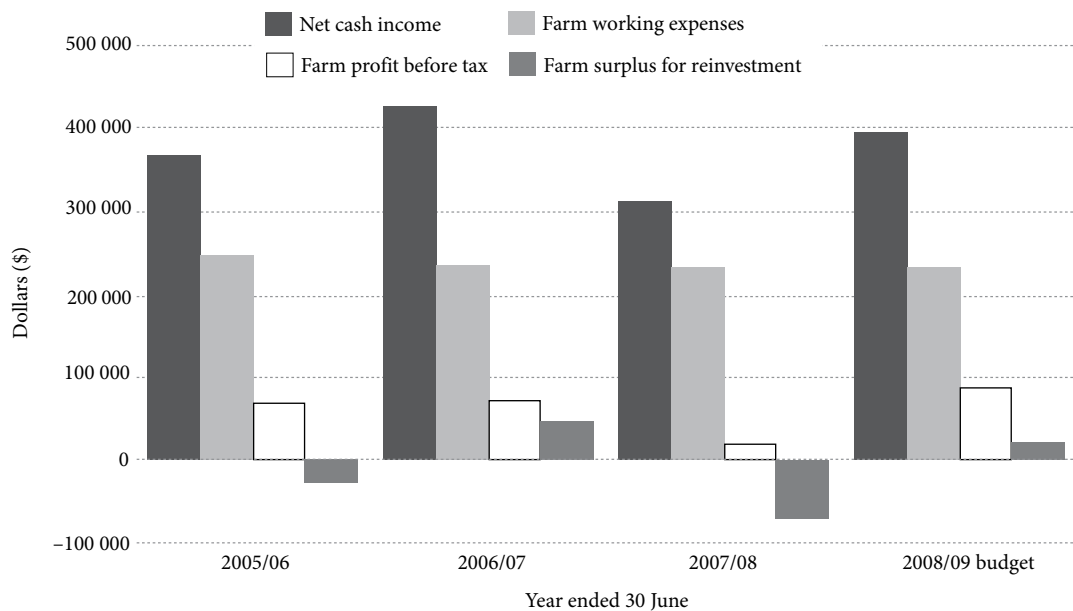
➤ NET RESULT EXPECTED TO IMPROVE

Farm profit before tax is expected to improve by \$67 000 in 2008/09 compared with the previous year.

Farm surplus for reinvestment is expected to improve to a surplus of \$20 000, which will be mostly applied to capital purchases, although farmers may defer purchasing decisions until they have a better picture of their likely returns.

The return on capital will improve to 1.4 percent from 0.2 percent the previous year.

➤➤➤ FIGURE 21.1: GISBORNE HILL COUNTRY SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS



Source
MAF Monitoring Reports; 2006 to 2008.

»» TABLE 21.5: GISBORNE HILL COUNTRY SHEEP AND BEEF MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
REVENUE						
Sheep	152 446	186	39.55	187 573	228	47.48
Wool	43 551	53	11.30	51 277	62	12.98
Cattle	144 474	176	45.61	197 639	241	60.18
Grazing income (including hay and silage sales)	200	0	0.03	200	0	0.03
Other farm income	7 400	9	1.05	9 100	11	1.26
LESS						
Sheep purchases	6 720	8	1.74	6 734	8	1.70
Cattle purchases	31 047	38	9.80	44 453	54	13.54
Net cash income	310 305	378	44.19	394 603	481	54.55
Farm working expenses	230 471	281	32.82	232 049	283	32.08
Cash operating surplus	79 833	97	11.37	162 554	198	22.47
Interest	56 693	69	8.07	63 017	77	8.71
Rent and/or leases	9 300	11	1.32	9 300	11	1.29
Stock value adjustment	20 089	24	2.86	9 910	12	1.37
Minus depreciation	15 900	19	2.26	15 148	18	2.09
Farm profit before tax	18 029	22	2.57	84 999	104	11.75
Taxation	11 368	14	1.62	-3 631	-4	-0.50
Farm profit after tax	6 661	8	0.95	88 630	108	12.25
ALLOCATION OF FUNDS						
Add back depreciation	15 900	19	2.26	15 148	18	2.09
Reverse stock value adjustment	-20 089	-24	-2.86	-9 910	-12	-1.37
Income equalisation	0	0	0.00	0	0	0.00
Off-farm income	6 600	8	0.94	6 800	8	0.94
Discretionary cash	9 072	11	1.29	100 667	123	13.92
Farm surplus for reinvestment²	-70 728	-86	-10.07	20 367	25	2.82
APPLIED TO						
Net capital purchases	4 300	5	0.61	12 000	15	1.66
Development	100	0	0.01	1 300	2	0.18
Principal repayments	0	0	0.00	0	0	0.00
Drawings	73 200	89	10.42	73 500	90	10.16
New borrowings	77 000	94	10.97	30 000	37	4.15
Introduced funds	0	0	0.00	0	0	0.00
Cash surplus/deficit	8 472	10	1.21	43 867	53	6.06
ASSETS AND LIABILITIES						
Farm, forest & building (opening)	5 000 870	6 091	712.15	5 250 000	6 395	725.73
Plant and machinery (opening)	50 000	61	7.12	46 300	56	6.40
Stock valuation (opening)	590 197	719	84.05	610 286	743	84.36
Other produce on hand (opening)	949	1	0.14	449	1	0.06
Total farm assets (opening)	5 642 016	6 872	803.46	5 907 035	7 195	816.55
Total assets (opening)	5 737 115	6 988	817.00	5 981 634	7 286	826.86
Total liabilities (opening)	615 000	749	87.58	692 000	843	95.66
Total equity (farm assets–liabilities)	5 027 016	6 123	715.88	5 215 035	6 352	720.89

Note

1 Sheep stock units are used in the per stock unit calculation for sheep and wool income and sheep purchases. Cattle stock units are used for cattle income and purchases. The remainder of the time total stock units are used.

2 Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

»» TABLE 21.6: GISBORNE HILL COUNTRY SHEEP AND BEEF MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
FARM WORKING EXPENSES						
Permanent wages	32 500	40	4.63	33 000	40	4.56
Casual wages	5 000	6	0.71	4 500	5	0.62
ACC	1 085	1	0.15	893	1	0.12
Total labour expenses	38 585	47	5.49	38 393	47	5.31
Animal health	21 839	27	3.11	22 064	27	3.05
Breeding	0	0	0.00	0	0	0.00
Electricity	3 862	5	0.55	4 051	5	0.56
Feed (hay and silage)	7 670	9	1.09	5 136	6	0.71
Feed (feed crops)	0	0	0.00	0	0	0.00
Feed (grazing)	0	0	0.00	0	0	0.00
Feed (other)	0	0	0.00	0	0	0.00
Fertiliser	41 153	50	5.86	40 802	50	5.64
Lime	600	1	0.09	1 000	1	0.14
Cash crop expenses	0	0	0.00	0	0	0.00
Freight (not elsewhere deducted)	6 039	7	0.86	6 366	8	0.88
Regrassing costs	2 463	3	0.64	2 504	3	0.35
Shearing expense	24 130	29	6.26	24 728	30	6.26
Weed and pest control	5 952	7	0.85	6 166	8	0.85
Fuel	7 791	9	1.11	8 547	10	1.18
Vehicle costs (excluding fuel)	10 172	12	1.45	10 599	13	1.47
Repairs and maintenance	23 800	29	3.39	25 500	31	3.52
Total other working expenses	155 472	189	22.14	157 463	192	21.77
Communication costs (phone & mail)	3 936	5	0.56	4 067	5	0.56
Accountancy	5 000	6	0.71	5 103	6	0.71
Legal and consultancy	2 700	3	0.38	2 366	3	0.33
Other administration	3 164	4	0.45	3 254	4	0.45
Water charges (irrigation)	0	0	0.00	0	0	0.00
Rates	12 000	15	1.71	12 720	15	1.76
Insurance	5 993	7	0.85	6 568	8	0.91
Other expenditure ²	3 621	4	0.52	2 115	3	0.29
Total overhead expenses	36 414	44	5.19	36 193	44	5.00
Total farm working expenses	230 471	281	32.82	232 049	283	32.08
Wages of management	75 000	91	10.68	75 000	91	10.37
Depreciation	15 900	19	2.26	15 148	18	2.09
Total farm operating expenses	321 371	391	45.77	322 196	392	44.54
CALCULATED RATIOS						
Economic farm surplus (EFS ³)	9 022	11	1.28	82 316	100	11.38
Farm working expenses/NCI ⁴	74%			59%		
EFS/total farm assets	0.2%			1.4%		
EFS less interest and lease/equity	-1.1%			0.2%		
Interest + rent + lease/NCI	21.3%			18.3%		
EFS/NCI	2.9%			20.9%		

Notes

1 Shearing expense per stock units based on sheep stock units.

2 Includes Accident Compensation Corporation (ACC) employer levy.

3 EFS (or earnings before 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: \$31 000 allowance for labour input plus 1 percent of opening total farm working assets to a maximum of \$75 000.

4 Net cash income.

HAWKES BAY/WAIRARAPA

HILL COUNTRY SHEEP AND BEEF

22

The Hawkes Bay/Wairarapa hill country sheep and beef model represents 1160 hard hill and hill-country farms from the Hastings district to South Wairarapa. Farms represented by this model generally have a reasonable proportion of easier hill country and higher fertility soils, and mostly carry between 8 and 12 stock units per hectare. These properties generally operate a sheep breeding policy with a proportion of lambs finished, depending on quality of country and season. Cattle policies range from breeding cows to intensive finishing.

»» KEY POINTS

- › Difficult seasonal conditions culminating in a drought in early 2008 depressed pasture growth and livestock production during 2007/08 for a second successive year. While central Hawkes Bay was the “epicentre” of the 2007 drought, the Wairarapa and southern Hawkes Bay were more seriously affected in the 2008 drought.
- › Stock numbers on the model farm fell 10 percent from 2006/07 to 2007/08. Lambing dropped 14 percentage points in 2007/08, and a further 2 percentage points drop is expected for 2008/09.
- › Net cash income in 2007/08 fell about \$85 000 or 23 percent to \$277 000 compared with 2006/07. This decrease was due to lower stock numbers and lower stock performance following the 2007 drought, and the widespread nature of the 2008 drought, which led to unusually low store prices for sheep and cattle.
- › Farm working expenditure increased 3 percent in 2007/08 and a similar increase is expected for 2008/09. Although the quantity of inputs is falling, significant price rises for fertiliser and fuel mean it is difficult for farmers to reduce overall expenditure.
- › Net cash income in 2008/09 is expected to increase 25 percent to \$345 000 compared with 2007/08 due to improved prices. This is despite less stock being available for sale as farmers rebuild flocks and herds.
- › Farm profit before tax is expected to increase to \$47 000 in 2008/09 from a loss of \$35 000 in 2007/08.

»» FINANCIAL PERFORMANCE OF THE HAWKES BAY/WAIRARAPA HILL COUNTRY SHEEP AND BEEF MODEL FARM IN 2007/08

Difficult seasonal conditions depressed pasture growth and livestock production during 2007/08 for a second successive year. Farms started the year with reduced feed covers, stock condition and stock numbers because of the severe late-autumn drought in 2007. Although weather over lambing and calving was favourable, cooler, overcast and windy conditions in October and hot, dry conditions in November and December resulted in below-average spring pasture growth. Summer remained dry, and recovery of hill country pastures was slow even when rain arrived in April, particularly in areas south of central Hawkes Bay.

Table 22.2 shows how each drought affected parts of the region more than others. Central Hawkes Bay was the “epicentre” of the 2007 drought, while the Wairarapa and southern Hawkes Bay were more seriously affected in 2008. As a result, farmers destocked more heavily in Hawkes Bay in autumn 2007 and Wairarapa farmers destocked relatively more in autumn 2008.

Stock numbers on the model farm were down 6 percent at 30 June 2007 compared with 30 June 2006. Although stock numbers were significantly lower (20 to 30 percent) on those properties severely affected by drought, overall many properties were slower to drop stock numbers. The second drought in 2008 resulted in a further reduction of stock numbers in the farm model during 2007/08.

»» TABLE 22.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE HAWKES BAY/WAIRARAPA HILL COUNTRY SHEEP AND BEEF MODEL FARM

	2004/05	2005/06	2006/07 ^R	2007/08	2008/09 BUDGET
YEAR ENDED 30 JUNE					
Effective area (ha)	526	624	624	624	624
Breeding ewes (head)	2 629	3 134	3 255	3 140	2 965
Replacement ewe hoggets (head)	884	1 148	1 202	1 035	905
Other sheep (head)	410	147	345	305	395
Breeding cows (head)	92	114	112	103	95
Rising 1-year cattle (head)	108	125	140	133	129
Other cattle (head)	159	92	87	83	91
Opening sheep stock units (ssu)	3 559	4 080	4 343	4 084	3 881
Opening cattle stock units	1 874	1 606	1 635	1 537	1 516
Opening total stock units (su)	5 433	5 686	5 978	5 621	5 396
Stocking rate (su/ha)	10.3	9.1	9.6	9.0	8.6
Ewe lambing (%)	137	127	123	109	107
Average lamb price (\$/head)	62.69	52.57	48.40	47.26	75.39
Average wool price (\$/kg)	2.68	2.32	2.31	2.26	2.59
Total wool produced (kg)	20 476	23 105	23 530	21 039	19 786
Wool production (kg/ssu)	5.75	5.66	5.42	5.15	5.10
Average rising 2-year steer (\$/head)	0	752	715	730	950
Average cull cow (\$/head)	650	660	627	580	750
Net cash income (\$)	393 472	336 371	361 605	277 136	345 252
Farm working expenses (\$)	249 711	212 405	203 956	210 873	217 214
Farm profit before tax (\$)	105 677	65 210	22 521	-35 122	46 736
Farm surplus for reinvestment ¹ (\$)	6 344	-36 622	-2 046	-64 096	-12 027

Note

¹ Farm surplus for reinvestment represents 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

^R The model parameters were revised in 2007, so caution should be taken when comparing figures in this report with figures in previous monitoring reports and for years before 2005/06.

The outcome of these conditions was a cash operating surplus of \$66 000 in 2007/08, a decrease of \$92 000 (58 percent). This decrease was a result of farmers having less stock on hand as a result of the drought, and the drought's impact on productivity, including the lambing percentage. A significant fall in the price of store sheep and rising costs, particularly for fertiliser, feed and fuel, also contributed to the decrease in the cash operating surplus.

See Tables 22.4 and 22.5 for details of the model's budget and expenditure in 2007/08.

»» TABLE 22.2 CHANGES IN TOTAL STOCK UNIT NUMBERS

REGION	TOTAL SHEEP/CATTLE DECREASE (%)	
	YEAR ENDING JUNE 2007	YEAR ENDING JUNE 2008 BUDGET
Hawkes Bay ¹	-7.6	-2.5
Wairarapa	-4.1	-7.3
Combined Hawkes Bay/Wairarapa	-6.5	-4.1

Note

¹ Hawkes Bay includes Tararua.

Source

Meat & Wool New Zealand survey farms.

» REVENUE DECREASES 23 PERCENT

Net cash income fell about \$85 000 (23 percent) to \$277 000 in 2007/08 compared with 2006/07. The 2007 drought resulted in farmers having less stock on hand and poorer stock performance. The more widespread drought in 2008 led to unusually low store prices for sheep and cattle relative to prime prices. In addition, revenue had been boosted in 2006/07 by the sale of capital stock and stock usually carried through winter for finishing in spring.

The severe 2007 drought finally broke on 10 and 11 June 2007, too late for a recovery in feed levels before winter. This meant hill country farms in the Hawkes Bay/Wairarapa region started the year with very low pasture covers and lower stock numbers compared with the previous year. Many stock were in light condition.

Winter and spring rainfall did not rebuild soil moisture levels, and low feed levels persisted through spring. Although there was some rain in late December, the east coast south of Napier continued to be dry into April. It was the typically summer-safe areas south of Waipukurau in Tararua district and the foothills of the western ranges, that were unusually dry and were hit hardest by the 2008 drought.

SHEEP REVENUE FALLS A THIRD

Sheep revenue (sales less purchases) was down about \$61 000 (30 percent) to \$142 000 in 2007/08 compared with 2007/06. Less stock was sold than in 2006/07 (22 percent fewer head). Although the schedule price for prime lambs improved, prices for store lambs and ewes fell by more than one-quarter.

Low feed covers, low confidence in lamb returns and a consequent lack of buyers led to heavy discounts on early store lambs.

The number of lambs sold decreased 24 percent. Although 64 percent were sold prime (compared with 72 percent in 2006/07), many were killed at lighter weights rather than being sold store, because the store market was so weak. Store lambs flooded the market in late March as concern developed about the potential for a repeat of the previous autumn drought. The prime lamb price was up slightly to a season average of \$57 (from \$55) while the average store lamb prices fell to \$30 (from \$40). The overall average lamb price fell to \$47.26 compared with \$48.40 in 2006/07.

LAMBING DOWN 14 PERCENTAGE POINTS

As a result of the drought, 4 percent fewer in-lamb ewes were on hand in July 2007. The cumulative effects of the drought also saw lambing decline 14 percentage points to 109 percent (lambs to opening ewes). Ewes either held or lost weight during tupping, reducing their lambing potential below that of recent years. There were fewer multiple-lambing ewes in 2007 rather than more dries.

Ewe and lamb losses were high despite the warm, settled weather that prevailed for lambing during August and early September. Although there were no major storms, lamb wastage was high. Some ewes were in such poor condition that they abandoned their lambs at birth. Lamb birth-weights were lower than normal, and feed covers remained tight on the hill country.

With fewer hoggets on hand and 25 percent fewer mated because of the difficulty getting ewe lambs to the required weights for mating, the model shows a 70 percent decrease in the number of hogget lambs born compared with the previous year.

WOOL INCOME DECREASES 13 PERCENT

The 7 percent decline in opening sheep numbers from the previous year and reduced per head production as a result of the drought reduced total wool produced in 2007/08. This was offset to some extent by second shearing deferred from 2006/07, but most farms dropped their winter shearing of ewes and reviewed shearing policies in the face of rising costs. The outcome was an 11 percent (2500 kilogram) reduction in the wool clip to around 21 000 kilograms. With a small decrease in wool prices in 2007/08, wool revenue declined about \$7000 (13 percent) to \$48 000.

CATTLE INCOME FALLS AS WEIGHTS DECLINE DUE TO DROUGHT IMPACT

The number of cattle on hand on the model farm at the start of the 2007/08 year decreased 6 percent compared with 2006/07. Sales income declined 4 percent because the drought resulted in lower cattle weights. Farmers were slower than usual to send cattle to the works, and some cattle that would have usually been finished had to be sold on the depressed store market. As a result, prices for most cattle were flat and the prices for older bulls fell. Purchases

»» TABLE 22.3: HAWKES BAY/WAIRARAPA HILL COUNTRY SHEEP AND BEEF CASH FARM INCOME

YEAR ENDED 30 JUNE	2004/05 (\$)	2005/06 (\$)	2006/07 ^a (\$)	2007/08 (\$)	2008/09 BUDGET (\$)
Sheep sales less purchases	201 791	193 750	203 473	142 072	194 518
Cattle sales less purchases	116 990	85 307	101 302	84 515	95 490
Wool	54 802	54 814	54 330	47 548	51 244
Grazing income (including hay and silage sales)	8 122	0	0	1 000	1 000
Other income	11 768	2 500	2 500	2 000	3 000
Net cash income	393 472	336 371	361 605	277 136	345 252

increased 44 percent as farmers bought more, younger cattle to compensate for a 12 percent reduction in the number of calves born. The net result is that cattle revenue (sales less purchases) dropped \$17 000 (17 percent) to \$85 000.

Calving (calves to opening cows) in spring 2007 was down 4 percentage points to 82 percent compared with 2006/07 due to the lighter condition of cows. Calving in an average season is expected to be around 88 percent.

► FARM COSTS INCREASE SLIGHTLY DESPITE REVENUE FALLING

Total farm working expenses increased 3 percent to \$211 000 in 2007/08 compared with 2006/07. This is still below the level of expenditure in 2005/06, despite the Farm Expenses Price Index rising over 8 percent between 30 June 2006 and 30 June 2008. Farmers held costs where possible to try to avoid increasing their deficit, which would eventually have to be rolled into term debt.

FEED AND FERTILISER COSTS INCREASE

Feed costs rose 10 percent in 2007/08 compared with 2006/07, when costs were also much higher than usual due to the 2007 drought. Farms entered winter 2007 with low feed covers and were forced to buy supplementary feed and send stock away for grazing.

After a mild August and September, cooler, overcast and windy weather in October reduced pasture growth rates and inadequate soil moisture remained a concern. Record low November rainfalls and hot, dry weather in November and early December exacerbated the situation. Less supplementary feed was made due to the absence of the normal spring flush followed by a dry summer. Widespread drought during summer and autumn 2008, that particularly affected dairying regions of the North Island, increased demand and prices for supplementary feed and grazing.

Although farmers reduced fertiliser inputs following the 2007 drought, fertiliser expenditure on the model farm increased about \$3500 (10 percent) to \$40 000. This largely reflected price rises of some 16 percent during the year and increased application costs, but some of this increased expenditure was an attempt to beat further price rises expected for 2008/09. Fertiliser expenditure also fell 18 percent in 2006/07. In 2007/08, farmers applied slightly more nitrogen to boost early spring grass growth following the drought and tended to increase lime applications compared with the previous year.

LABOUR EXPENDITURE DECREASES 5 PERCENT

The reduction in labour expenses of around 5 percent reflects less casual labour being employed and farmers undertaking more work themselves. The reduction in employment was slightly offset by increased wages as a result of increases in entitlements such as holiday pay.

ANIMAL HEALTH EXPENDITURE REFLECTS DECLINE IN STOCK NUMBERS

Animal health and breeding expenditure was held steady despite price increases. This was a result of farmers having less livestock on hand and targeting spending, with more focus on drench usage in light of information about drench resistance. The poor condition of stock led to animal health problems, and drench use increased in drought-affected areas, with more ewes being drenched and more-expensive drench capsules being used than in the previous year.

SHEARING PRACTICES CHANGE TO MANAGE COSTS

Shearing expenditure fell by around \$2000 (7 percent) due to farmers having fewer sheep on hand and changing their shearing policies. Generally, increases in shearing costs were offset by some farms changing from full contract shearing to open-shed agreements. This change resulted in less-frequent shearing, more lambs and hoggets sold woolly, and farmers doing more of their own shearing and crutching.

REPAIRS AND MAINTENANCE EXPENDITURE FELL SLIGHTLY

Repairs and maintenance expenditure fell 4 percent to \$19 000 in 2007/08, representing the lowest level to which this input can be reduced. The level of expenditure is well down on the levels of several years ago. Given cost increases over this time, it implies that the physical amount of repairs and maintenance undertaken is even lower than indicated by the spending reduction. Farmers deferred non-essential work and have used stockpiles of materials from earlier years to try to reduce the cash loss.

FUEL, RATES, AND COMMUNICATION COSTS INCREASE

Fuel expenditure increased about 20 percent to \$8500. The price of fuel rose 19 percent in the last quarter of 2007/08. This increase was on top of steady rises in fuel prices during the year. The fuel price in June 2008 was 40 percent higher than a year earlier. The fuel price rise was also reflected in increased freight costs.

Communications costs increased about 10 percent to \$3000, while other administration expenditure was kept fairly constant.

Rates increased \$900 or 11 percent to \$9100.

➤ NET RESULT A SIGNIFICANT LOSS

The cash operating surplus in 2007/08 of \$66 000 was just 42 percent of the surplus in 2006/07 (\$158 000). The 2006/07 cash position had been boosted by the sale of both capital stock and stock usually carried through winter for finishing in spring.

Discretionary cash was just \$12 000 in 2007/08, down 84 percent from \$77 000 in 2006/07.

Farm profit before tax in 2007/08 was a loss of \$35 000 compared with the comparatively low profit of \$23 000 in 2006/07. This reflects the further fall in stock numbers as a result of the second drought in 2008, the fall in store stock prices, reduced lambing and calving percentages, the difficulty of getting prime animals to good weights, and the seemingly relentless increase in farm costs. Debt servicing was up 5 percent on 2006/07. This was due to increased term debt and higher interest rates. Capital expenditure has been deferred, particularly on farms with higher levels of debt.

This is the third year of very low profits or losses, out of which farmers must meet taxation, their living costs, capital and development expenditure, and repay loan principal. The farm surplus for reinvestment fell to -\$64 000. Even

with modest levels of off-farm income and capital expenditure of just \$12 000 (down 40 percent), new borrowings of \$50 000 were insufficient to fund the cash deficit from farming.

>>> BUDGET FINANCIAL PERFORMANCE OF THE HAWKES BAY/WAIRARAPA HILL COUNTRY SHEEP AND BEEF MODEL FARM IN 2008/09

The model farm's opening stock numbers are down 4 percent compared with the previous year. The second successive drought year has brought the total reduction in stock numbers to 10 percent compared with July 2006. The model farm is expected to start rebuilding stock numbers slowly in 2008/09 to 92 percent of the pre-drought levels. This will reduce the numbers of stock available for sale. Improvements in product prices are anticipated. Expenditure is expected to increase only 3 percent as farmers closely scrutinise all costs. The expected cash operating surplus increases 93 percent, compared with 2007/08, to \$128 000.

Feed covers and stock condition deteriorated during autumn 2008, with the situation being progressively worse further south. Ewes lost weight over tugging and cows went into winter in light condition.

Long waiting periods to kill cattle and sheep, and a reluctance to sell stock at low prices forced many farmers to hold on to stock for longer than desirable. The extra stock carried through summer and into autumn did not allow cattle feed and roughage to build up, and a shortage of cattle feed persisted into winter 2008 on most properties.

Wet, mild conditions in late April provided excellent grass growing conditions in northern areas, but recovery from the drought was slow on hill country in the south. May was colder than normal and relatively wet. Soil temperatures fell below average. Demand for feed decreased due to favourable weather in June and less stock. This enabled the feed situation to improve in some areas, although pasture covers remained lower than normal.

See Tables 22.4 and 22.5 for details of the model's budget and expenditure in 2008/09. This budget was compiled in August 2008 and is based on farmer and industry expectations at that time.

> REVENUE EXPECTED TO RISE 25 PERCENT AS PRODUCT PRICES IMPROVE

Net cash income is expected to increase 25 percent compared with 2007/08, to \$345 000. This result is expected to be achieved despite reductions of 15 percent in sheep numbers sold and 7 percent in cattle numbers sold, compared with 2007/08, as the model farm rebuilds stock levels.

SHEEP REVENUE EXPECTED TO INCREASE 37 PERCENT

Sheep revenue (sales less purchases) is expected to increase about \$53 000 or 37 percent to \$195 000. For the second year running there will be less livestock to sell: 35 percent fewer head than in 2006/07. Prices are expected to lift as a result of a widespread shortage of stock and a depreciating exchange rate.

LAMB PRICES EXPECTED TO INCREASE DRAMATICALLY BUT FEWER LAMBS FOR SALE

The model farm's budget shows that 12 percent fewer lambs (just under 2000) will be sold in 2008/09 compared with 2007/08 (2300) while 3000 lambs were sold 2006/07.

More lambs are expected to be sold prime in 2008/09 (up 3 percentage points to 67 percent from the previous year) and the prime lamb price is expected to be up 44 percent to a season average of \$82 (from \$57). Lamb weights are expected to improve as a result of more lambs being born as singles, ewes in better condition leading to better weaning weights, less stock on farms, and some farms planting fodder crops to enable them to finish lambs usually sold store for disappointing prices. Some farms with lower ewe numbers will also move to earlier lambing systems with terminal sires to benefit from the traditionally higher early season lamb prices.

The average store lamb price is expected to more than double to \$62 (from \$30 in the previous year), although there is some uncertainty about the store market, given the potential interplay of a national shortage of lambs for finishing and for rebuilding flocks, a similar shortage of cattle, and some traditional finishing farms moving into cropping or dairy support.

The second drought in 2008 is expected to reduce lambing a further 2 percentage points to 107 percent (lambs to opening ewes). Six percent fewer in-lamb ewes were on hand in July 2008. Ewe scanning results were even lower than in 2007, particularly for two-tooth ewes whose growth had been compromised by two difficult years. However, lamb losses are expected to be down as ewes went into winter in better condition and winter feed covers were better in July 2008 than in the previous year.

WOOL INCOME EXPECTED TO RISE 8 PERCENT DUE TO IMPROVED PRICES

A 15 percent anticipated increase in the average wool price is expected to outweigh the 6 percent decrease in wool production expected for the model farm in 2008/09. Wool revenue is expected to increase about \$4000 (8 percent) to \$51 000.

With 5 percent fewer sheep at 1 July 2008 than at 1 July 2007 and wool production per head again compromised by drought, total wool produced in 2008/09 is expected to be 20 000 kilograms compared with 21 000 kilograms in 2007/08. As a result of the culling of older ewes and lower stocking rates, wool weights per head should increase slightly in 2008/09 but changing shearing policies may mask this improvement.

CATTLE INCOME EXPECTED TO RISE AS PRICES IMPROVE

Cattle revenue (sales less purchases) is expected to increase \$11 000 or 13 percent, to \$95 000. The number of cattle on hand at 1 July 2008 is 1 percent lower than a year earlier. This somewhat masks the different subregional impacts of the 2008 drought, which saw cattle numbers fall 17 percent in the Wairarapa and increase 5 percent in Hawkes Bay.

Sales income is expected to increase 24 percent to \$155 000 due to improved schedule prices and the expectation that cattle will be taken to heavier weights and more cattle will be finished.

Purchases are expected to increase 49 percent to \$59 000 as the model farm's herd is rebuilt (cattle numbers are expected to increase around 3 percent) and higher prices are expected to be paid, reflecting the expected shortage of stock.

Calving is expected to improve 3 percentage points to 85 percent (calves to opening cows). As feed covers declined during autumn many farmers culled breeding cow herds aggressively, and the high percentage of dry cows made the destocking decision somewhat easier for many farmers.

➤ FARM COSTS EXPECTED TO INCREASE 3 PERCENT

Total farm working expenses are expected to increase 3 percent compared with the previous year to \$217 000. This will be achieved only by farmers reducing the quantity of key inputs such as fertiliser.

FERTILISER EXPENDITURE EXPECTED TO BE HELD CONSTANT

Fertiliser prices have more than doubled since spring 2007 and further price rises are expected for 2008/09. In an effort to hold costs while maintaining production, the model farm is halving the amount of fertiliser applied. Fertiliser is likely to be applied more strategically where it will give the best response. Many farms are likely to forgo fertiliser totally for the coming year given its cost, lower stock numbers, and the ability to 'mine' existing reasonable soil nutrient levels for a short period. The lower fertiliser input is one factor limiting the rebuilding of stock numbers, the other major factor is the cost of financing stock purchases.

In part as a substitute for reduced fertiliser application, many farms are expected to increase their use of lime. The model farm budget includes an almost 70 percent increase in expenditure on lime to \$11 000.

FUEL PRICES EXPECTED TO SPARK INCREASE IN VARIOUS EXPENSE ITEMS

Higher average fuel prices in 2008/09 are expected to result in an 18 percent increase in the model farm's fuel bill to \$10 000. The cost will also flow through to increased expenditure on freight (up 17 percent to \$7000), regrassing (up 10 percent to \$7000) and supplementary feed. However, the recent variability in fuel prices makes it difficult to anticipate what the actual fuel expenditure will be in 2008/09. Less hay and baleage are expected to be bought given a more 'normal' year, but more may be conserved on farm than in the two previous years if the season allows.

LABOUR AND SHEARING EXPENDITURE EXPECTED TO FALL AND MOST OTHER COSTS TO BE HELD

Labour expenditure is expected to be down 4 percent and shearing costs are expected to be down a further 6 percent due to reduced sheep numbers and changing shearing practices. Replacing sheep with cattle will reduce the demand for labour and contribute to a reduction in animal health and breeding costs. Farmers report they will closely scrutinise the products and quantities they order to minimise waste.

Modest increases of around 4 percent are expected for weed and pest control, vehicle costs, repairs and maintenance, and overhead expenses.

➤ NET RESULT EXPECTED TO IMPROVE BUT CASH DEFICIT WILL REMAIN

The cash operating surplus in 2008/09 is expected to improve \$62 000 (93 percent) to \$128 000. This is a welcome improvement and results from expected increases in product prices. However, despite no tax being paid, it is still insufficient to cover debt servicing, living costs, capital and development expenditure, and principal repayments.

Discretionary cash is expected to increase more than five times to \$66 000 in 2008/09 from just \$12 000 in 2007/08.

Farm profit before tax in 2008/09 is expected to increase to \$47 000 from a loss of \$35 000 in 2007/08. This includes a write-up of \$10 000 relating to the increased value of stock on hand at the end of the year.

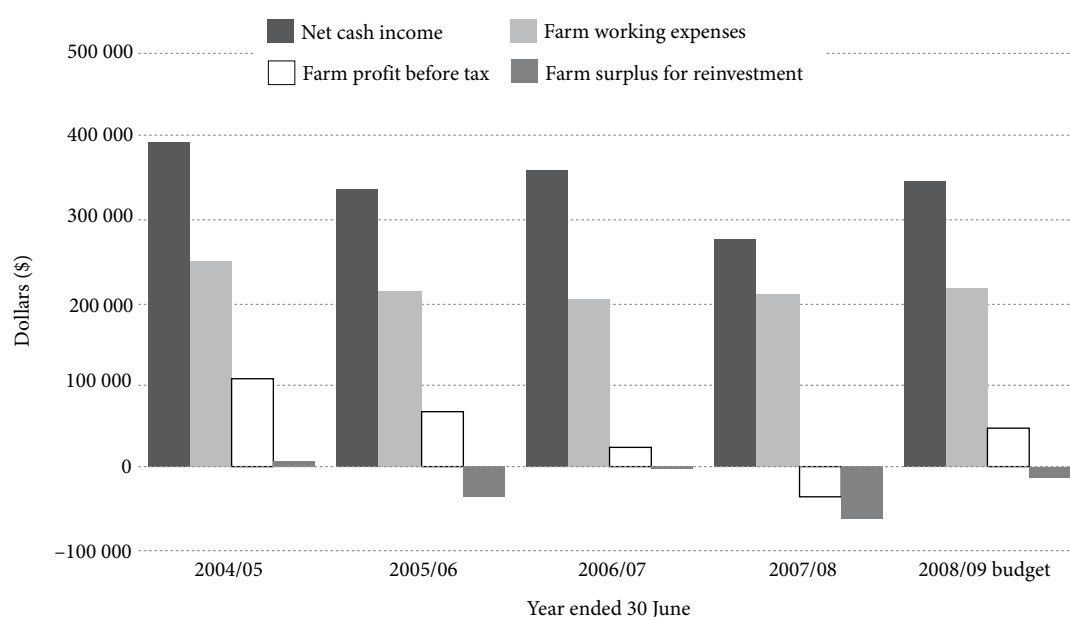
Debt servicing is expected to increase 7 percent in 2008/09, again due to increased term debt and higher interest rates. Loans are now rolling over with rates slightly above 9 percent, however like all expenditure items the actual cost will be determined by interest rates available at the time of renewal.

Non-essential capital expenditure is again expected to be deferred.

The farm surplus for reinvestment is expected to increase from a loss of \$64 000 in 2007/08 to a loss of \$12 000 in 2008/09. The impact of two droughts has reduced current stock levels and performance such that despite improved product prices and inputs being held to below maintenance levels, the model farm's income is insufficient to support a family. This is the case even though debt on the model farm is equivalent to just 15 percent of total farm assets. Many farms are more indebted and interest costs of between \$15 and \$20 per stock unit are not unusual.

Land prices for this type of farm are expected to remain static.

FIGURE 22.1: HAWKES BAY/WAIRARAPA HILL COUNTRY SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS



Source
MAF Monitoring Reports; 2005 to 2008.

»» TABLE 22.4: HAWKES BAY/WAIRARAPA HILL COUNTRY SHEEP AND BEEF MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
REVENUE						
Sheep	152 044	244	37.23	208 726	334	53.79
Wool	47 548	76	11.64	51 244	82	13.21
Cattle	124 410	199	80.92	154 750	248	102.11
Grazing income (including hay and silage sales)	1 000	2	0.18	1 000	2	0.19
Other farm income	2 000	3	0.36	3 000	5	0.56
LESS						
Sheep purchases	9 972	16	2.44	14 208	23	3.66
Cattle purchases	39 895	64	25.95	59 260	95	39.10
Net cash income	277 136	444	49.30	345 252	553	63.98
Farm working expenses	210 873	338	37.52	217 214	348	40.25
Cash operating surplus	66 262	106	11.79	128 038	205	23.73
Interest	62 007	99	11.03	66 366	106	12.30
Rent and/or leases	6 700	11	1.19	6 700	11	1.24
Stock value adjustment	-13 177	-21	-2.34	10 118	16	1.88
Minus depreciation	19 500	31	3.47	18 355	29	3.40
Farm profit before tax	-35 122	-56	-6.25	46 736	75	8.66
Taxation	-4 349	-7	-0.77	0	0	0.00
Farm profit after tax	-30 773	-49	-5.47	46 736	75	8.66
ALLOCATION OF FUNDS						
Add back depreciation	19 500	31	3.47	18 355	29	3.40
Reverse stock value adjustment	13 177	21	2.34	-10 118	-16	-1.88
Income equalisation	0	0	0.00	0	0	0.00
Off-farm income	10 500	17	1.87	10 800	17	2.00
Discretionary cash	12 404	20	2.21	65 773	105	12.19
Farm surplus for reinvestment ²	-64 096	-103	-11.40	-12 027	-19	-2.23
APPLIED TO						
Net capital purchases	12 000	19	2.13	12 000	19	2.22
Development	200	0	0.04	1 800	3	0.33
Principal repayments	0	0	0.00	0	0	0.00
Drawings	66 000	106	11.74	67 000	107	12.42
New borrowings	50 000	80	8.90	0	0	0.00
Introduced funds	0	0	0.00	0	0	0.00
Cash surplus/deficit	-15 796	-25	-2.81	-15 027	-24	-2.78
ASSETS AND LIABILITIES						
Farm, forest and building (opening)	4 180 000	6 699	743.66	4 180 000	6 699	774.65
Plant and machinery (opening)	70 000	112	12.45	60 700	97	11.25
Stock valuation (opening)	412 980	662	73.47	399 803	641	74.09
Other produce on hand (opening)	1 831	3	0.33	803	1	0.15
Total farm assets (opening)	4 664 811	7 476	829.91	4 641 306	7 438	860.14
Total assets (opening)	4 844 311	7 763	861.84	4 791 506	7 679	887.97
Total liabilities (opening)	650 500	1 042	115.73	700 500	1 123	129.82
Total equity (farm assets – liabilities)	4 014 311	6 433	714.18	3 940 806	6 315	730.32

Note

1 Sheep stock units are used in the per stock unit calculation for sheep and wool income and sheep purchases. Cattle stock units are used for cattle income and purchases. The remainder of the time total stock units are used.

2 Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

»» TABLE 22.5: HAWKES BAY/WAIRARAPA HILL COUNTRY SHEEP AND BEEF MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
FARM WORKING EXPENSES						
Permanent wages	29 000	46	5.16	27 789	45	5.15
Casual wages	0	0	0.00	0	0	0.00
ACC	821	1	0.15	690	1	0.13
Total labour expenses	29 821	48	5.31	28 480	46	5.28
Animal health	14 614	23	2.60	14 569	23	2.70
Breeding	3 255	5	0.58	3 070	5	0.57
Electricity	2 800	4	0.50	3 000	5	0.56
Feed (hay and silage)	8 993	14	1.60	8 094	13	1.50
Feed (feed crops)	0	0	0.00	0	0	0.00
Feed (grazing)	0	0	0.00	0	0	0.00
Feed (other)	0	0	0.00	0	0	0.00
Fertiliser	40 000	64	7.12	40 000	64	7.41
Lime	6 525	10	1.16	11 000	18	2.04
Cash crop expenses	0	0	0.00	0	0	0.00
Freight (not elsewhere deducted)	6 000	10	1.07	7 000	11	1.30
Regrassing costs	6 115	10	1.50	6 739	11	1.25
Shearing expense	25 930	42	6.35	24 447	39	6.30
Weed and pest control	4 243	7	0.75	4 400	7	0.82
Fuel	8 500	14	1.51	10 000	16	1.85
Vehicle costs (excluding fuel)	7 500	12	1.33	7 800	13	1.45
Repairs and maintenance	19 000	30	3.38	20 000	32	3.71
Total other working expenses	153 476	246	27.30	160 120	257	29.67
Communication costs (phone & mail)	3 000	5	0.53	3 200	5	0.59
Accountancy	3 500	6	0.62	3 700	6	0.69
Legal and consultancy	2 700	4	0.48	2 800	4	0.52
Other administration	2 000	3	0.36	2 200	4	0.41
Water charges (irrigation)	0	0	0.00	0	0	0.00
Rates	9 100	15	1.62	9 600	15	1.78
Insurance	5 000	8	0.89	5 000	8	0.93
Other expenditure ²	2 276	4	0.40	2 115	3	0.39
Total overhead expenses	27 576	44	4.91	28 615	46	5.30
Total farm working expenses	210 873	338	37.52	217 214	348	40.25
Wages of management	75 000	120	13.34	75 000	120	13.90
Depreciation	19 500	31	3.47	18 355	29	3.40
Total farm operating expenses	305 373	489	54.33	310 569	498	57.56
CALCULATED RATIOS						
Economic farm surplus (EFS ³)	-41 415	-66	-7.37	44 801	72	8.30
Farm working expenses/NCI ⁴	76%			63%		
EFS/total farm assets	-0.9%			1.0%		
EFS less interest and lease/equity	-2.7%			-0.7%		
Interest + rent + lease/NCI	24.8%			21.2%		
EFS/NCI	-14.9%			13.0%		

Notes

1 Shearing expense per stock units based on sheep stock units.

2 Includes Accident Compensation Corporation (ACC) employer levy.

3 EFS (or earnings before 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: \$31 000 allowance for labour input plus 1 percent of opening total farm working assets to a maximum of \$75 000.

4 Net cash income.

EASTERN LOWER NORTH ISLAND

INTENSIVE SHEEP AND BEEF

23

The eastern lower North Island model farm represents 840 intensive finishing farms from Hastings district south on the east coast. The farms in the model have an average effective area of 347 hectares and run 11 to 12 stock units per effective hectare. Sheep account for 60 percent of the total stock units.

»» KEY POINTS

- › Farm profit before tax for the model farm in 2007/08 was just \$8000, down \$35 000, compared with 2006/07. It is expected to increase to \$49 000 in 2008/09.
- › Net cash income in 2006/07 was inflated by drought-related destocking; while income in 2007/08 was down due to reduced opening stock numbers, lower post-drought stock performance and poorer prices.
- › Sheep and beef stock units increased 8 percent in the year to 30 June 2008, following an 18 percent decline in 2006/07. The increase was mostly in hoggets and cattle. Farms in the northern part of the region increased stock numbers during 2007/08, while those in the south, more affected by a second drought, tended to reduce stock numbers.
- › The cash operating surplus for 2008/09 is expected to more than double to \$113 000 due to higher opening stock numbers and improved prices for stock. However, lower breeding ewe numbers and reduced lambing performance means the model farm has 300 fewer prime lambs for sale in 2008/09 compared with a typical pre-drought year.
- › The fertiliser tonnage applied fell by more than a third in 2007/08 from the previous year and a further 25 percent reduction is expected in 2008/09. Rapidly rising prices mean fertiliser expenditure is expected to increase 34 percent in 2008/09.
- › Farm expenditure fell 6 percent in 2007/08 but is expected to increase 10 percent in 2008/09 due to increases in input prices and some deferred maintenance expenditure as improved revenue allows.

»» FINANCIAL PERFORMANCE OF THE EASTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL FARM IN 2007/08

The cash operating surplus for the eastern lower North Island intensive sheep and beef model farm was \$53 000 in 2007/08. This was \$136 000, or 72 percent, lower than in 2006/07. The 2006/07 cash position was boosted by the sale of capital stock and trading stock normally carried through winter being quit early because of drought.

The autumn and early winter of 2007 brought a late drought to Hastings, central Hawkes Bay and pockets of the Wairarapa, which extended into June. From December, areas west and north of Napier had a normal season, while south of Napier the drought continued until May 2008. Those areas usually wet in summer in Tararua and Wairarapa were particularly affected.

Changes to stock numbers in the region varied depending on the seasonal conditions. Early winter 2007 saw a significant drought-related fall in stock numbers in the northern half of the region but limited changes further south. The 2007/08 year brought a reversal of this with the main reductions in stock in 2007/08 occurring from Tararua south, while central Hawkes Bay and Hastings started to rebuild from depleted levels. Approximately half the surveyed farms increased stock numbers while the remaining surveyed farms reduced stock numbers. Overall, average sheep and beef stock units increased 8 percent in the 2007/08 year, following an 18 percent decline in

»» TABLE 23.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR EASTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL FARM

	2005/06	2006/07	2007/08	2008/09 BUDGET
YEAR ENDED 30 JUNE				
Effective area (ha)	347	347	347	347
Breeding ewes (head)	1 660	1 730	1 615	1 562
Replacement ewe hoggets (head)	570	510	420	420
Other sheep (head)	475	515	259	379
Breeding cows (head)	33	38	0	0
Rising 1-year cattle (head)	130	162	115	150
Other cattle (head)	115	134	142	158
Opening sheep stock units	2 394	2 450	2 094	2 125
Opening cattle stock units	1 354	1 620	1 254	1 497
Opening total stock units (su)	3 748	4 070	3 348	3 622
Stocking rate (stock unit/ha)	10.8	11.7	9.6	10.4
Ewe lambing (%)	131	130	116	114
Average lamb price (\$/head)	59.43	55.53	60.08	83.78
Average wool price (\$/kg)	2.3	2.29	2.20	2.54
Total wool produced (kg)	13 173	12 122	9 253	10 605
Wool production (kg/ssu)	5.50	4.95	4.42	4.99
Average rising 2-year steer (\$/head)	752	725	710	950
Average 2-year and older bull (\$/head)	980	972	870	1 200
Net cash income (\$)	257 096	357 009	211 641	286 420
Farm working expenses (\$)	166 177	167 814	158 435	173 501
Farm profit before tax (\$)	62 827	42 914	7 709	48 902
Farm surplus for reinvestment (\$)¹	-44 568	56 422	-79 502	-15 824

Notes

¹ Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

2006/07. The number of breeding ewes declined 4 percent in 2007/08. This decline was driven by some negative sentiments towards sheep profitability, the number of hoggets increased 21 percent with improved prospects for winter finishing, and the total number of cattle increased 20 percent.

See Tables 23.3 and 23.4 for details of the model's budget and expenditure in 2007/08.

» FARM INCOME DECREASES 41 PERCENT

Net cash income was down about \$145 000 (41 percent) to \$212 000 compared with 2006/07. The 2006/07 figure was inflated by drought-related destocking while the 2007/08 figure was down due to reduced opening stock numbers

and lower stock performance following the drought. There were additional stock purchases or retentions, as stock numbers were rebuilt during the year to around 89 percent of pre-drought figures with slightly more cattle.

Stock numbers on the model farm started 2007/08 18 percent lower than in 2006/07. Cattle numbers were down 23 percent, and sheep numbers were down 15 percent. However, stock numbers were down more significantly (30 to 50 percent) on properties severely affected by drought, particularly those which are run very intensively.

LAMBING DECREASES 14 PERCENT

Stock condition varied with the differing severity of seasonal conditions and management responses. Drought-affected stock deteriorated into light condition during winter 2007. An extended period of stress led to some high ewe losses in winter 2007 and higher wastage of new-born lambs.

The lambing percentage on the model farm declined 14 percentage points to 116 percent, which is 10 percentage points below the five-year average. The number of lambs sold decreased sharply as a result, down 18 percent. With fewer hoggets on hand and fewer mated, the model shows a reduction of 35 percent in the number of hogget lambs born.

SHEEP REVENUE DECREASES NEARLY 30 PERCENT

In 2007/08, sheep revenue (sales less purchases) was down about \$43 000 or 29 percent to \$106 000 with the lower production that followed the 2007 drought. Opening sheep numbers were 15 percent lower than a year earlier. Gross income from sheep sales was down 23 percent as less stock were sold (24 percent fewer head); while purchases were up 9 percent as restocking occurred.

Lamb sales were down 15 percent. However, 90 percent of lambs (up from 80 percent) were sold prime. Prime lamb prices recovered to a season average of \$63 (up from \$59.50). Store lamb (and ewe) prices fell dramatically as a result of oversupply due to the widespread drought in the North Island in autumn 2008. This enabled farms in areas favoured by reasonable rain and feed levels to achieve good margins for finishing lambs. Some purchased more lambs than usual for finishing. In the model, trading lambs were purchased at \$35, down from \$42 in 2006/07. Fifty percent more trading lambs were purchased than in the previous year.

Prime hogget sales numbers were down 48 percent in 2007/08 due to lambs being sold in autumn 2007 that would usually have been carried through winter to heavier weights. Prices also fell to an average \$63 in 2007/08 from \$76 in 2006/07.

WOOL INCOME DECLINES MORE THAN ONE-QUARTER

The 15 percent decline in opening sheep stock units and lower wool weights because of the drought reduced the amount of wool produced in 2007/08. The two droughts and rising shearing costs also led to changes in the frequency of shearing and to more lambs and hoggets being sold woolly. The wool clip fell 24 percent to 9000 kilograms. Prices rose steadily from a low opening, but the season average on the model farm was 4 percent lower than the previous year and wool revenue declined 27 percent.

CATTLE REVENUE DOWN \$100 000 AS HERDS REBUILT

The number of cattle stock units on hand at 1 July 2007 decreased 23 percent compared with a year earlier. Cattle stock units increased 19 percent in 2007/08 as farmers rebuilt herds, and cattle revenue (sales less purchases) declined 62 percent to \$62 000. Cattle revenue in 2006/07 was boosted by around \$90 000 due to the early sales of trading and some capital stock when the 2007 drought forced farmers to reduce cattle numbers.

The number of cattle sold declined in 2007/08 but the number purchased increased as farms restocked when Hastings and central Hawkes Bay started to recover from the drought. Prime cattle prices were slightly below the previous year's prices. A smaller proportion of cattle was sold store than in the 2007 drought year, with little change in average sale price. Store prices became severely depressed by lack of demand due to widespread feed shortages from summer 2008 onwards. This provided favourable restocking prices for those with sufficient feed.

OTHER INCOME INCREASES

An increased area of cash crop lifted revenue. The crop area on the model farm increased from 4.5 hectares in 2006/07 to 6.0 hectares in 2007/08. This model does not include the specialist cropping farms in the region that earn less than 60 percent of their net cash income from sheep and beef sources. Short-term grazing was mainly confined to increased dairy cow wintering. Long-term dairy heifer grazing did not increase significantly within the group of 38 survey farms.

»» TABLE 23.2: EASTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF CASH FARM INCOME

	2005/06	2006/07	2007/08	2008/09 BUDGET
	(\$)	(\$)	(\$)	(\$)
YEAR ENDED 30 JUNE				
Sheep sales less purchases	138 308	149 057	105 574	135 610
Cattle sales less purchases	70 621	162 793	61 510	93 275
Wool	30 006	27 759	20 357	26 935
Grazing income (including hay and silage sales)	3 972	2 000	3 000	4 100
Other income	18 162	15 400	21 200	26 500
Net cash income	257 096	357 009	211 641	286 420

» EXPENDITURE DECREASES 6 PERCENT

Total farm working expenses declined around \$9000 (6 percent) in 2007/08, to around \$158 000. Significant increases in farm input prices and lower cash revenue brought a tight rein on expenditure and reductions in discretionary items.

FERTILISER EXPENDITURE REDUCED AS TONNAGE FALLS BY ONE-THIRD

Fertiliser expenditure on the model farm fell 17 percent compared with 2006/07, but with reduced stock numbers expenditure still equated to around \$6 per stock unit. The total amount of fertiliser applied fell by a little more than a

third and to below maintenance levels for superphosphate. Fertiliser price rises during the year took the ex-works price to more than 30 percent higher than the previous year.

The amount of nitrogen applied in early spring 2007 and autumn 2008 increased slightly to boost grass growth following drought-induced feed deficits in both years. The amount of lime applied increased around 15 percent.

FEED COSTS REMAIN HIGH BUT DECREASE 26 PERCENT

Feed costs were up around one-third on an “average” year, but down \$4000 (26 percent) compared with expenditure in 2006/07. On a per stock unit basis, expenditure in 2007/08 was \$3.60 compared with \$4.00 in 2006/07. While there were some drought-related feed purchases in winter 2007, supplementary feed and grazing were mainly unaffordable later in the 2007/08 season when prices were inflated by demand from the dairy industry, which suffered particularly from the drought conditions. The absence of the usual spring flush and the very dry conditions in November to early December 2007, and again from early 2008, meant little surplus grass was available for conservation.

REPAIRS AND MAINTENANCE WORK IS DEFERRED AGAIN

Repairs and maintenance expenditure was cut a further 13 percent in 2007/08 to about 60 percent of that in 2005/06. Farmers are exercising tight restraint and deferring any work that is not essential.

Weed and pest control expenditure was down 20 percent compared with 2006/07, when expenditure fell by a similar dollar amount compared with the previous year. Regrassing and cash crop expenses increased, reflecting the increased area under cash crops.

FUEL EXPENDITURE INCREASES BUT MOST OTHER COSTS HOLD

Steadily rising fuel prices during the year resulted in expenditure increasing 21 percent to \$8000. Animal health and breeding expenses were down 11 percent, reflecting the reduced stock numbers and more targeted spending; similarly, shearing expenditure was down 14 percent. There is a trend to reduce shearing frequency due to the relatively high cost of shearing compared with the return from wool and to move away from full-contract shearing. Administration costs increased marginally but rates increased \$1200 (13 percent), reflecting increasing rateable land values and the rising cost of local government.

➤ NET RESULT DETERIORATES SHARPLY

Farm profit before tax for the model farm in 2007/08 was just \$8000, down around \$35 000 (82 percent) compared with 2006/07. This reflects the much lower cash revenue, the partial rebuilding of stock numbers, lower post-drought production, poorer prices and limited opportunities for reducing expenditure.

This is the third year of very low profits out of which farmers must pay tax and meet their living costs, capital and development expenditure, and principal repayments. Even with modest levels of off-farm income, significant new borrowings of \$50 000 were insufficient to balance the cash situation.

Debt servicing is up \$8500 (20 percent) compared with 2006/07. This is due to increased term debt, higher overdrafts and higher interest rates as many farms refinance fixed-term mortgages. Capital expenditure is expected to be deferred and the provision of \$11 000 in the model includes some hire purchase repayments. Drawings of \$70 000 are down 3 percent on 2006/07, reflecting farmers' desire to limit debt despite the rising cost of living.

>>> BUDGET FINANCIAL PERFORMANCE OF THE EASTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL FARM IN 2008/09

The cash operating surplus is expected to more than double to \$113 000 in 2008/09 compared with \$53 000 in 2007/08. This is largely the result of improved product prices.

See Tables 23.3 and 23.4 for details of the model's budget and expenditure in 2008/09. This budget was compiled in August 2008 and is based on farmer and industry expectations at that time.

> REVENUE EXPECTED TO IMPROVE BY ONE-THIRD

Net cash income is expected to increase about \$75 000 (35 percent) compared with 2007/08, to \$286 000. This is due to higher opening stock numbers (up 8 percent on 1 July 2007) and improved prices for prime lambs and cattle. Stock numbers are expected to increase during the year to around 92 percent of pre-drought figures, again with slightly more (older) cattle.

After rain in April, pasture recovery was much earlier than in last year's drought area. Winter pastures have been short but adequate, helped by good utilisation, reduced stock demands on mild days, and lower stock numbers. Most livestock showed reasonable recovery by late autumn, and in July 2008 were in better condition than a year earlier, although the lack of suitable cattle feed left some lightweight breeding cows.

SHEEP REVENUE EXPECTED TO RISE NEARLY 30 PERCENT

In 2008/09, sheep revenue (sales less purchases), is expected to increase \$30 000 or 28 percent to \$136 000.

Anticipated increases in sheep income come from higher prices and more winter finishing of hoggets. Opening sheep numbers on the model farm were up just 2 percent on July 2007. Breeding ewes were 3 percent down, but this was more than balanced by the increase in hogget numbers, after a significant decline in 2006/07.

Gross income from sheep sales is expected to rise \$50 000 or 37 percent even though 3 percent fewer head are expected to be sold. Sheep purchases are expected to rise \$20 000 or 64 percent. A shortage of store stock, and increased demand due to competition from farms rebuilding flocks following the widespread drought, means prices are expected to be higher in 2008/09 than in the previous year. Store lamb prices are expected to be up 90 percent and five-year ewes up 100 percent from their low levels in 2007/08. The shortage of store lambs means fewer are purchased for finishing in the model farm budget.

Lamb sales are expected to be down 14 percent with 90 percent of lambs being sold prime. This means the model farm is selling 300 fewer prime lambs than in a typical pre-drought year (reducing the 'bottom line' by over \$20 000).

Higher prime schedules and heavier weights for lambs, hoggets and ewes means the average prime lamb price on the model farm is expected to be \$86 (up from \$63), with prime ewes fetching \$44 (up from \$30).

Prime hogget sales numbers are expected to be up 46 percent, closer to normal trading numbers. The average price is expected to increase to \$90 in 2008/09, from just \$63 in 2007/08.

LAMBING DOWN TO 114 PERCENT

Three percent fewer ewes were put to the ram in 2008 on the model farm. With dry conditions and little feed around to flush them, ewes again lost weight during tupping, reducing their lambing potential. Scanning percentages were down around 10 percent on 2007/08. The result seems to be fewer multiple-lambing ewes, rather than more dries. Two-tooth ewe performance is down more markedly.

Another challenge was the very high levels of facial eczema in autumn 2008 in areas from central Hawkes Bay north, anecdotally the worst year since 1987. Hogget mating has been further reduced and the number of hogget lambs is expected to fall around 11 percent.

Despite this, ewe condition and feed levels were better in July 2008 than a year earlier, so lamb survival is expected to be better than in 2007/08, when ewe and lamb losses at lambing were high. The lambing percentage on the model farm is expected to decline another 2 percentage points to 114 percent.

WOOL REVENUE RESTORED

Despite the slight decline in opening ewe numbers, wool revenue is expected to increase due to a partial recovery in wool production and an expected 15 percent increase in price. Wool production is expected to increase to 10 600 kilograms and wool revenue will improve 32 percent to \$27 000.

CATTLE REVENUE UP 50 PERCENT

Nineteen percent more cattle stock units are on hand on the model farm at 1 July 2008 compared with a year earlier, after restocking in the latter part of the 2007/08 season. Cattle revenue (sales less purchases) is expected to increase 50 percent to \$93 000 in 2008/09 due to price improvements and a slower rate of restocking. Cattle stock units are expected to increase 7 percent on the model farm during 2008/09. With less capacity to restock, a higher proportion of younger cattle is expected to be bought.

Prime cattle prices are expected to increase 25 to 35 percent, largely as a result of schedule increases. However, store prices are expected to increase more significantly (35 to 60 percent) above the depressed prices of 2007/08, especially for younger cattle; a shortage of younger cattle is expected as the North Island recovers from the drought.

OTHER INCOME CONTINUES INCREASING TREND

Some increase in long-term dairy heifer grazing is expected, especially if beef cattle are high priced. Short-term dairy cow grazing in winter continues as well as a return to normal levels of other grazing. Sales of hay and baleage are

expected to increase because of farms' improved ability to conserve grass and high demand to rebuild drought-depleted supplies. A greater area of the model farm is dedicated to grain and dairy support fodder. The crop area on the model farm is expected to increase from 6.0 hectares in 2007/08 to 7.5 hectares in 2008/09. The increased area along with the expected higher prices lifts cash crop revenue by a third, with grazing and silage revenue increasing 37 percent.

► MODERATE INCREASE EXPECTED IN FARM WORKING EXPENSES

Total farm working expenses are expected to increase nearly 10 percent or \$15 000 in 2008/09, to around \$174 000. Further significant input price increases are expected. Higher cash revenue provides some opportunity for increasing discretionary expenditure from its current low base, especially later in the year when the revenue situation becomes clearer.

Labour costs are expected to fall slightly (down 4 percent) for a second year, reflecting the engagement of less casual labour due to lower stock numbers and a greater proportion of cattle. Overhead costs increase by 4 percent with the decrease in the ACC employer levy (due to the previous year's low taxable income) being offset by across-the-board increases in rates, insurance, communication and professional services costs.

FERTILISER EXPENDITURE INCREASES AS PRICES JUMP

The further large increases in the price of fertiliser expected for the year are expected to lead to farmers' seriously reassessing their fertiliser usage. Farmers are likely to more closely target the application of fertiliser and may suspend fertiliser application where the soil "fertility bank" is high. This will further reduce the volume of fertiliser applied. Even so, expenditure is still likely to increase significantly. Relatively highly stocked farms such as those represented by this model farm tend to rely on regular fertiliser inputs. Fertiliser expenditure on the model farm is expected to increase 34 percent despite the tonnage applied dropping by one quarter. The fertiliser applied will be only half what would normally be expected to be applied, and this follows below-maintenance expenditure in 2007/08.

Some farmers plan to apply extra lime as a substitute for fertiliser. On the model farm, the budgeted expenditure on lime increases by one-third in 2008/09.

ANIMAL HEALTH EXPENDITURE INCREASES

Animal health spending is expected to increase 14 percent, but breeding costs are expected to fall, reflecting low stock numbers and, therefore, less scanning and fewer vaccinations. Most of the increase in stock numbers is in cattle, which have lower animal-health requirements than sheep.

FEED AND GRAZING EXPENDITURE DECREASES

The expected expenditure on feed falls 10 percent, reflecting a more normal season. The costs are mostly associated with current year calf rearing and the likely availability of surplus grass for rebuilding reserves and sale.

DISCRETIONARY EXPENDITURE INCREASES

Constraints are expected to ease somewhat later in season, which means repairs and maintenance expenditure is expected to increase 15 percent from its low level in 2007/08, partly reflecting higher costs for materials. Other discretionary items such as weed and pest control are also expected to increase (up 13 percent). Fuel prices are also expected to increase, up 20 percent, although the recent variability in fuel prices makes anticipating the actual fuel expenditure for 2008/09 very difficult. Cash crop and regrassing expenditure increases reflecting increased activity and prices.

► NET RESULT EXPECTED TO BE A SIX-FOLD IMPROVEMENT

An expected increase of \$41 000 in the farm profit before tax for 2008/09, to \$49 000, still leaves the model farm with an insufficient farm surplus to reinvest in capital, development expenditure or principal repayments.

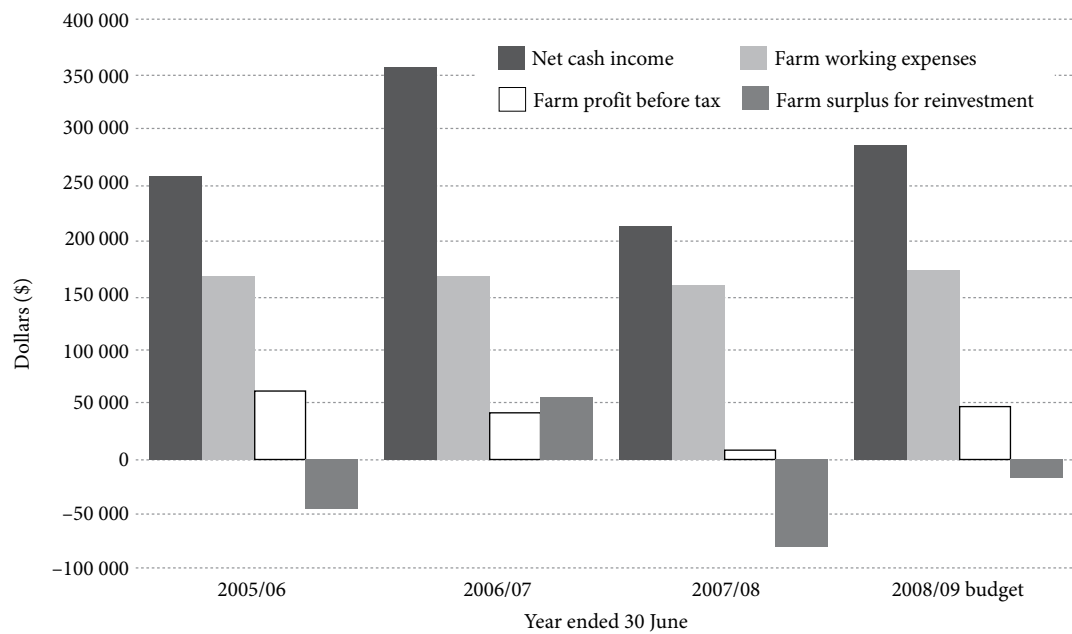
Debt servicing in 2008/09 is expected to increase \$5000 or 10 percent. This is due to increased term debt and expected higher interest rates.

Cash revenue is expected to increase more than cash expenditure to lift discretionary cash from a very low level in 2007/08 (\$9000) to \$73 000 in 2008/09. The improvement reflects higher prices for prime animals even though stock numbers at 30 June 2009 are expected to be only 92 percent of their pre-drought level.

The higher level of discretionary cash, including increased off-farm income, should come closer to matching other outgoings, including drawings and capital expenditure. Total debt may not need to increase if tight constraints remain on expenditure.

The value of the model farm and buildings is expected to have increased 20 percent during 2007/08 as a result of interest from competing land uses such as dairying and dairy support.

»» FIGURE 23.1: EASTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS



Source
MAF Monitoring Reports; 2005 to 2008.

»» TABLE 23.3: EASTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
REVENUE						
Sheep	136 734	394	65.31	186 800	538	87.92
Wool	20 357	59	9.72	26 935	78	12.68
Cattle	188 430	543	150.32	268 150	773	179.18
Grazing income (including hay and silage sales)	3 000	9	0.90	4 100	12	1.13
Other farm income	21 200	61	6.33	26 500	76	7.32
LESS						
Sheep purchases	31 160	90	14.88	51 190	148	24.09
Cattle purchases	126 920	366	101.25	174 875	504	116.86
Net cash income	211 641	610	63.21	286 420	825	79.08
Farm working expenses	158 435	457	47.32	173 501	500	47.90
Cash operating surplus	53 206	153	15.89	112 919	325	31.18
Interest	50 817	146	15.18	55 900	161	15.43
Rent and/or leases	5 500	16	1.64	5 500	16	1.52
Stock value adjustment	29 345	85	8.76	14 893	43	4.11
Minus depreciation	18 525	53	5.53	17 510	50	4.83
Farm profit before tax	7 709	22	2.30	48 902	141	13.50
Taxation	4 291	12	1.28	-3 657	-11	-1.01
Farm profit after tax	3 418	10	1.02	52 559	151	14.51
ALLOCATION OF FUNDS						
Add back depreciation	18 525	53	5.53	17 510	50	4.83
Reverse stock value adjustment	-29 345	-85	-8.76	-14 893	-43	-4.11
Income equalisation	-2 100	-6	-0.63	0	0	0.00
Off-farm income	18 700	54	5.59	19 200	55	5.30
Discretionary cash	9 198	27	2.75	74 376	214	20.53
Farm surplus for reinvestment²	-79 502	-229	-23.75	-15 824	-46	-4.37
APPLIED TO						
Net capital purchases	11 000	32	3.29	11 000	32	3.04
Development	1 000	3	0.30	1 000	3	0.28
Principal repayments	0	0	0.00	0	0	0.00
Drawings	70 000	202	20.91	71 000	205	19.60
New borrowings	50 000	144	14.93	0	0	0.00
Introduced funds	0	0	0.00	0	0	0.00
Cash surplus/deficit	-22 802	-66	-6.81	-8 624	-25	-2.38
ASSETS AND LIABILITIES						
Farm, forest & building (opening)	4 670 000	13 458	1 394.86	5 600 000	16 138	1 546.11
Plant and machinery (opening)	78 500	226	23.45	75 400	217	20.82
Stock valuation (opening)	270 400	779	80.76	299 745	864	82.76
Other produce on hand (opening)	1 197	3	0.36	1 656	5	0.46
Total farm assets (opening)	5 020 097	14 467	1 499.43	5 976 801	17 224	1 650.14
Total assets (opening)	5 431 197	15 652	1 622.22	6 347 201	18 292	1 752.40
Total liabilities (opening)	639 000	1 841	190.86	660 000	1 902	182.22
Total equity (farm assets–liabilities)	4 381 097	12 626	1 308.57	5 316 801	15 322	1 467.92

Notes

1 Sheep stock units are used in the per stock unit calculation for sheep and wool income and sheep purchases. Cattle stock units are used for cattle income and purchases. The remainder of the time total stock units are used.

2 Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

»» TABLE 23.4: EASTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
FARM WORKING EXPENSES						
Permanent wages	17 740	51	5.30	17 020	49	4.70
Casual wages	0	0	0.00	0	0	0.00
ACC	477	1	0.14	422	1	0.12
Total labour expenses	18 217	52	5.44	17 442	50	4.82
Animal health	10 209	29	3.05	11 588	33	3.20
Breeding	1 580	5	0.47	1 420	4	0.39
Electricity	3 300	10	0.99	3 500	10	0.97
Feed (hay and silage)	6 694	19	2.00	5 432	16	1.50
Feed (feed crops)	4 184	12	1.25	3 621	10	1.00
Feed (grazing)	1 172	3	0.35	1 811	5	0.50
Feed (other)	0	0	0.00	0	0	0.00
Fertiliser	20 126	58	6.01	27 000	78	7.45
Lime	3 600	10	1.08	4 800	14	1.33
Cash crop expenses	1 500	4	0.45	1 800	5	0.50
Freight (not elsewhere deducted)	6 200	18	1.85	6 700	19	1.85
Regrassing costs	9 500	27	4.54	11 000	32	3.04
Shearing expense	12 981	37	6.20	13 173	38	6.20
Weed and pest control	4 000	12	1.19	4 500	13	1.24
Fuel	8 000	23	2.39	9 600	28	2.65
Vehicle costs (excluding fuel)	7 000	20	2.09	7 000	20	1.93
Repairs and maintenance	13 000	37	3.88	15 000	43	4.14
Total other working expenses	113 046	326	33.77	127 945	369	35.32
Communication costs (phone & mail)	3 000	9	0.90	3 150	9	0.87
Accountancy	3 100	9	0.93	3 200	9	0.88
Legal and consultancy	2 000	6	0.60	2 150	6	0.59
Other administration	2 400	7	0.72	2 400	7	0.66
Water charges (irrigation)	0	0	0.00	0	0	0.00
Rates	10 200	29	3.05	10 800	31	2.98
Insurance	4 000	12	1.19	4 300	12	1.19
Other expenditure ²	2 472	7	0.74	2 115	6	0.58
Total overhead expenses	27 172	78	8.12	28 115	81	7.76
Total farm working expenses	158 435	457	47.32	173 501	500	47.90
Wages of management	75 000	216	22.40	75 000	216	20.71
Depreciation	18 525	53	5.53	17 510	50	4.83
Total farm operating expenses	251 960	726	75.26	266 011	767	73.44
CALCULATED RATIOS						
Economic farm surplus (EFS ³)	-10 974	-32	-3.28	35 302	102	9.75
Farm working expenses/NCI ⁴	75%			61%		
EFS/total farm assets	-0.2%			0.6%		
EFS less interest and lease/equity	-1.5%			-0.5%		
Interest + rent + lease/NCI	26.6%			21.4%		
EFS/NCI	-5.2%			12.3%		

Notes

1 Shearing expense per stock units based on sheep stock units.

2 Includes Accident Compensation Corporation (ACC) employer levy.

3 EFS (or earnings before 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: \$31 000 allowance for labour input plus 1 percent of opening total farm working assets to a maximum of \$75 000.

4 Net cash income.

WESTERN LOWER NORTH ISLAND

INTENSIVE SHEEP AND BEEF

24

The western lower North Island model represents 420 intensive finishing farms from New Plymouth south on the west coast of the North Island. The farms in the model have an average effective area of 208 hectares and run 11.5 to 12.5 stock units per effective hectare. Sheep account for about two-thirds of the total stock units.

»» KEY POINTS

- › A drought in the region from November 2007 to April 2008 caused feed shortages, which pushed farmers to reduce stock despite low prices.
- › Net cash income improved 45 percent to \$235 000. This increase came from various sources including destocking during the drought (\$23 000), improved cattle trading margins (\$16 000), increased crop income (\$9000), improved lamb prices (\$6000), increased grazing income (\$5000) and reduced purchase price on store lambs (\$3000).
- › Dairy grazing and cash crop areas expanded in 2007/08 and are expected to increase further in 2008/09.
- › Farm working expenses continue to rise, increasing 15 percent to \$128 000 in 2007/08 and are expected to increase a further 10 percent in 2008/09.
- › Farm profit before tax in 2007/08 increased 60 percent to \$49 000, with little change expected in 2008/09.
- › Increasing demand for land suitable for dairying pushed up farm assets 7 percent in 2007/08. A 22 percent increase to \$25 000 per hectare is expected in 2008/09.

»» FINANCIAL PERFORMANCE OF THE WESTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL FARM IN 2007/08

The cash operating surplus for the western lower North Island intensive sheep and beef model farm increased 108 percent to \$107 000 in 2007/08, up from \$52 000 in 2006/07. The increase was driven by sales of capital stock and a decline in both sheep and beef purchases as farmers reduced stock numbers in response to the drought in the region.

After a mild spring in 2007, the region experienced a drought from November 2007 to April 2008. By January 2008, river and aquifer levels were at record lows. This led to large reductions in hay, baleage and silage production, and feed shortages were exacerbated by competition from dairy farmers. Rain arrived in April, but while pastures greened, ground temperatures also cooled, which limited pasture recovery.

See Tables 24.3 and 24.4 for details of the model's budget and expenditure in 2007/08.

› REVENUE INCREASES 45 PERCENT FROM DESTOCKING

Net cash income was 45 percent higher in 2007/08 than in 2006/07. This increase was driven by drought-led destocking, with more sales and fewer purchases, and a \$4.10 improvement in the year's average lamb price.

STOCK UNITS DOWN

The unusually dry conditions from November 2007 saw ewe hogget numbers fall 16 percent and other hogget numbers fall 9 percent. The deteriorating condition of ewes and lack of feed contributed to the decline in capital

stock and a 15 percent decrease in mixed-age ewes. Although prices were at bargain levels, there was no spare feed and 10 percent fewer sheep were purchased than in 2006/07.

LAMBING STARTS WELL

Generally, lambing conditions in spring 2007 were mild, although farmers were disappointed that lambing percentages were not higher. The model farm's lambing percentage was 121 percent, down 1 percentage point on the previous season.

»» TABLE 24.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE WESTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL FARM

	2005/06	2006/07	2007/08	2008/09 BUDGET
YEAR ENDED 30 JUNE				
Effective area (ha)	208	208	208	208
Breeding ewes (head)	1 172	1 175	1 213	1 029
Replacement ewe hoggets (head)	318	316	321	268
Other sheep (head)	242	317	385	350
Breeding cows (head)	0	0	0	0
Rising 1-year cattle (head)	98	105	105	96
Other cattle (head)	70	70	76	68
Opening sheep stock units (ssu)	1 566	1 620	1 709	1 463
Opening cattle stock units	806	838	961	908
Opening total stock units (su)	2 372	2 457	2 670	2 371
Stocking rate (su/ha)	11.4	11.8	12.8	11.4
Ewe lambing (%)	127	122	121	110
Average lamb price (\$/head)	57.19	54.88	58.98	72.44
Average wool price (\$/kg)	2.23	2.19	2.16	2.25
Total wool produced (kg)	8 521	8 231	8 981	8 070
Wool production (kg/ssu)	5.44	5.08	5.26	5.52
Average rising 2-year steer (\$/head)	749	798	687	734
Net cash income (\$)	172 529	162 584	235 040	228 166
Farm working expenses (\$)	110 805	110 841	127 667	140 496
Farm profit before tax (\$)	39 885	30 710	49 158	49 833
Farm surplus for reinvestment ¹ (\$)	-10 488	-12 919	38 909	12 215

Notes

¹ Farm surplus for reinvestment represents 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.

LAMB PRICES VARIABLE, EWE PRICES DECLINE

Sheep revenue net of purchases increased 25 percent to \$102 000. The year saw considerable variation in lamb prices. The breeding and finishing farms in the region moved greater numbers of early season lambs at better weights and achieved an average price of \$60 for prime lambs, a 7 percent increase compared with 2006/07. Increased demand for pasture due to the drought saw store stock drafted sooner and at lighter weights. The altered drafting pattern resulted in a large number of lamb in the store sales, which combined with lighter weights, enabled the few buyers to drive prices down for a period. As a result, the average store lamb price dropped 9 percent on 2006/07 to reach \$37 per head.

The average lamb price for the season increased \$4.10 to \$58.98, while prices for both prime and store mixed-age ewes declined.

WOOL REVENUE INCREASES

Wool revenue increased 8 percent to \$19 000. This was the result of farmers changing from six- to eight-monthly shearing to annual shearing, in part, to minimise shearing costs. Sale of on-hand stock from the previous season further bumped up wool revenue. Wool production per sheep stock unit was up 3 percent from the previous year. The wool price was unchanged.

CATTLE REVENUE INCREASES AS SALES INCREASE

Cattle revenue net of purchases increased 80 percent to \$81 000, as a result of increased sales and decreased purchases due to the drought. The average selling price for cattle increased 7 percent and numbers sold increased 12 percent compared with 2006/07. Average weaner purchase prices were down, reducing purchase expenditure and further increasing cattle revenue.

»» TABLE 24.2: WESTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF CASH FARM INCOME

	2005/06 (\$)	2006/07 (\$)	2007/08 (\$)	2008/09 BUDGET (\$)
YEAR ENDED 30 JUNE				
Sheep sales less purchases	86 837	81 197	101 588	86 658
Cattle sales less purchases	49 903	44 962	80 873	76 066
Wool	19 005	18 025	19 399	18 158
Grazing income (including hay and silage sales)	2 313	3 700	9 180	13 184
Other income	16 784	14 700	24 000	34 100
Net cash income	172 529	162 584	235 040	228 166

OTHER INCOME INCREASES DUE TO EXPANDED CASH CROP AREA

Grazing income increased by \$5000 to \$9000 due to the introduction of dairy grazers to the model. Feed sales reduced due to a decline in yield as a result of the drought.

Other income increased 63 percent to \$24 000. The increase was mainly from expanding the cash crop area to 12 hectares, which increased the cash crop income to \$18 000.

FARM EXPENSES INCREASE 15 PERCENT

Farmers faced significant pressure to reduce all expenses. Despite this, farm working expenses increased 15 percent to about \$128 000. Working expenses increased 19 percent compared with an 11 percent increase in overhead expenses.

Going into 2007/08, feed supplement levels were low and a lack of spring growth resulted in the summer 2007/08 yield being very low, with some reports of a 50 percent reduction in hay and silage crops. This meant farmers had to purchase increased feed, the cost of which was high, and exacerbated by demand from the dairy industry. As a result, feed expenses for the model increased 88 percent.

With a 30 percent increase in the cash crop area, cropping expenses also increased to nearly \$5000.

The volume of fertiliser purchased was down marginally as farmers sought to minimise expenses, but with increased prices and application costs fertiliser expenses increased 22 percent to \$19 000. Fuel prices further pushed up many on-farm expenses with fuel expenditure increasing 15 percent compared with 2006/07. Where possible, farmers sought to reduce fuel usage, with some success in dampening the price increase.

Farmers sought to hold expenditure where possible. This resulted in weed and pest control expenses declining 24 percent as less weed spraying was carried out and repairs and maintenance expenses declining 12 percent compared with 2006/07.

Overhead expenses increased 11 percent, driven by communications (up 31 percent), rates (up 23 percent) and accountancy expenses (up 19 percent).

Interest charges at \$13 000 were only 7 percent of net cash income. Farms represented by this model have very high equity, around 97 percent.

➤ NET RESULT IMPROVES 60 PERCENT

Farm profit before tax increased 60 percent to \$49 000.

Profitability as measured by farm surplus for reinvestment is the cash amount left from on-farm income after all expenses are deducted, including personal drawings. It indicates what is available to cover capital expenditure,

development and principal repayments. This surplus for reinvestment increased \$52 000 from the previous year's deficit of \$13 000 to \$39 000. This is the first time in three years that the model farm has returned a farm surplus for reinvestment, but it was due to the boosted sales of capital stock, which has consequences for future profitability. No principal repayments were made in 2007/08.

»» BUDGET FINANCIAL PERFORMANCE OF THE WESTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL FARM IN 2008/09

The cash operating surplus in 2008/09 is expected to be \$88 000. This is \$20 000 (18 percent) lower than in 2007/08. Sheep and cattle revenue is expected to drop as purchases return to normal levels. The 2008/09 cash position is expected to be boosted by increased grazing income and cash crop production.

Stock numbers on the model farm are expected to be down 11 percent at 1 July 2008 compared with a year earlier.

See Tables 24.3 and 24.4 for details of the model's budget and expenditure in 2008/09. This budget was compiled in August 2008 and is based on farmer and industry expectations at that time.

» FARM INCOME EXPECTED TO DECREASE 3 PERCENT

Net cash income is expected to drop to \$228 000, a decrease of 3 percent or about \$7000, compared with 2007/08. This decline is a result of less stock for sale due to reduced opening stock numbers and increased stock purchases as farmers seek to rebuild after the drought.

SHEEP REVENUE EXPECTED TO DECREASE

In 2008/09 sheep revenue (sales less purchases) is expected to drop 15 percent to \$87 000. The numbers of sheep sold off the model farm are expected to decrease 26 percent compared with 2007/08 when farms destocked in response to the drought. The average lamb price for the season is expected to increase 23 percent to \$72, balancing the lower sales volumes. Sheep purchase numbers in 2008/09 are expected to increase 10 percent compared with 2007/08, to levels seen in 2006/07 before the drought, leading a slight recovery in sheep numbers.

LAMBING PERCENTAGE EXPECTED TO DECREASE

Ewe condition at tupping was not ideal with no excess feed available for flushing ewes. This is expected to reduce the model farm's lambing percentage to 110 percent from 121 percent in 2007/08. Farmers report that sheep condition scores were low at scanning, so survival rates are expected to suffer. The feed situation in the region remains tight, also contributing to expected lower survival rates.

Lower ewe lambing rates and less stock on hand means 21 percent fewer lambs are expected to be born in 2008/09 compared with the previous season.

WOOL REVENUE EXPECTED TO DECREASE

Wool prices are expected to increase 4 percent in 2008/09 but total volumes are expected to fall due to lower sheep numbers. The net effect is an expected 6 percent decrease in wool revenue to \$18 000 compared with 2007/08. Wool production continues the last three years' trend of increasing wool production per sheep stock unit.

CATTLE SALES EXPECTED TO DECREASE AND PURCHASES TO INCREASE AS HERDS REBUILT

The number of cattle stock units on hand at 1 July 2008 was 6 percent less than a year earlier. As farmers rebuild numbers in 2008/09, the number of cattle sold is expected to decrease 6 percent but sales income is expected to increase 10 percent to \$135 000 due to better sale prices. Cattle purchases are expected to increase 42 percent to \$59 000, which is similar to pre-drought levels, giving cattle revenue (sales less purchases) of \$76 000 for 2008/09.

GRAZING AND GRAIN EXPECTED TO BE ATTRACTIVE OPTIONS

Grazing income is expected to increase 44 percent to \$13 000. Farms have increased dairy grazing to offset lower stock numbers and take advantage of the strong dairy demand for feed. With casual grazing, this is expected to add about \$11 000 to net cash income.

Reduced numbers of store lambs available and the associated expected increase in purchase prices, combined with increased grain prices, make grain an attractive and flexible option for intensive sheep and beef farmers. The model farm has increased its cash crop area from 12 to 30 hectares, but will contract out the crop this year to make a profit of \$30 000. This increases other farm income 42 percent to \$34 000.

› EXPENDITURE EXPECTED TO INCREASE 10 PERCENT

Total farm working expenses are expected to increase to about \$140 000, an increase of \$13 000 (10 percent) compared with 2007/08.

FERTILISER AND FUEL PRICES EXPECTED TO CONTINUE TO RISE

Intensive farms have little ability to forgo fertiliser expenses due to the nature of their stock policies and increase in cropping. The model will apply less fertiliser, but this will be matched by an increase in price. The net effect is a \$5000 (27 percent) increase in fertiliser expenditure to \$24 000. Industry reports widespread talk of maintenance dressings being substituted with lime or dicalcic superphosphate (a 50 percent lime/superphosphate mix). More lime will be used on the farm, with a 27 percent increase in lime expenses, to just under \$1000.

Fuel expenses continue to trend upward and are expected to increase 25 percent or by just over \$1000 to about \$7000. However the recent variability in fuel prices makes it difficult to anticipate what the actual fuel expenditure will be in 2008/09.

FARMERS EXPECTED TO SPEND TO AID DROUGHT RECOVERY

In 2008/09, it is expected that expenditure will increase in some areas as farmers seek a speedy recovery from the drought. Animal health expenses are expected to increase 16 percent to \$11 000, which represents a 30 percent

»» TABLE 24.3: WESTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
REVENUE						
Sheep	119 338	574	69.83	114 312	550	78.12
Wool	19 399	93	11.35	18 158	87	12.41
Cattle	122 527	589	127.46	135 268	650	148.97
Grazing income (including hay and silage sales)	9 180	44	3.44	13 184	63	5.56
Other farm income	24 000	115	8.99	34 100	164	14.38
Less						
Sheep purchases	17 750	85	10.39	27 655	133	18.90
Cattle purchases	41 654	200	43.33	59 202	285	65.20
Net cash income	235 040	1 130	88.02	228 166	1 097	96.22
Farm working expenses	127 667	614	47.81	140 496	675	59.25
Cash operating surplus	107 372	516	40.21	87 669	421	36.97
Interest	13 183	63	4.94	14 618	70	6.16
Rent and/or leases	3 870	19	1.45	3 970	19	1.67
Stock value adjustment	-23 225	-112	-8.70	-2 007	-10	-0.85
Minus depreciation	17 936	86	6.72	17 241	83	7.27
Farm profit before tax	49 158	236	18.41	49 833	240	21.02
Taxation	4 110	20	1.54	8 566	41	3.61
Farm profit after tax	45 048	217	16.87	41 267	198	17.40
Allocation of funds						
Add back depreciation	17 936	86	6.72	17 241	83	7.27
Reverse stock value adjustment	23 225	112	8.70	2 007	10	0.85
Income equalisation	0	0	0.00	0	0	0.00
Off-farm income	8 200	39	3.07	7 600	37	3.20
Discretionary cash	94 409	454	35.36	68 115	327	28.72
Farm surplus for reinvestment²	38 909	187	14.57	12 215	59	5.15
APPLIED TO						
Net capital purchases	10 100	49	3.78	13 400	64	5.65
Development	500	2	0.19	400	2	0.17
Principal repayments	0	0	0.00	0	0	0.00
Drawings	47 300	227	17.71	48 300	232	20.37
New borrowings	17 000	82	6.37	20 500	99	8.65
Introduced funds	0	0	0.00	0	0	0.00
Cash surplus/deficit	53 509	257	20.04	26 515	127	11.18
ASSETS AND LIABILITIES						
Farm, forest & building (opening)	4 077 571	19 604	1,527.00	5 050 072	24 279	2,129.66
Plant and machinery (opening)	77 937	375	29.19	73 946	356	31.18
Stock valuation (opening)	194 880	937	72.98	171 655	825	72.39
Other produce on hand (opening)	829	4	0.31	741	4	0.31
Total farm assets (opening)	4 351 217	20 919	1 629.48	5 296 414	25 464	2 233.55
Total assets (opening)	4 443 003	21 361	1 663.85	5 390 414	25 915	2 273.19
Total liabilities (opening)	143 035	688	53.56	160 035	769	67.49
Total equity (farm assets-liabilities)	4 208 182	20 232	1 575.92	5 136 379	24 694	2 166.06

Notes

1 Sheep stock units are used in the per stock unit calculation for sheep and wool income and sheep purchases. Cattle stock units are used for cattle income and purchases. The remainder of the time total stock units are used.

2 Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

»» TABLE 24.4: WESTERN LOWER NORTH ISLAND INTENSIVE SHEEP AND BEEF MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
FARM WORKING EXPENSES						
Permanent wages	0	0	0.00	0	0	0.00
Casual wages	9 945	48	3.72	11 410	55	4.81
ACC	293	1	0.11	237	1	0.10
Total labour expenses	10 239	49	3.83	11 647	56	4.91
Animal health	9 697	47	3.63	11 211	54	4.73
Breeding	0	0	0.00	0	0	0.00
Electricity	2 238	11	0.84	2 292	11	0.97
Feed (hay and silage)	10 664	51	3.99	12 083	58	5.10
Feed (feed crops)	0	0	0.00	4 944	24	2.08
Feed (grazing)	0	0	0.00	0	0	0.00
Feed (other)	1 381	7	0.52	0	0	0.00
Fertiliser	19 040	92	7.13	24 247	117	10.23
Lime	783	4	0.29	992	5	0.42
Cash crop expenses	4 944	24	1.85	0	0	0.00
Freight (not elsewhere deducted)	2 558	12	0.96	2 610	13	1.10
Regrassing costs	5 171	25	3.03	5 920	28	2.50
Shearing expense	10 237	49	5.99	10 053	48	6.87
Weed and pest control	3 108	15	1.16	3 334	16	1.41
Fuel	5 383	26	2.02	6 728	32	2.84
Vehicle costs (excluding fuel)	8 651	42	3.24	9 048	44	3.82
Repairs and maintenance	12 856	62	4.81	13 320	64	5.62
Total other working expenses	96 711	465	36.22	106 782	513	45.03
Communication costs (phone & mail)	1 911	9	0.72	1 995	10	0.84
Accountancy	2 526	12	0.95	2 637	13	1.11
Legal and consultancy	1 444	7	0.54	1 508	7	0.64
Other administration	1 526	7	0.57	1 593	8	0.67
Water charges (irrigation)	0	0	0.00	0	0	0.00
Rates	8 335	40	3.12	8 902	43	3.75
Insurance	2 700	13	1.01	2 995	14	1.26
Other expenditure ²	2 276	11	0.85	2 438	12	1.03
Total overhead expenses	20 718	100	7.76	22 068	106	9.31
Total farm working expenses	127 667	614	47.81	140 496	675	59.25
Wages of management	74 512	358	27.90	75 000	361	31.63
Depreciation	17 936	86	6.72	17 241	83	7.27
Total farm operating expenses	220 116	1058	82.43	232 738	1 119	98.15
CALCULATED RATIOS						
Economic farm surplus (EFS ³)	-8 301	-40	-3.11	-6 579	-32	-2.77
Farm working expenses/NCI ⁴	54%			62%		
EFS/total farm assets	-0.2%			-0.1%		
EFS less interest and lease/equity	-0.6%			-0.5%		
Interest + rent + lease/NCI	7.3%			8.1%		
EFS/NCI	-3.5%			-2.9%		

Notes

1 Shearing expense per stock units based on sheep stock units.

2 Includes Accident Compensation Corporation (ACC) employer levy.

3 EFS (or earnings before 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: \$31 000 allowance for labour input plus 1 percent of opening total farm working assets to a maximum of \$75 000.

4 Net cash income.

increase per stock unit. Feed expenses are expected to increase 41 percent to about \$17 000 as more feed is made to restock empty barns and service the continuing demand from dairy. Regrassing expenses also rise 14 percent to almost \$6000 as farms seek to repair drought-damaged pastures.

OVERHEAD EXPENSES EXPECTED TO INCREASE 7 PERCENT

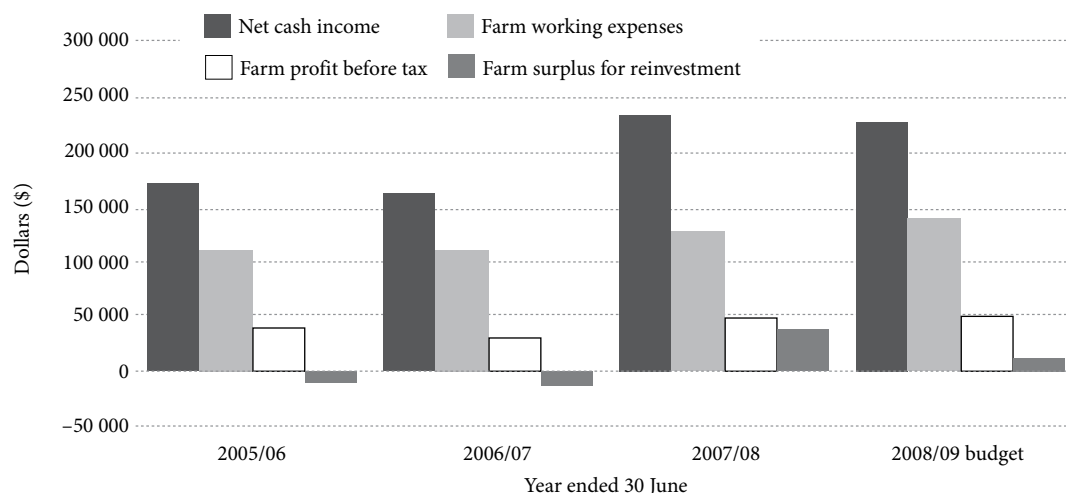
Most overhead expenses increased about 4 percent, with rates (up 7 percent to \$9000) and insurance (up 11 percent to \$3000) the exceptions.

► NET RESULT EXPECTED TO BE SIMILAR TO PREVIOUS YEAR

The expected farm profit before tax for 2008/09 of \$50 000 is 1 percent higher than in 2007/08.

Interest expenditure is up 11 percent on 2007/08, largely as a result of increases in term debt from the past three seasons. Interest rates are expected to drop slightly. However, debt levels on these farms are modest, with industry commentators estimating that 60 percent of farmers in the region have no debt. The increasing demand for land increased the value of farm assets by 22 percent to open at \$25 000 per hectare, an increase of about \$5000 per hectare in the year to 1 July 2008.

►► FIGURE 24.1: WESTERN LOWER NORTH ISLAND SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS



Source
MAF Monitoring Reports; 2005 to 2008.

SOUTH ISLAND

HIGH COUNTRY SHEEP AND BEEF

25

The South Island high country model represents 220 high country properties throughout the South Island. The properties average 10 212 hectares and range in size from 1000 to 45 000 hectares. Nearly 80 percent of these properties farm merino sheep, the balance farm either mid-micron or crossbreed sheep. A comment on the merino industry is included at the end of this chapter.

»» KEY POINTS

- › Stock numbers fell 843 stock units (8 percent) during 2007/08. Dry summer conditions and lack of winter feed reserves caused sheep and cattle numbers to decrease.
- › Net cash income increased \$34 000 (6 percent) to \$622 000 in 2007/08. However, the 2007/08 figure is inflated by \$65 000 from the sale of capital stock.
- › Farm working expenses increased 9 percent from \$368 000 in 2006/07 to \$400 000 in 2007/08 and accounted for 64 percent of net cash income.
- › The average wool price increased 16 percent from \$6.16 per kilogram in 2006/07 to \$7.17 per kilogram in 2007/08. Total wool receipts were up 14 percent to \$296 000 (\$34.30 per sheep stock unit) in 2007/08 and accounted for 48 percent of net cash income.
- › Net cash income is expected to fall slightly in 2008/09 as farmers restock following the drought. Farm profit before tax increases to \$62 000 as a result of stock retention. A cash deficit of \$69 000 for the year after drawings, capital purchases and development, indicates that farmers in this model have ongoing viability problems.

»» FINANCIAL PERFORMANCE OF THE SOUTH ISLAND HIGH COUNTRY INTENSIVE SHEEP AND BEEF MODEL FARM IN 2007/08

The cash operating surplus for the South Island high country intensive sheep and beef model farm of \$222 000 in 2007/08 was similar to that in 2006/07. Farm profit before tax was extremely low at \$4000 because of low stock prices and drought destocking. Although the cash deficit of \$28 000 in 2007/08 is an improvement on the cash deficit of \$54 000 (before new borrowing) in 2006/07, it still does not return the farm to a profit situation.

See Tables 25.3 and 25.4 for details of the model's budget and expenditure in 2007/08.

› REVENUE INCREASES

Net cash income was \$622 000 (\$57.69 per stock unit) in 2007/08, an increase of 6 percent from \$589 000 (\$53.58 per stock unit) in 2006/07. This includes a stock value adjustment of \$65 000 from the destocking of capital stock, which was made up of a decrease of 600 sheep stock units valued at \$35 000 and 243 cattle stock units valued at \$30 000.

WOOL PRICES INCREASE

Total wool income increased 14 percent to \$296 000 (\$34.30 per sheep stock unit) in 2007/08 from \$261 000 (\$29.74 per sheep stock unit) in 2006/07 due to a 16 percent increase in the average wool price to \$7.17 per kilogram in 2007/08. Wool production fell 1000 kilograms (2 percent) from 4.83 to 4.79 kilograms per sheep stock unit, which eroded some of the gains from the increased price.

»» TABLE 25.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR SOUTH ISLAND HIGH COUNTRY SHEEP AND BEEF MODEL FARM

	2006/07	2007/08	2008/09 BUDGET
YEAR ENDED 30 JUNE			
Effective area (ha)	10 212	10 212	10 212
Breeding ewes (head)	4 732	5 491	5 051
Replacement ewe hoggets (head)	1 294	1 584	1 366
Other sheep (head)	2 813	2 903	2 892
Breeding cows (head)	136	188	180
Rising 1-year cattle (head)	72	128	128
Other cattle (head)	74	121	84
Opening sheep stock units	8 773	8 639	8 038
Opening cattle stock units	2 212	2 150	1 907
Opening total stock units (su)	10 985	10 788	9 945
Stocking rate (stock unit/ha)	1.1	1.1	1.0
Ewe lambing (%)	88	90	91
Average lamb price (\$/head)	40.03	32.89	49.45
Average wool price (\$/kg)	6.16	7.17	7.65
Total wool produced (kg)	42 360	41 338	39 563
Wool production (kg/ssu)	4.83	4.79	4.92
Average rising 2-year steer (\$/head)	666	572	649
Average cull cow (\$/head)	462	574	651
Net cash income (\$)	588 557	622 374	610 752
Farm working expenses (\$)	368 279	400 475	417 456
Farm profit before tax (\$)	1 970	3 921	62 321
Farm surplus for reinvestment (\$)¹	-37 583	16 082	-16 280

Notes

¹ Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

Wool accounted for 48 percent of net cash income in 2007/08 compared with 44 percent in 2006/07. The wool clip and price per kilogram is based on the assumption that 78 percent of the farms represented in this model are farming merino sheep and the balance is farming either mid-micron or crossbreed sheep.

SHEEP INCOME FALLS

Total sheep income (sales less purchases) was down 12 percent to \$169 000 in 2007/08 from \$191 000 in 2006/07 due primarily to weaker store lamb, hogget and ewe prices in 2007/08. Drought caused a lack of feed on finishing farms throughout the South Island and this suppressed store lamb, hogget and ewe prices. Average lamb prices fell from \$40.03 in 2006/07 to \$32.89 in 2007/08. Hogget prices fell to \$62 in 2007/08 compared with \$72 in 2006/07.

In February and March 2008, many farmers were unable to destock cull ewes and wethers due to a tightening of killing space at meat-processing plants. As a result, many animals were not processed until May. Farmers were able to shear some of these culls, increasing the supply of second-shear wool.

Taking the \$34 000 adjustment from the sale of capital stock into account, sheep income from normal trading was \$135 000, which represents 22 percent of net cash income. Farmers destocked by an average of 600 sheep stock units, mostly ewes and hoggets, in response to the drought and low winter feed reserves.

CATTLE INCOME INFLATED BY SALES OF CAPITAL STOCK

Total cattle income (sales less purchases) increased 11 percent to \$123 000 in 2007/08 from \$110 000 in 2006/07. This increase is primarily from fewer rising two-year steers being wintered as a result of the drought. The destocking by 243 fewer stock units increased cattle income. The average price for a rising two-year steer fell from \$666 in 2006/07 to \$572 in 2007/08 due to lighter sale weights.

►► **TABLE 25.2: SOUTH ISLAND HIGH COUNTRY SHEEP AND BEEF CASH FARM INCOME**

YEAR ENDED 30 JUNE	2006/07	2007/08	2008/09 BUDGET
	(\$)	(\$)	(\$)
Sheep sales less purchases	191 343	169 060	191 596
Cattle sales less purchases	110 472	122 574	79 579
Wool	260 941	296 346	302 594
Grazing income (including hay and silage sales)	65	2 662	2 472
Other income	25 737	31 732	34 511
Net cash income	588 557	622 374	610 752

► EXPENDITURE INCREASES

Total farm working expenses increased 9 percent to \$400 000 in 2007/08 from \$368 000 in 2006/07, and accounted for 64 percent of net cash income. The increase was driven by rising farm input costs over the year.

EXPENDITURE UP ACROSS THE BOARD

The most significant increases in expenditure were for fuel, regrassing and fertiliser.

Fuel expenditure increased \$5000 (33 percent) to \$19 000 in 2007/08 from \$14 000 in 2006/07.

Regrassing expenditure increased \$3000 to \$20 000 (\$2.27 per stock unit) in 2007/08 due to contractors passing on increased operating costs to farmers.

Fertiliser (including lime) expenditure increased \$11 000 (26 percent) to \$54 000 (\$5.05 per stock unit) in 2007/08 from \$43 000 (\$3.92 per stock unit) in 2006/07. Fertiliser (including lime) accounts for 14 percent of total farm

working expenses, and is the second biggest expense item. The most common fertiliser used on these properties is sulphur superphosphate, which rose in price sharply over the 12 months to around \$600 per tonne. This increased maintenance fertiliser costs to between \$11 and \$12 per stock unit.

Shearing is the single biggest expense item, accounting for 15 percent of total farm working expenses. It increased 10 percent to \$60 000 (\$6.98 per sheep stock unit) in 2007/08 from \$55 000 (\$6.27 per sheep stock unit) in 2006/07. The increase in shearing expenditure is due to many cull ewes and wethers being second shorn in May.

Labour expenses increased 10 percent to \$73 000 (\$6.81 per stock unit) in 2007/08 from \$67 000 (\$6.07 per stock unit) in 2006/07.

Other large increases were freight (up 15 percent), vehicle expenses (excluding fuel) (up 12 percent), and repairs and maintenance (up 7 percent).

DRY WEATHER PRODUCES LESS WINTER FEED

Costs associated with producing winter feed fell 8 percent, and hay and silage costs were down 11 percent to \$19 000 (\$1.75 per stock unit) in 2007/08 from \$21 000 (\$1.93 per stock unit) in 2006/07. This is a result of the dry season, which meant farms lacked surplus feed to make silage and hay. However, the charge-out rates of silage and hay contractors have increased due to their increased operating costs, so winter feed costs are expected to continue to rise in the future.

CAPITAL PURCHASES HALVED, DRAWINGS UP

Capital purchases of vehicles and machinery halved to \$34 000 in 2007/08 from \$69 000 in 2006/07. This resulted from farmers having updated many items of plant in recent years and having less cash available for replacement purchases. Development expenditure remained relatively constant at around \$20 000 with most of this investment funding on-farm irrigation projects.

Drawings increased \$5000 to \$96 000 (\$8.86 per stock unit) in 2007/08 from \$91 000 (\$8.28 per stock unit) in 2006/07.

➤ NET RESULT IS A FURTHER DEFICIT

The South Island high country model produced a cash deficit of \$28 000 in 2007/08 compared with \$54 000 in 2006/07 (before new borrowings). However, when the deficit is adjusted for the \$65 000 decrease in the value of livestock carried, the deficit becomes \$93 000 in 2007/08 compared with \$70 000 in 2006/07. Farm profit before tax at \$4000 is low in 2007/08 compared with 2006/07 and reflects the tough year these farmers have experienced.

The worsening results in terms of both the cash deficit adjusted for livestock changes and stagnant farm profit before tax indicate that despite the significant lift in the merino wool price, the economic and financial position of this model remains under significant pressure.

Land value has increased significantly for this class of farm over recent years. In 2007/08 the South Island high country model farm's opening land value increased 14 percent (\$1.14 million) to \$9.12 million. The property market is prepared to pay a premium for the "iconic value" that has been attached to a large number of these properties. However, buyers have recently been more cautious because of low farm profitability and the prospect of increased rents on Crown Pastoral Leases. At the time of writing all recent rental increases have been submitted to the Land Valuation Tribunal for review and the outcome of the reviews is partly dependent on a test case being heard late in 2008.

>>> BUDGET FINANCIAL PERFORMANCE OF THE SOUTH ISLAND HIGH COUNTRY SHEEP AND BEEF MODEL FARM IN 2008/09

> CASH REVENUE EXPECTED TO DECREASE

Total net cash income is expected to fall \$12 000 from \$622 000 in 2007/08 to \$611 000 in 2008/09. This is due to less stock being wintered in 2008.

See Tables 25.3 and 25.4 for details of the model's budget and expenditure in 2008/09. This budget was compiled in August 2008 and is based on farmer and industry expectations at that time.

SHEEP REVENUE UP 13 PERCENT

Sheep income (sales less purchases) is expected to increase 13 percent to \$192 000. This increase is driven by expected higher prices for both prime and store stock as a result of increased prices and the decreasing value to the New Zealand dollar. Store lamb prices are expected to increase to \$43 and prime lambs to \$61. On average, in this model 42 percent of the lambs born are sold store, 18 percent are sold prime and 14 percent are wintered to be sold as hoggets in the following spring.

WOOL INCOME IMPROVES SLIGHTLY

Wool income is expected to improve slightly to \$303 000 through an expected 7 percent increase in the average wool price to \$7.65 per kilogram and a marginal (3 percent) improvement in wool weight to 4.92 kilograms per sheep stock unit.

CATTLE INCOME DOWN 34 PERCENT

Cattle revenue (sales less purchases) is expected to fall 34 percent to \$83 000 due to a 40 percent decrease in the number of cattle sold. In 2008/09, the model farm will restock with the equivalent of about half the cattle sold off during the previous dry year. Store cattle prices are expected to increase to \$474 per head for weaner steers and \$649 for rising two-year steers.

> EXPENDITURE EXPECTED TO INCREASE

Total farm working expenditure is expected to rise a further 4 percent to \$417 000. However, due to the lower opening stock numbers this equates to an increase of \$4.86 (13 percent) per stock unit to \$41.98. Anticipated farm working expenses account for 68 percent of expected net cash income, an increase of 4 percentage points on 2007/08. The major contributors to this increase are winter feed, fertiliser and fuel costs.

Winter feed costs are expected to increase 15 percent to \$29 000 (\$2.94 per stock unit) as farmers seek to replenish winter feed reserves run down over the last two or three years.

Fertiliser expenditure is expected to increase 7 percent to \$55 000, but given the sharp increase in fertiliser prices in early 2008/09 this relates to a 15 percent reduction in tonnes applied.

Fuel expenditure is expected to increase a further 6 percent to \$20 000, but the actual increase will ultimately be determined by the price at the pump.

Shearing expenses are expected to remain relatively static at around \$60 000. However, on a per stock unit basis this represents a further 7 percent rise in shearing costs to \$7.46 per sheep stock unit. Shearing remains the single biggest expense item for these properties at 14 percent of total farm working expenses.

Drawings are expected to rise \$5000 to \$100 000.

Expenditure on capital purchases is expected to remain relatively constant at \$35 000, although farmers may delay purchasing decisions until likely returns are clear.

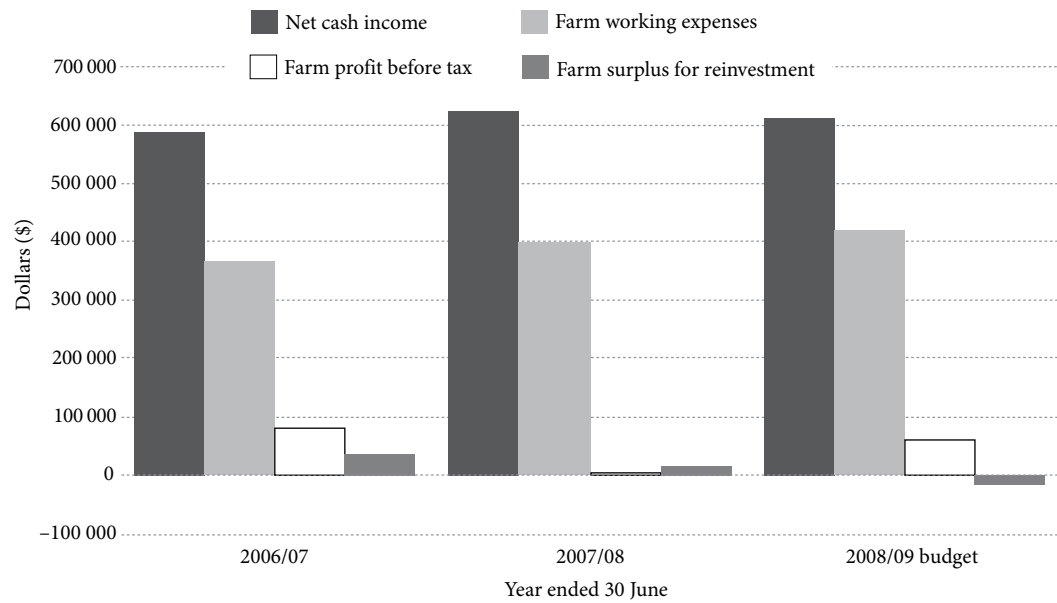
Development expenditure is expected to increase \$8000 to \$27 000.

Interest costs are expected to increase further because of the higher overdraft associated with the 2007/08 cash deficit.

➤ NET RESULT EXPECTED TO IMPROVE AS FARMS RESTOCK

Farm profit before tax is expected to improve dramatically to \$62 000 from \$4000. This is mostly driven by the stock value adjustment. Farm surplus for reinvestment is expected to return to a deficit situation of \$16 000.

The cash result is also expected to be a deficit of \$69 000 after capital purchases are held and development is increased slightly from the previous year. The cash deficit is \$41 000 larger than the previous year and highlights concerns about the model's profitability. Despite this deficit, total farm assets increase \$78 per hectare to open at nearly \$11 million in 2008/09.

FIGURE 25.1: SOUTH ISLAND HIGH COUNTRY SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS

»» TABLE 25.3: SOUTH ISLAND HIGH COUNTRY SHEEP AND BEEF MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
REVENUE						
Sheep	177 488	17	20.55	200 083	20	24.89
Wool	296 346	29	34.30	302 594	30	37.64
Cattle	125 874	12	58.56	82 879	8	43.47
Grazing income (including hay and silage sales)	2 662	0	0.25	2 472	0	0.25
Other farm income	31 732	3	2.94	34 511	3	3.47
LESS						
Sheep purchases	8 428	1	0.98	8 487	1	1.06
Cattle purchases	3 300	0	1.54	3 300	0	1.73
Net cash income	622 374	61	57.69	610 752	60	61.41
Farm working expenses	400 475	39	37.12	417 456	41	41.98
Cash operating surplus	221 899	22	20.57	193 297	19	19.44
Interest	81 717	8	7.57	82 097	8	8.26
Rent and/or leases	27 715	3	2.57	27 715	3	2.79
Stock value adjustment	-65 014	-6	-6.03	20 433	2	2.05
Minus depreciation	43 533	4	4.04	41 597	4	4.18
Farm profit before tax	3 921	0	0.36	62 321	6	6.27
Taxation	786	0	0.07	-435	0	-0.04
Farm profit after tax	3 135	0	0.29	62 756	6	6.31
ALLOCATION OF FUNDS						
Add back depreciation	43 533	4	4.04	41 597	4	4.18
Reverse stock value adjustment	65 014	6	6.03	-20 433	-2	-2.05
Income equalisation	0	0	0.00	0	0	0.00
Off-farm income	9 400	1	0.87	9 400	1	0.95
Discretionary cash	121 082	12	11.22	93 320	9	9.38
Farm surplus for reinvestment²	16 082	2	1.49	-16 280	-2	-1.64
APPLIED TO						
Net capital purchases	34 400	3	3.19	34 500	3	3.47
Development	19 300	2	1.79	27 400	3	2.76
Principal repayments	0	0	0.00	0	0	0.00
Drawings	95 600	9	8.86	100 200	10	10.08
New borrowings	0	0	0.00	0	0	0.00
Introduced funds	0	0	0.00	0	0	0.00
Cash surplus/deficit	-28 218	-3	-2.62	-68 780	-7	-6.92
ASSETS AND LIABILITIES						
Farm, forest & building (opening)	9 120 000	893	845.37	10 022 425	981	1 007.80
Plant and machinery (opening)	188 082	18	17.43	194 270	19	19.53
Stock valuation (opening)	729 745	71	67.64	664 731	65	66.84
Other produce on hand (opening)	394	0	0.04	3 187	0	0.32
Total farm assets (opening)	10 038 221	983	930.48	10 884 612	1 066	1 094.49
Total assets (opening)	10 231 266	1 002	948.38	11 027 534	1 080	1 108.86
Total liabilities (opening)	934 896	92	86.66	934 015	91	93.92
Total equity (farm assets–liabilities)	9 103 325	891	843.82	9 950 597	974	1 000.57

Notes

1 Sheep stock units are used in the per stock unit calculation for sheep and wool income and sheep purchases. Cattle stock units are used for cattle income and purchases. The remainder of the time total stock units are used.

2 Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

»» TABLE 25.4: SOUTH ISLAND HIGH COUNTRY SHEEP AND BEEF MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
FARM WORKING EXPENSES						
Permanent wages	67 000	7	6.21	69 780	7	7.02
Casual wages	2 700	0	0.25	2 700	0	0.27
ACC	3 734	0	0.35	1 659	0	0.17
Total labour expenses	73 434	7	6.81	74 139	7	7.45
Animal health	28 097	3	2.60	28 203	3	2.84
Breeding	2 300	0	0.21	2 300	0	0.23
Electricity	7 610	1	0.71	8 030	1	0.81
Feed (hay and silage)	18 925	2	1.75	22 287	2	2.24
Feed (feed crops)	6 600	1	0.61	7 000	1	0.70
Feed (grazing)	0	0	0.00	0	0	0.00
Feed (other)	0	0	0.00	0	0	0.00
Fertiliser	51 788	5	4.80	55 324	5	5.56
Lime	2 662	0	0.25	4 019	0	0.40
Cash crop expenses	0	0	0.00	0	0	0.00
Freight (not elsewhere deducted)	11 007	1	1.02	11 651	1	1.17
Regrassing costs	19 575	2	2.27	20 607	2	2.07
Shearing expense	60 315	6	6.98	60 006	6	7.46
Weed and pest control	12 554	1	1.16	14 468	1	1.45
Fuel	18 525	2	1.72	19 725	2	1.98
Vehicle costs (excluding fuel)	14 763	1	1.37	14 953	1	1.50
Repairs and maintenance	29 382	3	2.72	30 563	3	3.07
Total other working expenses	284 103	28	26.33	299 136	29	30.08
Communication costs (phone & mail)	4 567	0	0.42	4 026	0	0.40
Accountancy	6 036	1	0.56	5 856	1	0.59
Legal and consultancy	3 452	0	0.32	3 660	0	0.37
Other administration	3 646	0	0.34	4 758	0	0.48
Water charges (irrigation)	200	0	0.02	300	0	0.03
Rates	14 803	1	1.37	15 263	1	1.53
Insurance	7 958	1	0.74	8 203	1	0.82
Other expenditure ²	2 276	0	0.21	2 115	0	0.21
Total overhead expenses	42 937	4	3.98	44 181	4	4.44
Total farm working expenses	400 475	39	37.12	417 456	41	41.98
Wages of management	75 000	7	6.95	75 000	7	7.54
Depreciation	43 533	4	4.04	41 597	4	4.18
Total farm operating expenses	519 008	51	48.11	534 053	52	53.70
CALCULATED RATIOS						
Economic farm surplus (EFS ³)	38 352	4	3.56	97 133	10	9.77
Farm working expenses/NCI ⁴	64%			68%		
EFS/total farm assets	0.4%			0.9%		
EFS less interest and lease/equity	-0.8%			-0.1%		
Interest + rent + lease/NCI	17.6%			18.0%		
EFS/NCI	6.2%			15.9%		

Notes

1 Shearing expense per stock units based on sheep stock units.

2 Includes Accident Compensation Corporation (ACC) employer levy.

3 EFS (or earnings before 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: \$31 000 allowance for labour input plus 1 percent of opening total farm working assets to a maximum of \$75 000.

4 Net cash income.

»» NEW ZEALAND MERINO WOOL TRENDS

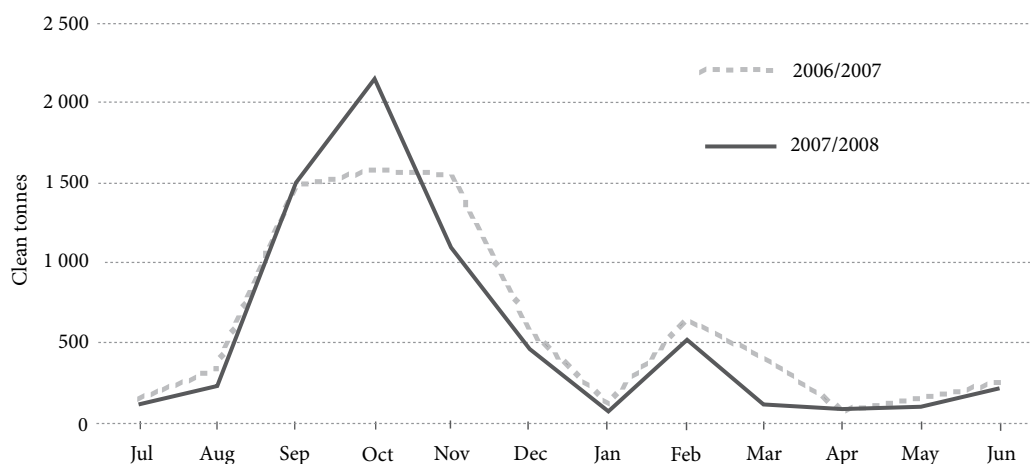
In New Zealand in 2007/08, there were about 600 to 700 merino growers producing around 7 million kilograms of merino wool. Of this, the New Zealand Merino Company (NZM) has about a 70 to 75 percent market share and the remainder is sold predominantly through Elders and other wool brokers.

NZM sells merino wool at auction in Melbourne and through an increasing number of value-added contracts where it has developed relationships with specific customers to meet their needs. NZM has developed long-term contracts that ensure price and supply certainty to its brand partners and the growers. NZM reports a huge expansion in the number of value-added contracts and is focusing on developing growth in the Asian market.

In June 2008, NZM purchased the mid-micron clip from PGG Wrightson which had about 70 percent of the mid-micron market share.

The merino market is more segmented than it was historically due to the marketing of an increasing array of micron and quality brackets. This has produced considerable price differentiation between brackets, so makes it difficult to report an average price for the total volume of merino wool. However, Meat & Wool New Zealand indicates that merino wool achieved an average price of \$13.08 per kilogram (clean) in 2007/08 (Figure 25.3).

»» FIGURE 25.2: SOUTH ISLAND MERINO WOOL VOLUME, JULY 2006–JUNE 2008

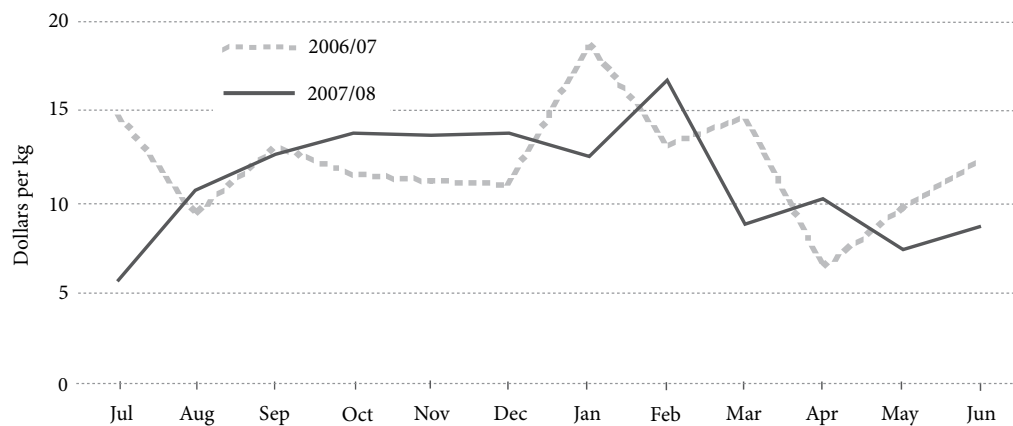


Source
Meat & Wool New Zealand Economic Service

Fine wool prices continue to firm with the tightening of supply and increased global demand. The decline in supply, particularly in Australia due to drought, has a significant influence on the price for New Zealand wool, given the volume of Australian fibre produced.

NZM reports that the average price it achieved for merino fibre in 2007/08 was 50 percent higher compared with the past two years. Continuing pressure on oil prices and consumer demand for natural wool and its related benefits

»» FIGURE 25.3: SOUTH ISLAND MERINO WOOL PRICES AT AUCTION (CLEAN), JULY 2006–JUNE 2008



Source
Meat & Wool New Zealand Economic Service

means historical trends towards using synthetic fibre in outdoor clothing ranges are being reversed. Also, improved marketing strategies are gaining momentum with greater farmer participation in branding and better market recognition, for example Icebreaker and Untouched World. The numbers of farmers and the percentage of bales in the value-add contracts NZM offers are increasing each year.

Despite reduced market confidence, NZM and Elders report they are still seeing demand for sound, better-styled wools. The market for good quality 18 micron and finer types of wool is showing strength. These wools are in particularly good demand with a promising outlook for the 2008/09 season. Value-add contracts are having some flow-on effect to farmers who are producing stronger-micron merino wool.

The overall trend of falling wool volumes in the merino sector is expected to continue in 2008/09. Several factors are considered to be contributing to this. On some properties high altitude summer grazing is being retired into the conservation estate through tenure review. Proposed rental increases for Crown Pastoral Leases (up to 600 percent in some cases) combined with low sheep and beef incomes and rising costs have encouraged some farmers to review stock management and sheep breed in an attempt to boost profitability. Others have carried out land development of lower altitude land and have changed from merino to crossbred sheep to focus on lamb production rather than fine wool production. This trend of land use change and breed change is expected to continue as is the retirement of high altitude land through tenure review. In addition, the drought in 2007/08 will result in a lower per-head clip in 2008/09.

Overall, the industry appears to be on a far stronger footing than in recent years, with a positive outlook going into the next few years.

CANTERBURY/MARLBOROUGH 26

HILL COUNTRY SHEEP AND BEEF

The Canterbury/Marlborough hill country sheep and beef model represents 425 hill country farms in Canterbury and Marlborough, excluding the Waimate and McKenzie districts. Farms have a proportion of land that is in tussock or too steep to be cultivated with two-wheeled tractors. Typically, these farms run mid-micron breeding sheep and a beef cow herd and sell some store stock. Some farms have irrigation in lowland valleys.

»» KEY POINTS

- › Net cash income increased in 2007/08 to \$319 000 mainly as a result of destocking due to drought but also because some product prices increased. Net cash income is expected to increase to \$347 000 in 2008/09 through improved prices and despite lower output following the 2007/08 drought.
- › Drought in 2007/08 reduced the number of sheep numbers, lowered carcass weights for sale stock and contributed to lower prices for store stock.
- › Poor lamb prices fuelled sheep farmers' growing disenchantment with the sheep industry and, combined with high dairy prices, led many farmers who traditionally purchased store lambs to change land use to dairy support, dairying or cropping. This led to a surplus of sheep and lambs on the store market, which depressed store lamb prices by \$5 to \$10 despite an increase in the prime lamb price.
- › Production in 2008/09 is expected to be lower because of lower stock numbers and lower per head performance following the drought and a cold wet start to lambing and calving in spring 2008.
- › Farmers were only able to hold expenses in 2007/08 despite cutting back on discretionary spending such as for repairs and maintenance, weed and pest control, animal health and fertiliser. Most other expenses increased slightly, including fuel, which is expected to increase 43 percent. Despite further reductions in fertiliser use, farm working expenses are expected to increase a further 12 percent in 2008/09 mainly through input cost increases.
- › The future viability of this class of farm is being seriously questioned. Members of the industry are investigating alternative farming systems that are less reliant on the shrinking store market.

»» FINANCIAL PERFORMANCE OF THE CANTERBURY/MARLBOROUGH HILL COUNTRY SHEEP AND BEEF MODEL FARM IN 2007/08

The cash operating surplus for the Canterbury/Marlborough hill country sheep and beef model farm jumped nearly \$40 000 to \$114 000 in 2007/08, mainly because a reduction in stock numbers during the drought increased income \$23 000. Slightly improved prime stock prices, increased grazing and other income, and a slight reduction in farm working expenses also contributed to this result.

See Tables 26.3 and 26.4 for details of the model's budget and expenditure in 2007/08.

› INCOME INCREASES DUE TO DESTOCKING DURING DROUGHT

Net cash income increased nearly \$36 000 to \$319 000 through increases in all sources of income. Drought destocking of nearly 300 sheep stock units artificially boosted income but a slight improvement in prices and changes to land use also contributed to the increase in revenue.

»» TABLE 26.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR CANTERBURY/MARLBOROUGH HILL COUNTRY SHEEP AND BEEF MODEL FARM

	2005/06	2006/07	2007/08	2008/09 BUDGET
YEAR ENDED 30 JUNE				
Effective area (ha)	1 397	1 397	1 397	1 397
Breeding ewes (head)	2 690	2 597	2 614	2 486
Replacement ewe hoggets (head)	774	783	743	589
Other sheep (head)	362	403	342	262
Breeding cows (head)	206	220	224	206
Rising 1-year cattle (head)	130	136	136	150
Other cattle (head)	45	41	43	44
Opening sheep stock units	3 489	3 431	3 378	3 086
Opening cattle stock units	1 872	1 952	2 053	2 039
Opening total stock units (su)	5 475	5 384	5 566	5 250
Stocking rate (stock unit/ha)	3.9	3.9	4.0	3.8
Ewe lambing (%)	111	112	112	109
Average lamb price (\$/head)	45.35	44.08	43.71	63.60
Average wool price (\$/kg)	3.17	3.18	3.43	3.60
Total wool produced (kg)	17 076	17 190	15 658	15 110
Wool production (kg/ssu)	4.89	5.01	4.64	4.90
Average rising 2-year steer (\$/head)	627	653	650	790
Average cull cow (\$/head)	537	554	513	581
Net cash income (\$)	285 117	283 033	318 937	346 801
Farm working expenses (\$)	251 315	207 394	204 742	229 439
Farm profit before tax (\$)	28 716	28 950	23 187	50 866
Farm surplus for reinvestment (\$)¹	-25 849	-24 696	6 570	10 767

Notes

¹ Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

SHEEP REVENUE UP DESPITE DIFFICULT SEASON

While prime lamb prices increased \$2.64 in 2007/08 compared with 2006/07, drought and changing land use on finishing farms caused store lamb prices to fall \$4.51 in 2007/08, resulting in an average drop of \$0.37. Lamb prices would have been higher but a cold dry spring and the drought reduced average carcass weight by between 0.5 and 1 kilogram. Farmers slightly increased their sales of prime lambs by selling to the works ewe lambs that would usually have been kept as replacements, when they were unable to destock cull ewes. If the effect of destocking were removed, sheep revenue actually fell \$2000.

DROP IN WOOL WEIGHTS OFFSETS SLIGHT PRICE RISE

The amount of wool sold declined 9 percent due to a tough spring in 2007/08 followed by drought that reduced wool weight per head. The numbers shorn were also down slightly as stock were sold early because of the drought. The

average price increased 8 percent to \$3.43 giving a slight increase in wool revenue to \$54 000 in 2007/08.

CATTLE MORE POSITIVE

Cattle sales revenue increased \$14 000 in 2007/08 to \$119 000. The numbers of cattle sold increased by just 24 as cattle numbers stabilised during 2007/08 following a significant increase the previous year. Prices for weaner heifers and steers fell due to lack of demand at calf sales and up to 20 kilogram-lighter sale weights because of the drought. Consequently, farmers retained additional heifers on farm. High empty rates at pregnancy diagnosis after weaning increased sale numbers of cull cows, which offset the lower income from heifer calves.

OTHER INCOME ALSO UP

Some farmers in this class were able to increase other income by taking on dairy grazing. Improved venison and velvet prices also lifted income for the farms this model represents that have deer.

»» TABLE 26.2: CANTERBURY/MARLBOROUGH HILL COUNTRY SHEEP AND BEEF CASH FARM INCOME

	2005/06 (\$)	2006/07 (\$)	2007/08 (\$)	2008/09 BUDGET (\$)
YEAR ENDED 30 JUNE				
Sheep sales less purchases	121 142	112 318	128 142	137 985
Cattle sales less purchases	95 354	99 650	113 388	126 520
Wool	54 130	54 666	53 707	54 396
Grazing income (including hay and silage sales)	2 745	2 800	7 500	12 000
Other income	11 746	13 600	16 200	15 900
Net cash income	285 117	283 033	318 937	346 801

» FARM WORKING EXPENSES HOLD STEADY

Farm working expenses reduced by only \$3000 to \$205 000 in 2007/08. While expenses were only reduced slightly overall, farmers cut back inputs substantially in many areas to offset the increase in farm costs.

A poor year in 2006/07 gave farmers the incentive to reduce farm working expenses in 2007/08 wherever possible, although industry commentators observe that many did not respond to this message until late in the year. In addition, only limited opportunities exist for reducing expenditure without a direct effect on income or an increase in business risk. Farm working expenses are 64 percent of net cash income.

DISCRETIONARY SPENDING CUT WHERE POSSIBLE

Farmers managed to reduce spending in most discretionary areas, although this represented a significant cut in inputs as the cost of most items increased during the year. Animal health expenditure fell 1 percent by farmers further reducing inputs and using lower-cost options. For instance, compared with three years ago when most farmers were using drench capsules for at least some of their stock, very few do so now. Interestingly, one industry commentator has observed that this has resulted in the price of capsules falling by a third.

While farmers made much less hay and baleage than anticipated, feed costs increased 7 percent as farmers had to buy in feed to get through the drought, and feed prices were inflated by strong demand from dairy farmers. For those able to make some hay and baleage, the cost of contractors has steadily increased.

Fertiliser spending was cut 9 percent to \$22 000, but to achieve this most farmers cut back on high-analysis fertilisers used to boost feed crops and specialist pastures, and top-dressed less hill country. Fertiliser prices increased 17 percent for superphosphate and 20 percent for urea in 2007/08 compared with 2006/07. Overall, fertiliser tonnage decreased 10 tonnes from the previous year, but this represented a 33 percent decrease in nitrogen and a 21 percent decrease in phosphate applied. Industry commentators consider this a sound decision as soil reserves are thought to be at reasonable levels.

Regrassing costs fell slightly because less pasture renewal was done during the drought. Weed and pest control expenditure was cut back slightly with a reduction in weed spraying. However, rabbit numbers have increased substantially throughout Canterbury, particularly on this type of farm, and some farmers will have increased costs in this area as the regional council has instructed them to carry out rabbit control.

Repairs and maintenance expenditure fell by a quarter which helped balance the budget. Administration costs fell slightly. Day-to-day expenses have risen in this area, but one-off expenses associated with farm succession and development projects have fallen.

➤ MOST FARM WORKING EXPENSES INCREASED

Wages, shearing costs, freight costs, vehicle costs, rates and insurance all increased through inflation. Some of these costs are associated with the increased fuel costs suppliers incurred. Fuel costs for these farmers are thought to have increased 43 percent or \$3 600 over the past year.

INTEREST COSTS INCREASE

Higher interest rates increased interest costs by \$5 000 or 12 percent. Rates are expected to continue to increase. These farms have good equity (91 percent), and at the time of preparing these budgets banks indicated that they were happy to continue to support borrowing to refinance hard-core overdraft debt until farm profits improve. While debt servicing has increased, it still represents only 15 percent of net cash income because of the increase in income in 2007/08. Those with above average debt levels and debt servicing may have greater difficulty securing additional finance.

➤ NET RESULT IS LOWER

Farm profit before tax fell \$6000 or 20 percent in 2007/08 compared with 2006/07. While the cash operating surplus increased, higher interest charges and depreciation, and an adjustment for the decline in capital stock caused profit to decrease.

Farm surplus for reinvestment improved \$31 000 to \$7000, mainly because of the additional cash released by the

decline in capital stock. Consequently, these farms are less reliant on off-farm income and introduced funds to break even.

Capital purchases and development expenditure fell to half the level of the previous year as farmers reduced discretionary spending. However, farmers slightly increased drawings, perhaps reflecting the increased living costs faced by all New Zealand households. Industry commentators observe that while farmers may intend to reduce drawings, in practice drawings rarely fall.

New borrowings exceeded principal repayments by \$21 000, reflecting refinancing carried out during the year.

Overall, the model budget shows a cash surplus of \$30 000, which is reflected in a slightly improved current account. New borrowing and the decline in capital stock account for nearly \$55 000, so this is hardly a positive result.

>>> BUDGET FINANCIAL PERFORMANCE OF THE CANTERBURY/MARLBOROUGH HILL COUNTRY SHEEP AND BEEF MODEL FARM IN 2008/09

The cash operating surplus for 2008/09 is expected to be only slightly above the 2007/08 result at \$117 000, but underlying it is a much stronger performance, with increased income through improved prices and an increase in capital stock. While prices are expected to improve, output will probably fall because of lower opening stock numbers. However, rising operating costs and a return to more standard levels of inputs represent a threat to the final result.

See Tables 26.3 and 26.4 for details of the model's budget and expenditure in 2008/09. This budget was compiled in August 2008 and is based on farmer and industry expectations at that time.

Land values on this class of farm have held up or increased and are currently around \$1000 per stock unit. This is considered unsupported by the returns from farming (return on capital is effectively zero) but has held up because farmers who have sold out for dairy conversions have looked for farms in this model to reinvest their capital. Small blocks of land unsuitable for lifestyle blocks and which two years ago would have been snapped up by neighbours are proving difficult to sell in mid-2008.

> IMPROVED PRICES EXPECTED TO INCREASE REVENUE

Net cash income is expected to increase \$28 000 to \$347 000 because of higher prices for lamb, sheep, wool and beef and slightly increased feed sales.

INCREASE IN LAMB PRICES EXPECTED BUT LOWER NUMBERS SOLD

Average lamb prices are expected to lift by almost \$20 because of a lower exchange rate and the expected demand for a reduced number of lambs produced across the region and country. Store lamb prices are expected to reach nearly \$54 per head and prime lambs nearly \$71 per head. The percentage sold store is expected to decrease as fewer ewes and a lower lambing percentage should enable farmers to finish more lambs.

Unfortunately, the number of lambs sold is likely to fall by 150 through lower ewe numbers and a lambing rate 3 percentage points lower than 2007/08. Ewes went to the ram in slightly poorer condition than in previous years, and many fewer hoggets were mated because of the drought. Over the past four years, lambing conditions have been generally good, which has enabled good lamb survival rates. In 2008, parts of the region had very heavy rainfall in August. It has been a cold, wet start to spring causing above-average lamb deaths for the first part of the lambing season.

While other sheep prices are expected to increase in line with the lamb price, revenue from other sheep (cull ewes and wethers) is expected to halve to \$20 000 through lower opening numbers. It is expected that farmers in this model will partially rebuild flock numbers.

WOOL VOLUME DOWN BUT PRICES UP

Wool production per head is expected to lift slightly with normal feeding levels, but total wool produced is expected to fall further to 15 100 kilograms due to the lower opening sheep numbers. Prices for the mid-micron wool in this model have already increased at the start of the season and are expected to be up 5 percent as a result of the lower exchange rate, giving a slight lift in wool income of \$700.

CATTLE INCOME UP

Cattle prices are expected to improve as a result of the lower exchange rate and better sale weights. For instance, prices for weaner steers are expected to increase \$67 to \$450. Numbers sold are predicted to decrease 8 percent as a result of a lower calving percentage caused by feed shortages at mating.

A slight increase in grazing income and feed sales is expected, as farmers look to make money off surplus feed that results from the lower stock numbers. Some farmers continue to change their land use away from sheep. Income from venison and velvet are expected to remain stable.

➤ FARM WORKING EXPENSES EXPECTED TO INCREASE 12 PERCENT

Farm working expenses are expected to increase 12 percent to \$229 000 because of rising costs and increases in inputs.

FARMERS EXPECTED TO KEEP TIGHT REIN ON COSTS

Farmers are expected to try to keep costs under control and will not increase discretionary spending until improved prices deliver money in the bank. For many farmers, overdrafts will continue to deteriorate until December and will not improve substantially until February or March 2009.

Lower stock numbers should lead to slightly lower animal health and shearing expenses.

Farmers are expected to conserve sufficient feed to restore hay and baleage reserves to at least usual levels, even though this is expected to increase feed expenses by \$10 000.

Fuel costs are expected to increase a further 29 percent to \$15 000, although the recent variability in fuel prices makes anticipating the actual fuel expenditure for 2008/09 very difficult. It is expected that repairs and maintenance will return to more usual levels, although not until later in the financial year once farmers have a better picture of likely returns.

Fertiliser spending is expected to increase 6 percent to \$24 000 but this represents a severe reduction to 37 tonnes of fertiliser, only half of that applied two years ago, as prices have effectively doubled for most fertilisers. Farmers are expected to further reduce their use of nitrogen and high analysis fertilisers and to rely on soil reserves even though they know this is a short-term solution. It is hoped that the slightly reduced stocking rate will mean there is less need for urea to boost spring and autumn pasture production.

Most other expenses are expected to increase by between 3 and 7 percent, with a recognition that increased fuel costs will flow through to many other inputs. Overall, farm working expenses remain high at 66 percent of net cash income.

Interest rates are expected to increase to 9.4 percent for term loans and 12.4 percent for overdrafts. However, total interest cost increases are only up 2 percent as farmers have refinanced some overdraft onto term loans. Like all expenditure items the actual cost will be determined by interest rates available at the time of renewal.

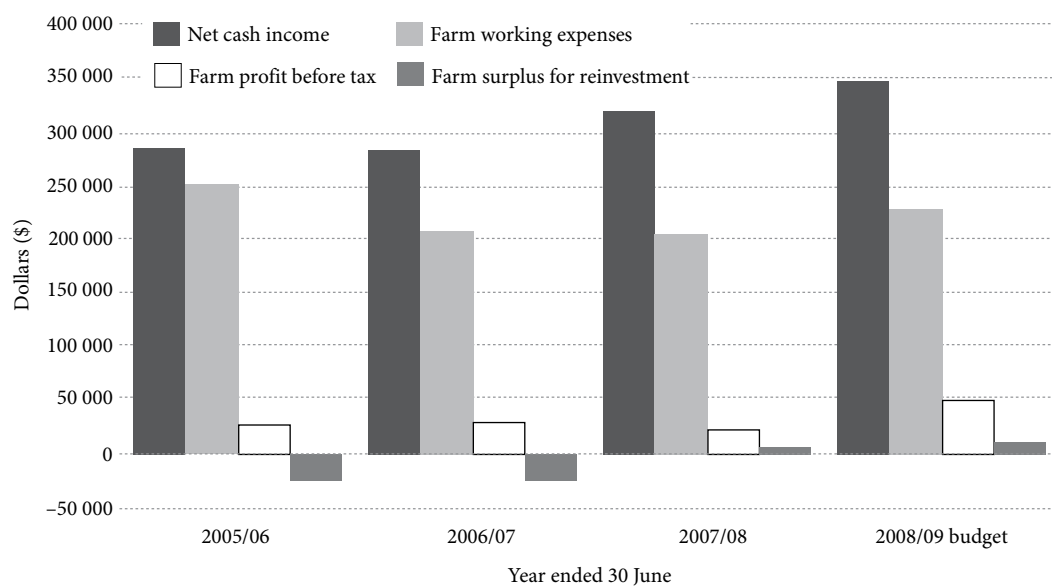
➤ NET RESULT EXPECTED TO IMPROVE

Farm profit before tax is expected to increase \$28 000 to \$51 000. This is an improvement on 2007/08. The cash operating surplus is expected to be similar to that in 2007/08, but the change from significant destocking to a slight restocking is expected to boost farm profit.

Farm surplus for reinvestment is expected to increase to \$11 000. While an improvement, this falls well short of meeting the costs of capital purchases (\$20 000), development (\$5000) and principal repayments (\$8000), meaning further new borrowings of \$15 000 are expected.

Overall, a small cash surplus of \$8000 is expected.

»» FIGURE 26.1: CANTERBURY/MARLBOROUGH HILL COUNTRY SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS



Source
MAF Monitoring Reports; 2006 to 2008.

»» TABLE 26.3: CANTERBURY/MARLBOROUGH HILL COUNTRY SHEEP AND BEEF MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
REVENUE						
Sheep	132 916	95	39.35	142 758	102	46.26
Wool	53 707	38	15.9	54 396	39	17.63
Cattle	119 319	85	58.11	129 978	93	63.74
Grazing income (including hay and silage sales)	7 500	5	1.35	12 000	9	2.29
Other farm income	16 200	12	2.91	15 900	11	3.03
LESS						
Sheep purchases	4 773	3	1.41	4 774	3	1.55
Cattle purchases	5 931	4	2.89	3 459	2	1.70
Net cash income	318 937	228	57.30	346 801	248	66.06
Farm working expenses	204 742	147	36.78	229 439	164	43.7
Cash operating surplus	114 195	82	20.52	117 362	84	22.35
Interest	43 349	31	7.79	44 099	32	8.4
Rent and/or leases	4 000	3	0.72	4 000	3	0.76
Stock value adjustment	-22 760	-16	-4.09	903	1	0.17
Minus depreciation	20 900	15	3.75	19 300	14	3.68
Farm profit before tax	23 187	17	4.17	50 866	36	9.69
Taxation	5 176	4	0.93	2 296	2	0.44
Farm profit after tax	18 010	13	3.24	48 570	35	9.25
ALLOCATION OF FUNDS						
Add back depreciation	20 900	15	3.75	19 300	14	3.68
Reverse stock value adjustment	22 760	16	4.09	-903	-1	-0.17
Income equalisation	0	0	0.0	0	0	0.00
Off-farm income	13 800	10	2.48	14 600	10	2.78
Discretionary cash	75 470	54	13.56	81 567	58	15.54
Farm surplus for reinvestment²	6 570	5	1.18	10 767	8	2.05
APPLIED TO						
Net capital purchases	10 000	7	1.80	20 400	15	3.89
Development	1 500	1	0.27	5 000	4	0.95
Principal repayments	8 100	6	1.46	8 000	6	1.52
Drawings	55 100	39	9.90	56 200	40	10.7
New borrowings	29 200	21	5.25	15 000	11	2.86
Introduced funds	0	0	0.00	0	0	0.00
Cash surplus/deficit	29 970	21	5.38	6 967	5	1.33
ASSETS AND LIABILITIES						
Farm, forest & building (opening)	5 082 325	3 638	913.10	6 353 500	4 548	1 210.17
Plant and machinery (opening)	81 384	58	14.62	74 800	54	14.25
Stock valuation (opening)	416 181	298	74.77	393 421	282	74.94
Other produce on hand (opening)	0	0	0.00	0	0	0.00
Total farm assets (opening)	5 579 890	3 994	1 002.49	6 821 721	4 883	1 299.36
Total assets (opening)	5 765 913	4 127	1 035.91	6 965 445	4 986	1 326.73
Total liabilities (opening)	483 777	346	86.92	504 877	361	96.17
Total equity (farm assets–liabilities)	5 096 113	3 648	915.58	6 316 844	4 522	1 203.19

Notes

1 Sheep stock units are used in the per stock unit calculation for sheep and wool income and sheep purchases. Cattle stock units are used for cattle income and purchases. The remainder of the time total stock units are used.

2 Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

»» TABLE 26.4: CANTERBURY/MARLBOROUGH HILL COUNTRY SHEEP AND BEEF MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
FARM WORKING EXPENSES						
Permanent wages	32 550	23	5.85	33 528	24	6.39
Casual wages	0	0	0.00	0	0	0.00
ACC	895	1	0.16	775	1	0.15
Total labour expenses	33 445	24	6.01	34 303	25	6.53
Animal health	17 478	13	3.14	17 230	12	3.28
Breeding	0	0	0.00	0	0	0.00
Electricity	5 588	4	1.00	6 007	4	1.14
Feed (hay and silage)	8 457	6	1.52	17 230	12	3.28
Feed (feed crops)	5 638	4	1.01	6 265	4	1.19
Feed (grazing)	0	0	0.00	0	0	0.00
Feed (other)	3 778	3	0.68	4 177	3	0.80
Fertiliser	22 335	16	4.01	23 691	17	4.51
Lime	1 039	1	0.19	2 000	1	0.38
Cash crop expenses	0	0	0.00	0	0	0.00
Freight (not elsewhere deducted)	8 103	6	1.46	8 661	6	1.65
Regrassing costs	6 189	4	1.83	6 706	5	1.28
Shearing expense	19 591	14	5.80	18 515	13	6.00
Weed and pest control	9 081	7	1.63	9 500	7	1.81
Fuel	11 875	9	2.13	15 367	11	2.93
Vehicle costs (excluding fuel)	7 684	6	1.38	7 684	6	1.46
Repairs and maintenance	15 367	11	2.76	22 352	16	4.26
Total other working expenses	142 200	102	25.55	165 385	118	31.5
Communication costs (phone & mail)	1 973	1	0.35	2 088	1	0.40
Accountancy	3 665	3	0.66	3 655	3	0.70
Legal and consultancy	3 270	2	0.59	3 394	2	0.65
Other administration	3 383	2	0.61	3 550	3	0.68
Water charges (irrigation)	0	0	0.00	0	0	0.00
Rates	9 779	7	1.76	10 058	7	1.92
Insurance	4 750	3	0.85	4 890	4	0.93
Other expenditure ²	2 276	2	0.41	2 115	2	0.40
Total overhead expenses	29 096	21	5.23	29 750	21	5.67
Total farm working expenses	204 742	147	36.78	229 439	164	43.70
Wages of management	75 000	54	13.47	75 000	54	14.29
Depreciation	20 900	15	3.75	19 300	14	3.68
Total farm operating expenses	300 642	215	54.01	323 739	232	61.66
CALCULATED RATIOS						
Economic farm surplus (EFS ³)	-4 465	-3	-0.8	23 965	17	4.56
Farm working expenses/NCI ⁴	64%			66%		
EFS/total farm assets	-0.10%			0.40%		
EFS less interest and lease/equity	-1.00%			-0.40%		
Interest + rent + lease/NCI	14.80%			13.90%		
EFS/NCI	-1.40%			6.90%		

Notes

1 Shearing expense per stock units based on sheep stock units.

2 Includes Accident Compensation Corporation (ACC) employer levy.

3 EFS (or earnings before 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: \$31 000 allowance for labour input plus 1 percent of opening total farm working assets to a maximum of \$75 000.

4 Net cash income.

CANTERBURY/MARLBOROUGH

27

BREEDING AND FINISHING

This model represents 1630 finishing and breeding farms in coastal Marlborough and Canterbury. Farms are located on the dry downs and plains, in irrigated areas, and in the higher rainfall upper plains. There is a wide range of farm sizes, stocking rates, stock classes, and performance in this region. The farms in the model have an average effective area of 365 hectares and run 9 to 10 stock units per effective hectare.

»» KEY POINTS

- › 2007/08 was a difficult season for farmers due to continuing dry conditions, especially in South Canterbury. Little supplementary feed was made, and brassica yields were down.
- › In February 2008, north and mid-Canterbury received good rain, that allowed farmers to finish and sell stock, but south Canterbury remained dry until the end of June.
- › Net cash income of \$323 000 was up 23 percent on the 2006/07 gross of \$262 000 through slightly improved stock prices, a \$26 000 reduction in capital stock, and increased cropping income. Net cash income is expected to increase 12 percent to \$362 000 in 2008/09 as a result of improved prices.
- › Farm working expenses in 2007/08 were \$186 000, an increase of \$15 000 (9 percent) from 2006/07. However, the farm working expenses to net cash income ratio has fallen to 58 percent because of the increased net cash income.
- › The cash operating surplus rose from \$92 000 in 2006/07 to \$137 000 in 2007/08 and is expected to increase to \$156 000 in 2008/09.
- › Farmers are positive about beef, crop, and deer markets, but not about lamb, sheep and crossbred wool markets. They have responded to the positive outlook for the dairy industry by increasing dairy grazing and dairy feed supply where they have irrigation or adequate summer rainfall.

»» FINANCIAL PERFORMANCE OF THE CANTERBURY/MARLBOROUGH BREEDING AND FINISHING SHEEP AND BEEF MODEL FARM IN 2007/08

The net cash income for the Canterbury/Marlborough breeding and finishing sheep and beef model farm of \$323 000 (\$86.00 per stock unit) was 23 percent higher than in 2006/07. Farm working expenses were \$186 000 (\$49.45 per stock unit) in 2007/08, an increase of \$15 000, or 9 percent compared with 2006/07.

The cash operating surplus rose to \$137 000 in 2007/08 from \$92 000 in 2006/07 as a result of slightly improved stock prices, increased income from grazing and crop and a \$26 000 decrease in capital stock. Drought affected most of the region from October to February, or, in the case of south Canterbury, to July 2008.

See Tables 27.3 and 27.4 for details of the model's budget and expenditure in 2007/08.

› DESTOCKING DURING DROUGHT AND HIGHER PRICES BOOST SHEEP AND CATTLE REVENUE

Farmers in this model have been short of feed all year. In the spring, grass growth was slow because of dry and cool conditions. The whole region was very dry until February, when mid and north Canterbury received good rainfall (120 to 140mm) while south Canterbury received only 53mm. In south Canterbury it remained dry until July 2008. Figure 27.1 shows the monthly rainfall for Waipara in north Canterbury and Timaru in south Canterbury and highlights the difference between these two parts of Canterbury.

»» TABLE 27.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR CANTERBURY/MARLBOROUGH BREEDING AND FINISHING SHEEP AND BEEF MODEL FARM

	2004/05	2005/06	2006/07	2007/08	2008/09 BUDGET
YEAR ENDED 30 JUNE					
Effective area (ha)	335	378	378	365	365
Breeding ewes (head)	2 330	2 400	2 400	2 368	2 043
Replacement ewe hoggets (head)	590	650	650	578	320
Other sheep (head)	25	28	28	28	28
Rising 2-year cattle (head)	165	140	148	180	187
Opening sheep stock units	2 580	2 900	2 877	2 792	2 287
Opening cattle stock units	620	765	808	963	1 043
Opening total stock units (su)	3 440	3 665	3 778	3 755	3 329
Stocking rate (stock unit/ha)	10.5	9.7	10	10.3	9.1
Ewe lambing (%)	125	126	124	124	124
Average lamb price (\$/head)	60.00	52.60	47.60	51.74	73.08
Average wool price (\$/kg)	3.14	2.69	2.5	2.42	2.89
Total wool produced (kg)	12 227	14 963	15 326	15 100	11 477
Wool production (kg/ssu)	4.74	5.20	5.30	5.41	5.02
Average rising 2-year steer (\$/head)	775	851	897	921	1 041
Net cash income (\$)	266 295	227 945	262 190	322 917	361 521
Farm working expenses (\$)	145 132	147 446	170 598	185 678	205 294
Farm profit before tax (\$)	77 809	40 976	37 432	46 428	68 022
Farm surplus for reinvestment (\$)¹	29 683	-12 516	10 772	32 481	48 564

Notes

¹ Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

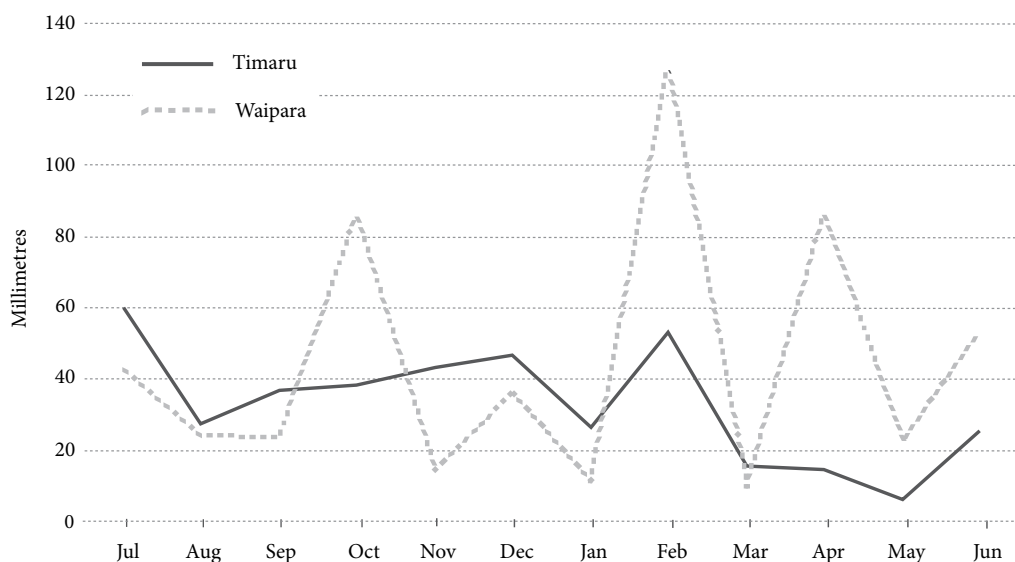
SHEEP REVENUE UP

Sheep revenue (sales less purchases) increased \$25 000 to \$162 000 in 2007/08 from \$137 000 in 2006/07. Sheep revenue, including from wool, increased to \$72.04 in 2007/08 from \$61.78 per stock unit in 2006/07.

In response to the drought, sheep numbers fell 18 percent from 2792 stock units at the start of the year to 2287 at the end of the year.

The lambing percentage remained at 124 percent with favourable conditions at lambing giving improved lamb survival to offset the reduced conception rates from the dry weather conditions at mating.

»» FIGURE 27.1: MONTHLY RAINFALL FOR WAIPARA AND TIMARU, JULY 2007–JUNE 2008



Average lamb prices rose to \$51.74 in 2007/08 from \$47.60 in 2006/07, despite numbers of lambs being sold at lighter weights due to the dry conditions. In the model 85 percent of the lambs are sold prime and only 15 percent as store.

The number of ewe hoggets carried into winter 2008 decreased 45 percent to 320 in June 2008 from 578 in June 2007, mainly because farmers were unable to sell cull ewes to the works. Surplus ewes from farms converting to dairying, combined with an increase in cattle or dairy heifer grazing caused a dramatic increase in the ewe kill in Canterbury and created a backlog of stock awaiting processing. Ewe numbers also fell 14 percent.

WOOL PRICES EASE AS DOLLAR RISES

Average wool prices were down 8 cents per kilogram, on the back of a stronger dollar, to an average of \$2.42 per kilogram (greasy), and the weight sold was down marginally (1.5 percent) to 15 100 kilograms.

CATTLE REVENUE DOUBLES

Cattle sales less purchases rose to \$69 000 in 2007/08 from \$36 000 in 2006/08. The increase in cattle revenue reflected increased numbers available for sale, a much smaller increase in capital stock in 2007/08 (\$4000) than in 2006/07 (\$22 000), reduced purchase prices and increased sale prices.

Cattle stock units rose to 1043 (8 percent) from 963, but the number of cattle grazed during the winter remained at 115 stock units.

»» TABLE 27.2: CANTERBURY/MARLBOROUGH BREEDING AND FINISHING SHEEP AND BEEF CASH FARM INCOME

YEAR ENDED 30 JUNE	2004/05 (\$)	2005/06 (\$)	2006/07 ^R (\$)	2007/08 (\$)	2008/09 BUDGET (\$)
Sheep sales less purchases	177 960	150 938	136 934	161 674	159 473
Cattle sales less purchases	29 954	42 120	35 666	68 700	88 481
Wool	41 081	40 243	38 090	36 543	33 147
Grazing income (including hay and silage sales)	9 200	12 396	22 000	20 000	30 720
Other income	8 100	31 727	29 500	36 000	49 700
Net cash income	266 295	227 945	262 190	322 917	361 521

» FARM COSTS INCREASE 9 PERCENT

Farm working expenses increased 9 percent to \$186 000 in 2007/08 but decreased as a proportion of net cash income to 58 percent, reflecting the improvement in income. While farmers attempted to control spending on discretionary items, many costs increased. Wages, animal health, electricity, weed and pest control, administration, rates and insurance expenses all increased.

Fertiliser costs increased 26 percent to \$27 000 because of increased prices and despite farmers using reduced volumes of fertiliser. Fuel expenses increased because of increased pump prices but farmers were able to offset this somewhat by reducing vehicle costs by 16 percent.

Feed costs fell \$2000 or 13 percent as many farmers were unable to make hay or silage and could not afford to compete with dairy farmers for the limited amount of feed available for purchase. Most went into winter with less than desired amounts of supplementary feed on hand. Shearing costs fell slightly because of the decline in sheep numbers. Repairs and maintenance fell slightly as farmers tried to cut spending where possible.

Interest costs increased \$2000, or 5 percent, through increased interest rates and the additional borrowing associated with refinancing the previous year's cash deficit.

» NET RESULT IMPROVES FROM SALE OF CAPITAL STOCK

Farm profit before tax rose 24 percent to \$46 000 in 2007/08 from \$37 000 in 2006/07, although \$26 000 of this is attributed to sale of capital stock. Drawings, capital purchases, development and principal repayments stayed at similar levels to the previous year. A further \$36 000 new borrowings leaves a cash surplus of \$20 000, a dramatic improvement on the deficit of \$49 000 the previous year.

While debt has increased over the past year, the demand for land for dairying or dairy support has increased land prices a further 20 percent to \$12 000 per hectare. This upward pressure is expected to continue. With the poor financial performance for the year, return on capital is minimal.

»» BUDGET FINANCIAL PERFORMANCE OF THE CANTERBURY/MARLBOROUGH BREEDING AND FINISHING SHEEP AND BEEF MODEL FARM IN 2008/09

The cash operating surplus is expected to increase by 14 percent to \$156 000 as a result of increased prices although the increase is partly offset by the reduced number of lambs and sheep sold.

See Tables 27.3 and 27.4 for details of the model's budget and expenditure in 2008/09. This budget was compiled in August 2008 and is based on farmer and industry expectations at that time.

» IMPROVED PRICES EXPECTED TO INCREASE INCOME

Net cash income is expected to rise to \$362 000, an increase of \$39 000, or 12 percent from 2007/08 as a result of increased lamb prices and better cattle returns, as well as increased cropping and grazing income.

Both sheep sales less purchases and wool returns are expected to decrease marginally due to fewer sheep being carried. Although the year's average lamb price is expected to rise from \$51.74 to \$73.08, 600 fewer lambs are expected to be sold, despite an expected lambing percentage similar to 2007. Ewe sales are expected to be down 500 head.

Dry early autumn conditions in the region were of concern but good drought management, such as reducing ewe numbers, set up ewes for an average lambing season. The difficult conditions have caused a number of farmers to reconsider both early lambing and hogget mating.

The wool price is expected to increase from \$2.42 to \$2.89 per kilogram mainly because of a lower exchange rate. Wool sold is expected to decline by 24 percent to 11 500 kilograms due to lower sheep numbers.

Cattle sales less purchases is expected to increase by \$20 000 as trading margins improve by \$81 per head on average. Grazing income is expected to increase by \$11 000 as farmers take advantage of lower sheep numbers to carry more dairy stock or sell hay and silage to dairy farmers. Other income is expected to increase \$14 000 with improved crop prices and an increased crop area.

» EXPENSES EXPECTED TO INCREASE

Farm working expenses are budgeted at \$205 000 in 2008/09, an increase of 11 percent from the previous year. Most expenses are expected to increase. Labour, electricity, freight, regrassing costs, fuel, vehicle expenses, weed and pest control, repairs and maintenance and administration expenses are all expected to increase. Cash crop expenses increase with the increased area of crop. Animal health and shearing costs fall as fewer sheep are carried.

Fertiliser expenses are expected to fall slightly as farmers dramatically reduce the volume of fertiliser applied following an effective doubling of prices early in 2008/09. Farmers are expected to cut out high analysis fertilisers, reduce the amount of nitrogen applied, or concentrate on high value areas of the farm. Industry commentators

consider this a wise decision with reasonable soil fertility reserves able to withstand the reduction in the short term. If farm product prices improve as expected, farmers may lift spending on inputs in the second half of the year.

Interest costs are expected to increase a further 6 percent as the amount borrowed and interest rates continue to climb. However, like all expenditure items the actual cost will be determined by interest rates available at the time of renewal.

➤ NET RESULT EXPECTED TO INCREASE

The farm profit before tax for 2008/09 is expected to increase 47 percent to \$68 000, up from \$46 000 in 2007/08. After net capital purchases, development and drawings, the cash surplus is estimated to be \$23 000 in 2008/09 up from \$20 000 in 2007/08.

➤➤➤ **FIGURE 27.2: CANTERBURY/MARLBOROUGH BREEDING AND FINISHING SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS**



Source
MAF Monitoring Reports; 2005 to 2008.

»» TABLE 27.3: CANTERBURY/MARLBOROUGH BREEDING AND FINISHING SHEEP AND BEEF MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
REVENUE						
Sheep	164 589	451	58.95	162 493	445	71.06
Wool	36 543	100	13.09	33 147	91	14.50
Cattle	154 770	424	160.75	181 731	498	174.32
Grazing income (including hay and silage sales)	20 000	55	5.33	30 720	84	9.23
Other farm income	36 000	99	9.59	49 700	136	14.93
LESS						
Sheep purchases	2 915	8	1.04	3 020	8	1.32
Cattle purchases	86 070	236	89.39	93 250	255	89.45
Net cash income	322 917	885	86.00	361 521	990	108.59
Farm working expenses	185 678	509	49.45	205 294	562	61.67
Cash operating surplus	137 238	376	36.55	156 227	428	46.93
Interest	37 447	103	9.97	39 779	109	11.95
Rent and/or leases	4 900	13	1.30	4 900	13	1.47
Stock value adjustment	-26 163	-72	-6.97	-23 926	-66	-7.19
Minus depreciation	22 300	61	5.94	19 600	54	5.89
Farm profit before tax	46 428	127	12.36	68 022	186	20.43
Taxation	6 610	18	1.76	6 984	19	2.10
Farm profit after tax	39 818	109	10.60	61 038	167	18.33
ALLOCATION OF FUNDS						
Add back depreciation	22 300	61	5.94	19 600	54	5.89
Reverse stock value adjustment	26 163	72	6.97	23 926	66	7.19
Income equalisation	0	0	0.00	0	0	0.00
Off-farm income	14 400	39	3.83	15 100	41	4.54
Discretionary cash	102 681	281	27.35	119 664	328	35.94
Farm surplus for reinvestment²	32 481	89	8.65	48 564	133	14.59
APPLIED TO						
Net capital purchases	21 600	59	5.75	30 500	84	9.16
Development	19 200	53	5.11	27 100	74	8.14
Principal repayments	22 023	60	5.87	22 619	62	6.79
Drawings	55 800	153	14.86	56 000	153	16.82
New borrowings	36 100	99	9.61	40 000	110	12.02
Introduced funds	0	0	0.00	0	0	0.00
Cash surplus/deficit	20 158	55	5.37	23 445	64	7.04
ASSETS AND LIABILITIES						
Farm, forest & building (opening)	4 474 170	12 258	1 191.52	5 512 900	15 104	1 655.95
Plant and machinery (opening)	122 319	335	32.57	118 000	323	35.44
Stock valuation (opening)	264 985	726	70.57	238 822	654	71.74
Other produce on hand (opening)	2 394	7	0.64	2 318	6	0.70
Total farm assets (opening)	4 863 868	13 326	1 295.30	5 872 040	16 088	1 763.83
Total assets (opening)	5 079 741	13 917	1 352.79	5 976 840	16 375	1 795.31
Total liabilities (opening)	434 100	1 189	115.61	448 177	1 228	134.62
Total equity (farm assets–liabilities)	4 429 768	12 136	1 179.70	5 423 863	14 860	1 629.21

Note

1 Sheep stock units are used in the per stock unit calculation for sheep and wool income and sheep purchases. Cattle stock units are used for cattle income and purchases. The remainder of the time total stock units are used.

2 Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

»» TABLE 27.4: CANTERBURY/MARLBOROUGH BREEDING AND FINISHING SHEEP AND BEEF MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
FARM WORKING EXPENSES						
Permanent wages	0	0	0.00	0	0	0.00
Casual wages	17 698	48	4.71	23 878	65	7.17
ACC	1 018	3	0.27	910	2	0.27
Total labour expenses	18 715	51	4.98	24 788	68	7.45
Animal health	15 158	42	4.04	14 056	39	4.22
Breeding	0	0	0.00	0	0	0.00
Electricity	6 470	18	1.72	6 786	19	2.04
Feed (hay and silage)	9 231	25	2.46	16 000	44	4.81
Feed (feed crops)	900	2	0.24	1 076	3	0.32
Feed (grazing)	2 000	5	0.53	2 400	7	0.72
Feed (other)	1 400	4	0.37	1 675	5	0.50
Fertiliser	27 190	74	7.24	25 621	70	7.70
Lime	1 800	5	0.48	1 943	5	0.58
Cash crop expenses	1 100	3	0.29	2 880	8	0.87
Freight (not elsewhere deducted)	4 701	13	1.25	5 001	14	1.50
Regrassing costs	8 399	23	3.01	9 457	26	2.84
Shearing expense	15 860	43	5.68	13 720	38	6.00
Weed and pest control	9 099	25	2.42	9 899	27	2.97
Fuel	14 301	39	3.81	17 600	48	5.29
Vehicle costs (excluding fuel)	8 599	24	2.29	9 099	25	2.73
Repairs and maintenance	15 600	43	4.15	16 502	45	4.96
Total other working expenses	141 809	389	37.77	153 715	421	46.17
Communication costs (phone & mail)	2 399	7	0.64	2 709	7	0.81
Accountancy	3 171	9	0.84	3 581	10	1.08
Legal and consultancy	1 814	5	0.48	2 048	6	0.62
Other administration	1 916	5	0.51	2 163	6	0.65
Water charges (irrigation)	1 500	4	0.40	1 500	4	0.45
Rates	7 878	22	2.10	8 090	22	2.43
Insurance	4 200	12	1.12	4 398	12	1.32
Other expenditure ²	2 276	6	0.61	2 303	6	0.69
Total overhead expenses	25 154	69	6.70	26 791	73	8.05
Total farm working expenses	185 678	509	49.45	205 294	562	61.67
Wages of management	75 000	205	19.97	75 000	205	22.53
Depreciation	22 300	61	5.94	19 600	54	5.89
Total farm operating expenses	282 978	775	75.36	299 894	822	90.08
CALCULATED RATIOS						
Economic farm surplus (EFS ³)	13 775	38	3.67	37 701	103	11.32
Farm working expenses/NCI ⁴	58%			57%		
EFS/total farm assets	0.3%			0.6%		
EFS less interest and lease/equity	-0.6%			-0.1%		
Interest + rent + lease/NCI	13.1%			12.4%		
EFS/NCI	4.3%			10.4%		

Notes

1 Shearing expense per stock units based on sheep stock units.

2 Includes Accident Compensation Corporation (ACC) employer levy.

3 EFS (or earnings before 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: \$31 000 allowance for labour input plus 1 percent of opening total farm working assets to a maximum of \$75 000.

4 Net cash income.

OTAGO

DRY HILL SHEEP AND BEEF

28

The Otago dry hill sheep and beef model represents 400 farms in the Otago and south Canterbury areas. The farms range in size from 500 to 4000 hectares and are spread from Waimate to Millers Flat in central Otago, with the main concentration being in the Middelmarsh and inland Palmerston areas.

These farms are characterised by systems that cope with dry summers and long, cold winters. The rainfall is 400 to 700 millimetres per year, but drought days number over 100 per year. These farms are predominantly in hill country with a small area of valley floor. Some farms have a small area of irrigated valley floor.

»» KEY POINTS

- › Stock numbers on the model farm fell 643 stock units during 2007/08 as a result of the dry summer and in preparation for low winter feed reserves in 2008. This destocking boosted net cash income by \$42 000. Sheep numbers will be partially rebuilt in 2008/09.
- › Farm surplus for reinvestment was negative and there was a cash deficit in 2007/08, reflecting the drought and low prices for sheep, cattle and wool.
- › The average lamb price is expected to increase from \$43.46 per head in 2007/08 to \$66.04 in 2008/09, but the lambing percentage is expected to fall 3 percentage points to 117 percent.
- › Steer calves sold in autumn 2008 for \$339 per head, which was \$106 less than in 2006/07.
- › Farm working expenses for 2007/08 were 66 percent of net cash income at \$252 000 (\$38.56 per stock unit). This was an increase of 13 percent compared with \$223 000 in 2006/07.
- › Due to the expected increased prices for wool and lamb, farm profit before tax is expected to increase from \$800 in 2007/08 to \$77 000 in 2008/09. This is expected to produce a cash surplus of \$21 000 for 2008/09.
- › Otago dry hill farmers are under continuing financial pressure from low product prices and the increasing cost of key farm inputs. Product prices are having a major negative impact on farmer morale, but farmers are optimistic about the long term future of the sheep and beef industry.

»» FINANCIAL PERFORMANCE OF THE OTAGO DRY HILL SHEEP AND BEEF MODEL FARM IN 2007/08

The cash operating surplus for the Otago dry hill sheep and beef model farm fell \$36 000 (21 percent) to \$131 000 in 2007/08 compared with 2006/07. While net cash income fell 2 percent, farm working expenses increased 13 percent compared with expenses in 2006/07. Even with this increase, the level of expenditure is still significantly less than that in 2004/05 and 2005/06. This indicates some farmers are exercising restraint in their expenditure to counter increased input costs.

See Tables 28.3 and 28.4 for details of the model's budget and expenditure in 2007/08.

› REVENUE DECREASES 2 PERCENT

Net cash income in 2007/08 was \$384 000 (\$58.60 per stock unit), a decrease of 2 percent from \$390 000 (\$59.79 per stock unit) in 2006/07. This includes a stock value adjustment of \$42 000 from a 643 stock unit reduction in capital stock. Sheep income per stock unit decreased from \$46.62 to \$43.43 per stock unit. Cattle income per stock unit increased from \$49.35 to \$59.49 per stock unit.

»» TABLE 28.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR OTAGO DRY HILL SHEEP AND BEEF MODEL FARM

	2004/05	2005/06	2006/07	2007/08	2008/09 BUDGET
YEAR ENDED 30 JUNE					
Effective area (ha)	2 000	2 000	2 000	2 000	2 000
Breeding ewes (head)	4 563	4 653	4 675	4 675	4 155
Replacement ewe hoggets (head)	1 127	1 130	1 130	1 130	1 115
Other sheep (head)	151	201	261	261	271
Breeding cows (head)	87	84	84	84	85
Rising 1-year cattle (head)	56	56	54	54	54
Other cattle (head)	37	40	39	44	19
Opening sheep stock units	5 548	5 590	5 654	5 655	5 131
Opening cattle stock units	990	928	870	892	772
Opening total stock units (su)	6 538	6 518	6 523	6 546	5 903
Stocking rate (stock unit/ha)	3.3	3.3	3.3	3.3	3.0
Ewe lambing (%)	117	123	119	120	117
Average lamb price (\$/head)	60.19	46.01	47.69	43.46	66.04
Average wool price (\$/kg)	3.84	3.46	3.36	3.15	3.68
Total wool produced (kg)	26 243	27 065	26 401	24 380	25 489
Wool production (kg/ssu)	4.73	4.84	4.67	4.31	4.97
Average rising 2-year steer (\$/head)	732	715	800	559	643
Average 2-year and older bull (\$/head)	550	559	595	495	574
Net cash income (\$)	459 596	394 661	390 008	383 648	406 881
Farm working expenses (\$)	279 353	283 172	223 220	252 421	262 727
Farm profit before tax (\$)	174 191	88 551	91 751	800	76 792
Farm surplus for reinvestment (\$) ¹	123 560	50 359	37 818	-6 187	44 326

Notes

¹ Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

CATTLE AND SHEEP NUMBERS FALL

Sales of capital ewes and wintering fewer ewe replacements saw sheep stock units decrease 9 percent during 2007/08. Cattle stock units decreased 13 percent, primarily due to the sale of rising-one-year steers that would otherwise have been retained and sold as rising two-year-olds.

Stock numbers were reduced as a result of the dry summer and the subsequent low winter feed reserves. At the time of the destocking, most farmers felt the 2007/08 oversupply of ewes for sale would continue in 2008/09 as land use changed on intensive properties, allowing the Otago dry hill properties to easily and cheaply restock. Industry representatives are indicating that the price and demand for replacement stock may be higher than farmers have anticipated.

LAMB PRICE FALLS AS MORE SOLD STORE

The average lamb price fell to \$43.46 in 2007/08 from \$47.69 in 2006/07. This was due to an increase in the proportion of lambs sold store, up to 35 percent in 2007/08 from 21 percent in 2006/07, and low carcass weights. Many farmers slaughtered lambs down to 13 kilograms carcass weight because of the weak store lamb market and a lack of available feed to finish lambs to more normal weights.

Surplus hoggets carried through the 2007 winter were sold for an average \$69 per head, well down on the 2006/07 price of \$81. Ewes were difficult to sell and averaged only \$34 per head.

WOOL REVENUE FALLS

Total wool revenue fell 13 percent to \$77 000 in 2007/08 from \$89 000 in 2006/07. The price per kilogram fell 6 percent to \$3.15 per kilogram in 2007/08 from \$3.36 per kilogram in 2006/07. Wool weight per sheep stock unit also fell slightly to 4.3 kilograms per sheep stock unit in 2007/08 from 4.7 kilograms in 2006/07. Wool revenue contributed 20 percent of net cash income in 2007/08 compared with 23 percent in 2006/07.

CATTLE PRICES WEAKENED BY FEED SHORTAGES

Steer calves sold for \$339 per head in 2007/08, a decrease of \$106 per head, or 24 percent, from 2006/07 due to poor autumn pasture covers and farmers anticipating low winter feed reserves.

»»» TABLE 28.2: OTAGO DRY HILL SHEEP AND BEEF CASH FARM INCOME

YEAR ENDED 30 JUNE	2004/05 (\$)	2005/06 (\$)	2006/07 (\$)	2007/08 (\$)	2008/09 BUDGET (\$)
Sheep sales less purchases	296 234	253 709	258 392	241 848	262 648
Cattle sales less purchases	56 911	42 595	42 907	50 354	34 385
Wool	100 773	93 645	88 708	76 846	93 747
Grazing income (including hay and silage sales)	0	0	0	6 900	6 900
Other income	0	4712	0	7 700	9 200
Net cash income	459 596	394 661	390 008	383 648	406 881

» EXPENDITURE CONSTRAINED

Total farm working expenses increased \$29 000 (13 percent) to \$252 000 (\$38.56 per stock unit) in 2007/08 compared with \$223 000 (\$34.22 per stock unit) in 2006/07. These expenses accounted for 66 percent of net cash income. Current expenditure is still significantly lower than in 2004/05 (\$279 000) and 2005/06 (\$283 000). Given the significant increase in farm input costs over this period, this shows farmers are making a considerable effort to contain expenditure.

RISING PRICES PUSH UP EXPENDITURE

Farm working expenses increased as a direct result of the significant increase in the cost of key farm inputs, especially fertiliser and fuel, and fuel-related expenditure such as contracting services and transport. Expenditure on fuel increased 27 percent to \$19 000 (\$2.93 per stock unit) in 2007/08 from \$15 000 (\$2.32 per stock unit) in 2006/07. Animal health expenditure also increased to \$19 000 in 2007/08 from \$15 000 in 2006/07.

Total winter feed costs remained relatively constant at around \$19 000 but given the increase in contracting charges this reflects a lack of feed available to convert to hay and silage rather than an ability for farmers to hold down this cost.

FERTILISER EXPENDITURE FALLS BELOW MAINTENANCE LEVELS

Total fertiliser expenditure (excluding lime) decreased to \$32 000 in 2007/08 (\$4.94 per stock unit) from \$38 000 in 2006/07 (\$5.81 per stock unit). This represents a significant decrease in the amount of nutrient applied. Using the current price of superphosphate of around \$480 per tonne (ex store), expenditure of \$6.50 to \$7.50 per stock unit on fertiliser is required to maintain existing soil fertility levels. The reduced fertiliser tonnage was applied more strategically to areas where higher response rates could be expected.

SHEARING COSTS DOWN AS FREQUENCY IS REDUCED

Shearing costs fell from \$5.30 per sheep stock unit in 2006/07 to \$5.26 per sheep stock unit in 2007/08, reflecting a trend away from six- or eight-month shearing back to 12-month shearing as a way to save money, particularly given the falling returns from crossbred wool.

➤ NET RESULT IS A FURTHER DEFICIT

The Otago dry hill model farm's cash deficit increased \$19 000 to \$21 000 in 2007/08 compared with a deficit of \$2000 in 2006/07. This represents a further worsening of economic performance and viability.

The farm profit before tax was \$800, which is significantly lower than the \$92 000 profit in 2006/07. The 2007/08 farm profit before tax includes a stock value adjustment of -\$42 000 due to the sale of capital stock. Adjusting for this sale would indicate a before tax loss from normal trading of \$42 000.

Interest charges increased 12 percent to \$51 000 as a result of increased borrowing and higher interest rates. Debt servicing was 15 percent of net cash income in 2007/08 (up from 13 percent in 2006/07).

Capital purchases of vehicles and machinery decreased to \$16 000 in 2008/09 from \$28 000 in 2006/07. Many farmers have updated major items of plant in recent years and, with their cash position now under pressure, are deferring capital expenditure. Development expenditure dramatically fell to \$3000 from \$16 000 because of less cash being available for development and because, while farm product prices remain low, there is a lower return from investment in farm development.

Drawings increased slightly to \$61 000 (\$9.24 per stock unit) in 2007/08 compared with \$59 000 in 2006/07.

Land values have been steadily increasing for this class of farm, although these properties have not seen the dramatic value increases of the more-intensive properties being sought after for conversion to dairy or dairy grazing. However, the value of these properties has been influenced by interest from farmers displaced by dairy conversions in Southland and elsewhere. Total land and building value for this 2000 hectare property at June 2008 was \$3.376 million (\$516 per stock unit) and equity was \$3.257 million (82 percent of total farm assets).

»» BUDGET FINANCIAL PERFORMANCE OF THE OTAGO DRY HILL SHEEP AND BEEF MODEL FARM IN 2008/09

The model farm's cash operating surplus is expected to increase \$13 000 (10 percent) to \$144 000 in 2008/09 compared with 2007/08.

See Tables 28.3 and 28.4 for details of the model's budget and expenditure in 2008/09. This budget was compiled in August 2008 and is based on farmer and industry expectations at that time.

» REVENUE EXPECTED TO INCREASE 6 PERCENT

Net cash income is expected to increase 6 percent to \$407 000 (\$68.92 per stock unit). Returns for wool, particularly lamb, are expected to increase. Prime lamb prices are expected to improve, and the price paid for store lambs is expected to increase from \$34 per head to \$48. The proportion of lambs to be sold store is expected to fall to around 15 percent, but this will be determined largely by climatic conditions and market prices. The lambing percentage is expected to be down 3 percentage points on 2007/08 to 117 percent due to the dry autumn of 2008 and ewes being lighter at mating. Farmers are expected to retain extra ewe hoggets in June 2009 as they rebuild sheep numbers.

Wool prices are budgeted to increase 17 percent to \$3.68 per kilogram, primarily as a result of the decreasing value of the New Zealand dollar.

Income from beef is expected to decrease \$16 000 as fewer older steers are on hand for sale following destocking in 2008/08. However, higher prices for both finished cattle and autumn sold calves are expected.

» EXPENDITURE EXPECTED TO INCREASE

Farm working expenditure is budgeted to increase only slightly (up 4 percent) over 2007/08 to \$263 000 for 2008/09. This represents 65 percent of net cash income compared with 66 percent in 2007/08.

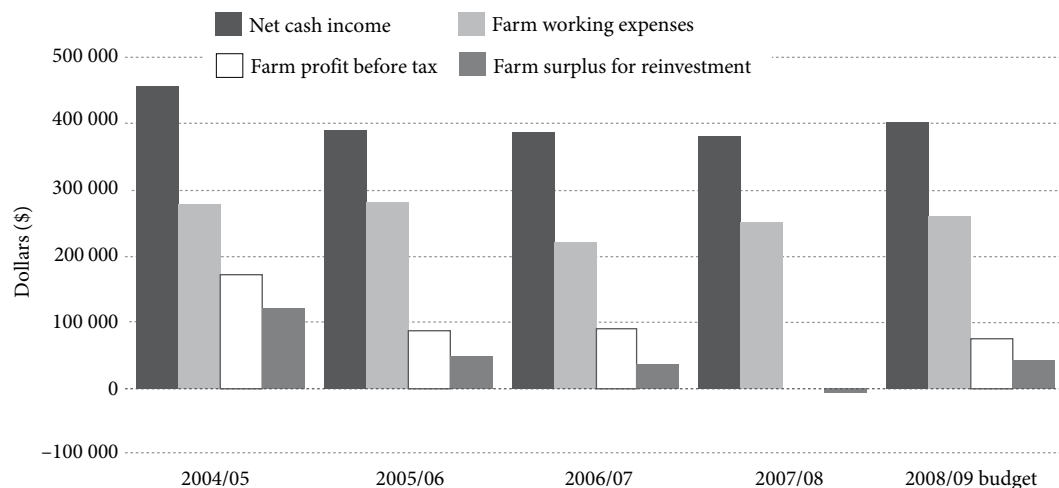
Further increases in costs associated with winter feed and regressing are expected. This is due to the increase in the cost of making winter feed and the need to replenish reserves of silage and hay that have been eroded over the past two to three years. Fertiliser expenditure is expected to increase to \$43 000 (\$7.37 per stock unit), a 35 percent increase from 2007/08. However, the tonnage of fertiliser applied is expected to fall 20 percent. Lime expenses are expected to increase 14 percent. It is expected that fuel expenditure will rise 25 percent in 2008/09. However, the recent variability in fuel prices makes anticipating the actual fuel expenditure for 2008/09 very difficult.

➤ NET RESULT EXPECTED TO BE A CASH SURPLUS

Farm profit before tax is expected to increase from \$800 to \$77 000 in 2008/09. This is expected to produce a cash surplus of \$21 000 for 2008/09.

Drawings are also expected to rise slightly to \$61 000. Expenditure on capital purchases and development is expected to rise to a combined total of \$27 000 for 2008/09 compared with \$19 000 in 2007/08. Debt servicing will increase yet again, up 3 percent, to \$52 000, as debt has increased slightly and interest rates remain high.

➤➤➤ FIGURE 28.1: OTAGO DRY HILL SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS



Source
MAF Monitoring Reports; 2005 to 2008.

»» TABLE 28.3: OTAGO DRY HILL SHEEP AND BEEF MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
REVENUE						
Sheep	245 613	123	43.43	263 903	132	51.43
Wool	76 846	38	13.59	93 747	47	18.27
Cattle	53 045	27	59.49	37 075	19	48.02
Grazing income (including hay and silage sales)	6 900	3	1.05	6 900	3	1.17
Other farm income	7 700	4	1.18	9 200	5	1.56
LESS						
Sheep purchases	3 764	2	0.67	1 255	1	0.24
Cattle purchases	2 690	1	3.02	2 690	1	3.48
Net cash income	383 648	192	58.60	406 881	203	68.92
Farm working expenses	252 421	126	38.56	262 727	131	44.51
Cash operating surplus	131 227	66	20.05	144 154	72	24.42
Interest	50 787	25	7.76	52 257	26	8.85
Rent and/or leases	5 000	3	0.76	5 000	3	0.85
Stock value adjustment	-42 357	-21	-6.47	20 890	10	3.54
Minus depreciation	32 283	16	4.93	30 995	15	5.25
Farm profit before tax	800	0	0.12	76 792	38	13.01
Taxation	21 127	11	3.23	-18 829	-9	-3.19
Farm profit after tax	-20 327	-10	-3.11	95 621	48	16.20
ALLOCATION OF FUNDS						
Add back depreciation	32 283	16	4.93	30 995	15	5.25
Reverse stock value adjustment	42 357	21	6.47	-20 890	-10	-3.54
Income equalisation	0	0	0.00	0	0	0.00
Off-farm income	4 100	2	0.63	4 100	2	0.69
Discretionary cash	58 413	29	8.92	109 826	55	18.60
Farm surplus for reinvestment²	-6 187	-3	-0.95	44 326	22	7.51
APPLIED TO						
Net capital purchases	16 400	8	2.51	21 000	11	3.56
Development	3 000	2	0.46	6 300	3	1.07
Principal repayments	0	0	0.00	0	0	0.00
Drawings	60 500	30	9.24	61 400	31	10.40
New borrowings	0	0	0.00	0	0	0.00
Introduced funds	0	0	0.00	0	0	0.00
Cash surplus/deficit	-21 487	-11	-3.28	21 126	11	3.58
ASSETS AND LIABILITIES						
Farm, forest & building (opening)	3 375 845	1 688	515.68	3 540 000	1 770	599.66
Plant and machinery (opening)	156 889	78	23.97	149 756	75	25.37
Stock valuation (opening)	426 642	213	65.17	384 285	192	65.10
Other produce on hand (opening)	0	0	0.00	0	0	0.00
Total farm assets (opening)	3 959 376	1 980	604.82	4 074 041	2 037	690.13
Total assets (opening)	4 120 687	2 060	629.46	4 166 441	2 083	705.78
Total liabilities (opening)	702 817	351	107.36	724 963	362	122.81
Total equity (farm assets–liabilities)	3 256 559	1 628	497.46	3 349 078	1 675	567.32

Notes

1 Sheep stock units are used in the per stock unit calculation for sheep and wool income and sheep purchases. Cattle stock units are used for cattle income and purchases. The remainder of the time total stock units are used.

2 Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

»» TABLE 28.4: OTAGO DRY HILL SHEEP AND BEEF MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
FARM WORKING EXPENSES						
Permanent wages	31 600	16	4.83	32 980	16	5.59
Casual wages	0	0	0.00	0	0	0.00
ACC	2 060	1	0.31	752	0	0.13
Total labour expenses	33 660	17	5.14	33 732	17	5.71
Animal health	19 400	10	2.96	21 000	11	3.56
Breeding	0	0	0.00	0	0	0.00
Electricity	4 900	2	0.75	5 200	3	0.88
Feed (hay and silage)	12 030	6	1.84	14 390	7	2.44
Feed (feed crops)	6 600	3	1.01	7 000	4	1.19
Feed (grazing)	0	0	0.00	0	0	0.00
Feed (other)	0	0	0.00	0	0	0.00
Fertiliser	32 330	16	4.94	43 502	22	7.37
Lime	1 800	1	0.27	2 057	1	0.35
Cash crop expenses	0	0	0.00	0	0	0.00
Freight (not elsewhere deducted)	8 645	4	1.32	9 400	5	1.59
Regrassing costs	11 040	6	1.95	11 590	6	1.96
Shearing expense	29 720	15	5.26	27 000	14	5.26
Weed and pest control	10 626	5	1.62	11 180	6	1.89
Fuel	19 180	10	2.93	24 010	12	4.07
Vehicle costs (excluding fuel)	10 955	5	1.67	11 400	6	1.93
Repairs and maintenance	21 310	11	3.26	14 000	7	2.37
Total other working expenses	188 536	94	28.80	201 730	101	34.17
Communication costs (phone & mail)	2 550	1	0.39	2 550	1	0.43
Accountancy	3 510	2	0.54	3 620	2	0.61
Legal and consultancy	2 300	1	0.35	2 300	1	0.39
Other administration	1 450	1	0.22	1 550	1	0.26
Water charges (irrigation)	0	0	0.00	0	0	0.00
Rates	9 070	5	1.39	9 070	5	1.54
Insurance	6 060	3	0.93	6 060	3	1.03
Other expenditure ²	5 285	3	0.81	2 115	1	0.36
Total overhead expenses	30 225	15	4.62	27 265	14	4.62
Total farm working expenses	252 421	126	38.56	262 727	131	44.51
Wages of management	70 594	35	10.78	71 740	36	12.15
Depreciation	32 283	16	4.93	30 995	15	5.25
Total farm operating expenses	355 298	178	54.27	365 462	183	61.91
CALCULATED RATIOS						
Economic farm surplus (EFS ³)	-14 007	-7	-2.14	62 309	31	10.55
Farm working expenses/NCI ⁴	66%			65%		
EFS/total farm assets	-0.4%			1.5%		
EFS less interest and lease/equity	-2.1%			0.2%		
Interest + rent + lease/NCI	14.5%			14.1%		
EFS/NCI	-3.7%			15.3%		

Notes

1 Shearing expense per stock units based on sheep stock units.

2 Includes Accident Compensation Corporation (ACC) employer levy.

3 EFS (or earnings before 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: \$31 000 allowance for labour input plus 1 percent of opening total farm working assets to a maximum of \$75 000.

4 Net cash income.

SOUTHLAND/SOUTH OTAGO

HILL COUNTRY SHEEP AND BEEF

29

The Southland/south Otago hill country sheep and beef model represents 720 farms in the moderately rolling clay downlands to steeper hill country of Southland and south Otago. The farms have mostly cultivated pastures, with the balance in improved, but steeper, hill and tussock blocks.

»» KEY POINTS

- › Net cash income improved 4 percent to \$399 000 in 2007/08 compared with 2006/07.
- › Seven percent fewer stock units were carried into 2008/09, mainly due to a reduction in hoggets and breeding ewes during the dry conditions.
- › Challenging spring and summer conditions in 2007/08 negatively affected pasture growth, animal performance and stock prices on many farms.
- › Grazing income made a small but increasing contribution to net cash income.
- › Farmers struggled but managed to keep farm working expenses in 2007/08 similar to 2006/07 levels.
- › Expectations are for a better lamb price and grass-growing season in 2008/09.

»» FINANCIAL PERFORMANCE OF THE SOUTHLAND/SOUTH OTAGO HILL COUNTRY SHEEP AND BEEF MODEL FARM IN 2007/08

The cash operating surplus for the Southland/south Otago hill country sheep and beef model farm was 14 percent higher in 2007/08 than in 2006/07 due to the sell down of capital stock. The lamb price was higher but the lambing percentage was down 7 percentage points on the previous season. When adjusted for sale of capital stock, farm profit before tax was 21 percent lower in 2007/08 than in 2006/07.

See Tables 29.3 and 29.4 for details of the model's budget and expenditure in 2007/08.

› REVENUE INCREASES 4 PERCENT DUE TO SALE OF CAPITAL STOCK

Net cash income in 2007/08 was \$399 000, or \$65.79 per stock unit (see Table 29.2). This was a 4 percent increase on 2006/07, but when adjusted for capital stock sales of \$22 000 represents a 2 percent decrease in net cash income.

The key factors affecting net cash income were a drop in the lambing percentage, continued low prime lamb prices, a difficult store lamb market and the reduction of sheep capital stock numbers.

DISAPPOINTING LAMB PRICES SIMILAR TO PREVIOUS YEAR

Farmers were disappointed that lamb prices did not improve more. In 2007/08, prime lambs averaged \$54 per head and store lambs \$40, giving an average price for the year of \$50.16 per head. This was only 33 cents per head higher than the year's average price in 2006/07.

The store lamb price in this model was not as adversely affected as that in the Otago dry hill model or the South Island high country model. Twenty-nine percent of lambs were sold as stores. This was higher than in 2006/07 and was due to dry conditions limiting feed for finishing lambs. The traditional store lamb purchasers also had little spare

»» TABLE 29.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR SOUTHLAND/SOUTH OTAGO HILL COUNTRY SHEEP AND BEEF MODEL FARM

	2004/05	2005/06	2006/07 ^R	2007/08	2008/09 BUDGET
YEAR ENDED 30 JUNE					
Effective area (ha)	710	723	723	723	723
Breeding ewes (head)	4 294	4 313	4 310	4 374	4 110
Replacement ewe hoggets (head)	1 172	1 194	1 194	1 167	887
Other sheep (head)	44	75	75	77	78
Breeding cows (head)	89	90	90	90	106
Rising 1-year cattle (head)	79	75	75	75	67
Other cattle (head)	3	3	3	3	3
Opening sheep stock units	5 150	5 206	5 203	5 250	4 790
Opening cattle stock units	865	829	817	817	870
Opening total stock units (su)	6 015	6 035	6 020	6 067	5 660
Stocking rate (stock unit/ha)	8.5	8.3	8.3	8.4	7.8
Ewe lambing (%)	130	129	130	123	121
Average lamb price (\$/head)	60.14	51.28	49.83	50.16	65.78
Average wool price (\$/kg)	2.86	2.51	2.46	2.57	2.82
Total wool produced (kg)	26 288	28 662	26 162	27 127	24 564
Wool production (kg/ssu)	5.10	5.51	5.03	5.17	5.13
Average rising 2-year steer (\$/head)	785	750	813	754	847
Average cull cow (\$/head)	511	620	539	486	556
Net cash income (\$)	465 999	400 241	383 390	399 150	440 076
Farm working expenses (\$)	253 915	239 309	220 958	221 252	241 864
Farm profit before tax (\$)	150 574	98 989	80 101	62 929	108 312
Farm surplus for reinvestment (\$) ¹	81 084	5 707	26 228	18 316	37 701

Notes

¹ Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

Symbol

^R The 2006/07 model has been revised. Latest M&WNZ final data indicated the lambing percentage in 2006/07 was higher than shown in the 2006/07 model published in 2007.

grass to finish lambs or had other more profitable options for selling their grass, mainly to dairy operations. This severely reduced demand for store lambs. The dry conditions over a large proportion of New Zealand also suppressed store lamb demand.

LAMBING DOWN 7 PERCENTAGE POINTS

The lambing percentage at 123 percent, was down 7 percentage points on the previous season. This is one of the largest drops in the lambing percentage for some years, and was due to a combination of poorer ewe condition and wet, cold spring weather. The 2007/08 season was characterised by a cold winter and a slow start to spring with low pasture growth rates.

DRY CONDITIONS LEAD TO FALL IN PRODUCTION AND SHEEP NUMBERS

Temperatures finally improved during November 2007 but continuing dry conditions led to soil moisture deficits from December 2007 to March 2008. Feed supplies were under pressure throughout the season and, subsequently, lower-than-usual amounts of hay and silage were made.

Lambs were sent for processing at lower carcass weights than in the previous year.

A common strategy in this model was for farmers to decrease hogget replacements and old ewe closing numbers. Opening and closing numbers of sheep stock units declined 9 percent (459 stock units). However, many farms had to wait longer than usual to get these extra sheep off the property, so the condition of ewes at mating was less than usual.

WOOL PRICE IMPROVES AND LEADS TO INCREASE IN WOOL INCOME

The price of wool reversed a five-year trend and increased an average 4 percent to \$2.57 per kilogram (greasy). Wool made up 17 percent of net cash income. Wool production increased 1000 kilograms (4 percent), and wool income rose to \$70 000 (up 8 percent). Shearing expenses made up 38 percent of the wool cheque in 2007/08. Fewer works lambs were shorn in 2007/08.

»» TABLE 29.2: SOUTHLAND/SOUTH OTAGO HILL COUNTRY CASH FARM INCOME

YEAR ENDED 30 JUNE	2004/05 (\$)	2005/06 (\$)	2006/07 ^a (\$)	2007/08 (\$)	2008/09 BUDGET (\$)
Sheep sales less purchases	326 429	268 847	261 922	268 527	293 701
Cattle sales less purchases	54 584	49 746	52 609	43 608	56 104
Wool	75 182	71 942	64 359	69 715	69 272
Grazing income (including hay and silage sales)	0	4 475	0	15 700	19 400
Other income	9 804	5 231	4500	1 600	1 600
Net cash income	465 999	400 241	383 390	399 150	440 076

Symbol

R The 2006/07 model has been revised. The latest data from Meat & Wool New Zealand indicates the lambing percentage in 2006/07 was higher than that shown in the 2006/07 model published in 2007.

CATTLE REVENUE DECREASES 17 PERCENT

Cattle sale prices and income were lower in 2007/08 than in 2006/07. The price for weaner cattle fell due to the lack of store cattle purchasers, and income fell as more cows were retained to increase the cow-breeding herd. Cattle revenue (sales less purchases) fell 17 percent to \$44 000. Cattle stock units increased 6 percent within the year, mainly in breeding cows. Throughout the region, fewer calves were purchased for finishing due to the lack of feed caused by the dry summer.

Casual grazing of dairy cows or dairy heifers during winter started to feature as a significant income stream.

› EXPENDITURE SURPRISINGLY STEADY

Farm working expenses stayed at a similar level in 2007/08 compared with the previous year due to reduced inputs in some categories and unavoidable input price increases in others.

Farmers were aware early in the season of the expected price increases in items such as fuel, feed, freight and fertiliser. Many farmers also reduced their amount of expenditure because of previous years' cash losses. Reductions occurred in labour, shearing, and repairs and maintenance expenditure. However, fertiliser, lime, regrassing, fuel and vehicle expenses increased between 9 to 32 percent compared with 2006/07. Overall, total farm working expenditure was similar to that in 2006/07 at \$221 000 (\$36.47 per stock unit).

The model has less labour expenditure in 2007/08 than in 2008/09, down \$15 000. This is a significant change that brings the model in line with the 30 farms surveyed. Without this adjustment, farm working expenses would have increased by just 1 percent.

FERTILISER EXPENDITURE UP 19 PERCENT BUT TONNAGE APPLIED DOWN

Farmers expected fertiliser price increases, so some put on more fertiliser before the price increased and/or put on the same amount earlier to beat the price rises. Fertiliser expenditure increased 23 percent but the tonnage applied decreased. Farmers maintained fertiliser inputs to key areas such as hay and silage paddocks, new grass and land in winter feed crops. The price increases in all fertiliser types had hill country farmers looking for the best value for money. Even less fertiliser will be applied in 2008/09. These farms apply a small amount of nitrogenous fertiliser; an equivalent of five kilograms of nitrogen per hectare was applied in 2007/08. This is likely to continue despite escalating fertiliser prices.

Lime expenditure increased 47 percent due to the extra tonnes applied. This increase in lime application was due to a catch up on lime applications and farmers' preference for lime (albeit not always based on a proven positive response).

FUEL-RELATED COSTS INCREASE

Fuel costs, and all costs with a fuel component, such as contracting, freight and regrassing, rose but not as much as some industry commentators had expected. Fuel and vehicle expenditure increased 9 percent in 2007/08 compared with 2006/07 expenditure.

► NET RESULT DECREASES 21 PERCENT

The farm profit before tax dropped to \$63 000, down 21 percent or \$17 000 compared with 2006/07. This was the lowest farm profit this decade. After tax, drawings, development, capital purchases, new borrowing of \$50 000 for refinancing current account debt, and taking into account off-farm income, the model recorded a \$35 000 cash surplus. Without new borrowings this would have been a \$15 000 cash deficit.

►► BUDGET FINANCIAL PERFORMANCE OF THE SOUTHLAND/SOUTH OTAGO HILL COUNTRY SHEEP AND BEEF MODEL FARM IN 2008/09

The model's cash operating surplus in 2008/09 is expected to increase 11 percent to \$198 000 (\$35.02 per stock unit). The increase is due to a higher expected lamb price and stable production levels. The increase in net cash income (10 percent) is somewhat offset by a 9 percent increase in total farm working expenditure.

See Tables 29.3 and 29.4 for details of the model's budget and expenditure in 2008/09. This budget was compiled in August 2008 and is based on farmer and industry expectations at that time.

► REVENUE EXPECTED TO INCREASE

Both store and works lamb prices are expected to lift in 2008/09. The average lamb price is expected to be up \$16, or 31 percent compared with 2007/08. The works or prime lamb price is expected to increase to \$72 per head and the store lamb price to \$50 per head. As 29 percent of lambs will be sold store, this gives an expected average price of \$65.78 per head. The lambing percentage is expected to be down slightly at 121 percent.

Wool revenue is expected to remain similar to that in 2007/08 even though the wool price is expected to increase 10 percent to an average of \$2.82 per kilogram. Fewer ewes and hoggets will be carried into 2008/09, so the total amount shorn will be down.

Cattle income is expected to rise due to a better schedule price, better store market and better weights on cattle sold.

Grazing income, still only 4 percent of net cash income, continues to increase in prominence in this model.

► EXPENDITURE INCREASES EXPECTED TO BE UNAVOIDABLE

Farm working expenditure is expected to increase \$21 000 (9 percent) to \$242 000 in 2008/09 (\$42.73 per stock unit). In many cases, farmers will be using fewer products but spending more in total due to price increases per unit. Some items such as fuel, fertiliser and associated costs are unavoidable if farmers want to maintain productive capacity.

Although the fertiliser tonnage applied is expected to be cut again in 2008/09, the total cost of fertiliser applied is expected to increase 18 percent, while lime expenses are expected to increase 25 percent over 2007/08 expenditure. More hay and silage are expected to be made to replenish empty silage pits and hay barns. The cost to conserve feed is also likely to increase due to fuel, materials and labour costs rising.

The increase in current account debt that accrued due to cash losses in previous years has been transferred to term debt at lower interest rates. No principal is repaid in this model. Debt servicing is budgeted to be \$11.20 per stock unit or 14 percent of net cash income.

➤ NET RESULT EXPECTED TO IMPROVE

The farm profit before tax is estimated to increase \$45 000 or 72 percent to \$108 000. After tax, capital purchases, some development costs and drawings are deducted and off-farm income of \$9000 is taken into account, the model is predicted to have a cash deficit of \$4000.

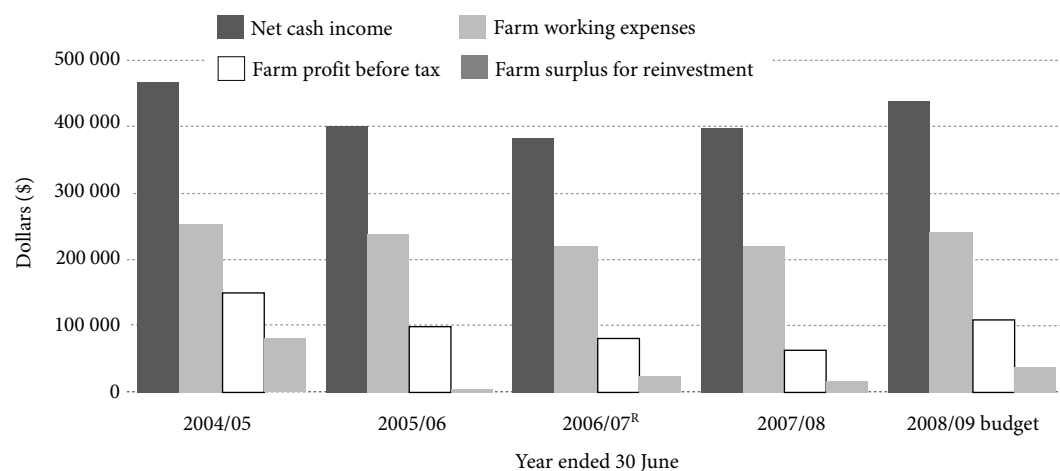
The continuation of cash losses is of concern to everyone associated with sheep and beef farming, especially when farms are now not being fully maintained or developed significantly.

Economic upsides for this model include the potential for a better lambing percentage than expected, better prime lamb and beef prices due to favourable exchange rate shifts. This will also lead to better store stock prices.

Return on capital was 1.1 percent in 2007/08. After taking into account interest payments, return on equity was -0.3 percent. Return on capital and interest payments are expected to increase to 1.6 percent and 0.6 percent respectively in 2008/09.

Although farming families' cash businesses are not particularly healthy, their equity continues to grow. As at 1 July 2008, these types of farms were valued at \$7400 per hectare or \$900 to \$1000 per stock unit. This gave an increase of \$1 million in total farm assets over the year and increased equity to just over \$5 million. Although this enables farmers to feel secure, it makes farm succession or expansion more difficult and may see a change to ownership structures with equity and risk being shared.

➤➤ FIGURE 29.1: SOUTHLAND/SOUTH OTAGO HILL COUNTRY SHEEP AND BEEF MODEL FARM PROFITABILITY TREND



Source
MAF Monitoring Reports; 2005 to 2008.

»» TABLE 29.3: SOUTHLAND/SOUTH OTAGO HILL COUNTRY SHEEP AND BEEF MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
REVENUE						
Sheep	275 077	380	52.40	298 917	413	62.40
Wool	69 715	96	13.28	69 272	96	14.46
Cattle	47 753	66	58.45	60 481	84	69.52
Grazing income (including hay and silage sales)	15 700	22	2.59	19 400	27	3.43
Other farm income	1 600	2	0.26	1 600	2	0.28
LESS						
Sheep purchases	6 550	9	1.25	5 216	7	1.09
Cattle purchases	4 145	6	5.07	4 377	6	5.03
Net cash income	399 150	552	65.79	440 076	609	77.75
Farm working expenses	221 252	306	36.47	241 864	335	42.73
Cash operating surplus	177 898	246	29.32	198 212	274	35.02
Interest	63 442	88	10.46	63 419	88	11.20
Rent and/or leases	0	0	0.00	0	0	0.00
Stock value adjustment	-22 434	-31	-3.70	6 132	8	1.08
Minus depreciation	29 093	40	4.80	32 613	45	5.76
Farm profit before tax	62 929	87	10.37	108 312	150	19.14
Taxation	19 340	27	3.19	16 092	22	2.84
Farm profit after tax	43 590	60	7.19	92 221	128	16.29
ALLOCATION OF FUNDS						
Add back depreciation	29 093	40	4.80	32 613	45	5.76
Reverse stock value adjustment	22 434	31	3.70	-6 132	-8	-1.08
Income equalisation	0	0	0.00	0	0	0.00
Off-farm income	9 300	13	1.53	9 300	13	1.64
Discretionary cash	104 416	144	17.21	128 001	177	22.61
Farm surplus for reinvestment²	18 316	25	3.02	37 701	52	6.66
APPLIED TO						
Net capital purchases	32 800	45	5.41	37 900	52	6.70
Development	10 000	14	1.65	13 300	18	2.35
Principal repayments	0	0	0.00	0	0	0.00
Drawings	76 800	106	12.66	81 000	112	14.31
New borrowings	50 000	69	8.24	0	0	0.00
Introduced funds	0	0	0.00	0	0	0.00
Cash surplus/deficit	34 816	48	5.74	-4 199	-6	-0.74
ASSETS AND LIABILITIES						
Farm, forest & building (opening)	4 315 500	5 969	711.35	5 375 370	7 435	949.66
Plant and machinery (opening)	122 900	170	20.26	124 700	172	22.03
Stock valuation (opening)	390 183	540	64.32	367 749	509	64.97
Other produce on hand (opening)	0	0	0.00	0	0	0.00
Total farm assets (opening)	4 828 583	6 679	795.93	5 867 819	8 116	1 036.66
Total assets (opening)	5 020 083	6 943	827.50	6 052 619	8 372	1 069.31
Total liabilities (opening)	670 000	927	110.44	685 000	947	121.02
Total equity (farm assets–liabilities)	4 158 583	5 752	685.49	5 182 819	7 168	915.64

Notes

1 Sheep stock units are used in the per stock unit calculation for sheep and wool income and sheep purchases. Cattle stock units are used for cattle income and purchases. The remainder of the time total stock units are used.

2 Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

»» TABLE 29.4: SOUTHLAND/SOUTH OTAGO HILL COUNTRY SHEEP AND BEEF MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
FARM WORKING EXPENSES						
Permanent wages	12 922	18	2.13	13 300	18	2.35
Casual wages	3 100	4	0.51	3 100	4	0.55
ACC	761	1	0.13	381	1	0.07
Total labour expenses	16 783	23	2.77	16 781	23	2.96
Animal health	19 352	27	3.19	19 358	27	3.42
Breeding	0	0	0.00	0	0	0.00
Electricity	2 669	4	0.44	2 774	4	0.49
Feed (hay and silage)	12 659	18	2.09	15 226	21	2.69
Feed (feed crops)	6 276	9	1.03	6 865	9	1.21
Feed (grazing)	0	0	0.00	0	0	0.00
Feed (other)	0	0	0.00	0	0	0.00
Fertiliser	41 960	58	6.92	49 525	68	8.75
Lime	8 200	11	1.35	10 250	14	1.81
Cash crop expenses	0	0	0.00	0	0	0.00
Freight (not elsewhere deducted)	6 491	9	1.07	7 189	10	1.27
Regrassing costs	5 703	8	1.09	6 010	8	1.06
Shearing expense	26 300	36	5.01	25 250	35	5.27
Weed and pest control	6 431	9	1.06	7 267	10	1.28
Fuel	14 319	20	2.36	17 111	24	3.02
Vehicle costs (excluding fuel)	9 600	13	1.58	9 984	14	1.76
Repairs and maintenance	15 149	21	2.50	18 936	26	3.35
Total other working expenses	175 110	242	28.86	195 745	271	34.58
Communication costs (phone & mail)	2 422	3	0.40	2 495	3	0.44
Accountancy	3 202	4	0.53	3 297	5	0.58
Legal and consultancy	1 831	3	0.30	1 886	3	0.33
Other administration	1 934	3	0.32	1 992	3	0.35
Water charges (irrigation)	0	0	0.00	0	0	0.00
Rates	10 328	14	1.70	10 947	15	1.93
Insurance	5 396	7	0.89	5 600	8	0.99
Other expenditure ²	4 246	6	0.70	3 121	4	0.55
Total overhead expenses	29 359	41	4.84	29 338	41	5.18
Total farm working expenses	221 252	306	36.47	241 864	335	42.73
Wages of management	75 000	104	12.36	75 000	104	13.25
Depreciation	29 093	40	4.80	32 613	45	5.76
Total farm operating expenses	325 344	450	53.63	349 477	483	61.74
CALCULATED RATIOS						
Economic farm surplus (EFS ³)	51 372	71	8.47	96 732	134	17.09
Farm working expenses/NCI ⁴	55%			55%		
EFS/total farm assets	1.1%			1.6%		
EFS less interest and lease/equity	-0.3%			0.6%		
Interest + rent + lease/NCI	15.9%			14.4%		
EFS/NCI	12.9%			22.0%		

Notes

1 Shearing expense per stock units based on sheep stock units.

2 Includes Accident Compensation Corporation (ACC) employer levy.

3 EFS (or earnings before 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: \$31 000 allowance for labour input plus 1 percent of opening total farm working assets to a maximum of \$75 000.

4 Net cash income.

SOUTHLAND/SOUTH OTAGO

INTENSIVE SHEEP AND BEEF

30

The Southland/south Otago intensive sheep and beef model represents 1600 intensive sheep and beef farms in Southland and south Otago. The farms are on the plains and downlands with, usually, ample summer rainfall.

This class of farm is being seriously challenged by the expanding dairy industry. Some farms are being converted to milking platforms and others to dairy support enterprises, such as dairy heifer grazing and cow wintering. Cereal cropping is also increasing.

»» KEY POINTS

- › The cash operating surplus for 2007/08 is up 3 percent from 2006/07 as farmers move out of bull beef and into dairy support.
- › Farm working expenses increased 6 percent overall to \$43.07 per stock unit in 2007/08 up \$2.99 per stock unit from 2006/07.
- › During 2007/08, 95 farms in this model were converted to milking platforms and a significant number introduced dairy support enterprises.
- › Unusually dry conditions during the summer of 2007/08 resulted in lower lamb weights (down 0.5 kilograms per head) and more ewe lamb replacements being killed.
- › Cash losses are expected for 2008/09 despite the average lamb price expected at \$73.00 (up 33 percent) and wool expected at \$2.64 per kilogram (up 18 percent).

»» FINANCIAL PERFORMANCE OF THE SOUTHLAND/SOUTH OTAGO INTENSIVE SHEEP AND BEEF MODEL FARM IN 2007/08

The cash operating surplus for the Southland/south Otago intensive sheep and beef model farm was \$92 000 in 2007/08, up \$3000 (3 percent) from 2006/07. The cattle policy on the model farm changed from bull beef to dairy grazing. Ewe hogget numbers fell and more ewe lambs were sold (\$6000 more income) due to dry summer conditions putting pressure on feed supplies. Feed costs, shearing costs and repairs and maintenance costs decreased, while fertiliser and fuel costs increased.

See Tables 30.3 and 30.4 for details of the model's budget and expenditure in 2007/08.

› REVENUE INCREASES 4 PERCENT

The model farm's net cash income increased \$9000 or 4 percent to \$206 000. Revenue was boosted in 2007/08 by a reduction in sheep and beef capital stock of \$19 000.

DRY SUMMER RESULTS IN INCREASED SHEEP SALES

In 2007/08, sheep sales net of purchases increased \$10 000 to \$154 000. One hundred more ewe lambs were sold than usual, with fewer ewe hogget replacements retained because of dry summer conditions and an expected low value for capital ewes. Ewe numbers fell slightly as well. This produced additional income of about \$6000, but with a contingent liability of capital ewes having to be purchased at a later date.

»» TABLE 30.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR SOUTHLAND/SOUTH OTAGO INTENSIVE SHEEP AND BEEF MODEL FARM

	2004/05	2005/06	2006/07	2007/08	2008/09 BUDGET
YEAR ENDED 30 JUNE					
Effective area (ha)	194	194	194	194	194
Breeding ewes (head)	2 100	2 125	2 165	2 165	2 061
Replacement ewe hoggets (head)	520	530	530	530	424
Other sheep (head)	25	25	25	25	25
Rising 1-year cattle (head)	35	30	30	20	0
Other cattle (head)	0	0	0	0	20
Opening sheep stock units	2 484	2 516	2 556	2 556	2 378
Opening cattle stock units	158	135	135	90	90
Opening total stock units (su)	2 642	2 651	2 691	2 646	2 468
Stocking rate (stock unit/ha)	13.6	13.7	13.9	13.6	12.7
Ewe lambing (%)	133	138	136	134	132
Average lamb price (\$/head)	61.94	51.50	52.00	54.71	73.00
Average wool price (\$/kg)	2.72	2.46	2.43	2.23	2.64
Total wool produced (kg)	13 783	14 668	14 440	14 824	13 786
Wool production (kg/ssu)	5.55	5.83	5.65	5.8	5.8
Net cash income (\$)	219 046	195 686	197 326	205 985	233 921
Farm working expenses (\$)	111 071	112 668	107 868	113 961	125 884
Farm profit before tax (\$)	74 105	47 256	47 003	15 047	57 630
Farm surplus for reinvestment (\$)¹	20 772	3 605	9 557	-8 701	18 779

Notes

¹ Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

LAMBING DOWN 2 PERCENTAGE POINTS BUT PRICES UP

The lambing percent decreased 2 percentage points to 134 percent. This reduction was offset by an increase in average lamb prices to \$54.71, an increase of 5 percent, despite the 0.5 kilogram-lighter average carcass weight due to the dry conditions causing a tight feed situation.

WOOL REVENUE FALLS DUE TO PRICE SLUMP

Wool revenue dropped \$2000 (6 percent) as the wool price slumped to \$2.23 per kilogram, the lowest recorded for ten years. Total wool sold increased 3 percent as a result of changed shearing patterns, and industry commentators noted an increase in the numbers of lambs shorn.

»» TABLE 30.2: SOUTHLAND/SOUTH OTAGO INTENSIVE SHEEP AND BEEF CASH FARM INCOME

YEAR ENDED 30 JUNE	2004/05 (\$)	2005/06 (\$)	2006/07 (\$)	2007/08 (\$)	2008/09 BUDGET (\$)
Sheep sales less purchases	162 416	142 095	144 216	153 967	184 766
Cattle sales less purchases	14 320	12 507	13 020	14 840	0
Wool	37 510	36 084	35 090	33 058	36 395
Grazing income (including hay and silage sales)	3 200	3 200	3 400	2 520	11 160
Other income	1 600	1 800	1 600	1 600	1 600
Net cash income	219 046	195 686	197 326	205 985	233 921

MOVE TO DAIRY GRAZING BOOSTS NET CASH INCOME

The model farm changed from finishing bull beef to dairy grazing, and the reduction in capital stock boosted income \$6000. The full benefits of this change will not show until 2008/09. Farmers and their advisers find the gross margin per kilogram of dry matter from dairy grazing is much higher than for beef finishing.

» EXPENDITURE INCREASES 6 PERCENT

Farm working expenses increased \$6000 (6 percent) to \$114 000 in 2007/08. This is equal to \$43.07 per stock unit, an increase of \$2.99 per stock unit from 2006/07.

Many expense items showed little change despite costs rising per unit. This indicates that farmers have restrained their spending. Costs that were held included labour, animal health, electricity, shearing, weed and pest control, administration and insurance costs.

Feed costs changed little in total, but grazing costs increased to \$1.00 per stock unit (up 12 percent) and hay and silage costs were down to \$1.25 per stock unit (down 9 percent). This reflects a dry summer with some stock sent away for grazing and less surplus feed to conserve.

Fertiliser expenses increased 15 percent to \$16 000 or \$5.93 per stock unit. The majority of farmers would have purchased and applied fertiliser before the price hikes hit in late summer. Regrassing costs increased \$2000 (up 49 percent) due to a larger area being regrassed and input costs rising. Fuel per stock unit increased 9 percent to \$4.12 per stock unit from \$3.72 in the previous year.

Repairs and maintenance fell to \$2.27 per stock unit (down 25 percent) as farmers restrained their discretionary spending where possible.

» NET RESULT IS POOR

The cash operating surplus improved \$3000 (3 percent) to \$92 000. However, without the sale of capital stock the operating surplus would have declined \$16 000. Farm profit before tax was down to \$15 000 and, even with

additional cash income from the decrease in capital stock, a negative farm surplus for reinvestment of -\$9000 was recorded. Overall, a cash deficit of \$21 000 was financed through a higher overdraft.

»» BUDGET FINANCIAL PERFORMANCE OF THE SOUTHLAND/SOUTH OTAGO INTENSIVE SHEEP AND BEEF MODEL FARM IN 2008/09

A cash operating surplus of \$108 000 (up 17 percent) is expected for 2008/09 as a result of an anticipated increase in lamb and wool prices, despite an increase in farm working expenses.

See Tables 30.3 and 30.4 for details of the model's budget and expenditure in 2008/09. This budget was compiled in August 2008 and is based on farmer and industry expectations at that time.

» REVENUE EXPECTED TO INCREASES 14 PERCENT

Net cash income is expected to increase to \$234 000 (up 14 percent). The average lamb price is expected to lift to \$73, up by one third compared with 2007/08. Despite an expected decrease of 2 percentage points in lambing to 132 percent, the expected 33 percent increase in lamb value has driven the sheep revenue (sales less purchases) up \$31 000 (20 percent). Farmers are also expected to restore their sheep numbers to slightly higher than pre-drought levels, retaining \$6000 of capital stock. Opening sheep numbers on the model farm as at 1 July 2008 were 7 percent lower than a year earlier.

Wool income is expected to improve 10 percent to \$36 000. Total wool produced is expected to fall 7 percent due to fewer sheep being on hand, but wool prices are expected to increase 18 percent to \$2.64 per kilogram as a result of a falling exchange rate and increased market demand.

This year will see a full year of dairy grazing with a net expected income of \$11 000 replacing the income from beef finishing.

» EXPENDITURE EXPECTED TO INCREASE 10 PERCENT

Farm working expenditure is expected to increase 10 percent to \$126 000. Because stock numbers have declined 7 percent overall, this represents an increase of 18 percent on a stock unit basis to \$51 per stock unit. This is a result of 33 percent increases in expenditure on both fuel and fertiliser; the increase in fertiliser expenditure due to price increases and despite reduced volumes. Repairs and maintenance are expected to be up 40 percent as farmers catch up on work previously deferred although farmers may delay decisions where possible until their likely returns become clear. Freight costs are expected to increase 15 percent but most other costs are expected to remain relatively unchanged.

Feed costs remain unchanged, although grazing costs are expected to be lower (down 40 percent) in expectation of a normal summer, and hay and silage costs are expected to increase 15 percent in expectation of depleted reserves being replaced and higher baleage costs.

»» TABLE 30.3: SOUTHLAND/SOUTH OTAGO INTENSIVE SHEEP AND BEEF MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
REVENUE						
Sheep	156 717	808	61.31	187 516	967	78.86
Wool	33 058	170	12.93	36 395	188	15.31
Cattle	14 840	76	164.89	0	0	0.00
Grazing income (including hay and silage sales)	2 520	13	0.95	11 160	58	4.52
Other farm income	1 600	8	0.60	1 600	8	0.65
LESS						
Sheep purchases	2 750	14	1.08	2 750	14	1.16
Cattle purchases	0	0	0.00	0	0	0.00
Net cash income	205 985	1 062	77.85	233 921	1 206	94.79
Farm working expenses	113 961	587	43.07	125 884	649	51.01
Cash operating surplus	92 024	474	34.78	108 037	557	43.78
Interest	43 420	224	16.41	42 275	218	17.13
Rent and/or leases	0	0	0.00	0	0	0.00
Stock value adjustment	-19 157	-99	-7.24	6 148	32	2.49
Minus depreciation	14 400	74	5.44	14 280	74	5.79
Farm profit before tax	15 047	78	5.69	57 630	297	23.35
Taxation	8 855	46	3.35	-2 317	-12	-0.94
Farm profit after tax	6 192	32	2.34	59 947	309	24.29
ALLOCATION OF FUNDS						
Add back depreciation	14 400	74	5.44	14 280	74	5.79
Reverse stock value adjustment	19 157	99	7.24	-6 148	-32	-2.49
Income equalisation	0	0	0.00	0	0	0.00
Off-farm income	6 800	35	2.57	6 800	35	2.76
Discretionary cash	46 549	240	17.59	74 879	386	30.34
Farm surplus for reinvestment²	-8 701	-45	-3.29	18 779	97	7.61
APPLIED TO						
Net capital purchases	13 600	70	5.14	20 000	103	8.10
Development	1 800	9	0.68	2 600	13	1.05
Principal repayments	3 591	19	1.36	3 985	21	1.61
Drawings	48 450	250	18.31	49 300	254	19.98
New borrowings	0	0	0.00	0	0	0.00
Introduced funds	0	0	0.00	0	0	0.00
Cash surplus/deficit	-20 892	-108	-7.90	-1 006	-5	-0.41
ASSETS AND LIABILITIES						
Farm, forest & building (opening)	2 495 000	12 861	942.93	5 600 000	28 866	2 269.23
Plant and machinery (opening)	96 000	495	36.28	95 200	491	38.58
Stock valuation (opening)	148 050	763	55.95	128 893	664	52.23
Other produce on hand (opening)	0	0	0.00	0	0	0.00
Total farm assets (opening)	2 739 050	14 119	1 035.17	5 824 093	30 021	2 360.03
Total assets (opening)	2 910 750	15 004	1 100.06	5 995 793	30 906	2 429.61
Total liabilities (opening)	372 300	1 919	140.70	389 601	2 008	157.87
Total equity (farm assets – liabilities)	2 366 750	12 200	894.46	5 434 492	28 013	2 202.16

Notes

1 Sheep stock units are used in the per stock unit calculation for sheep and wool income and sheep purchases. Cattle stock units are used for cattle income and purchases. The remainder of the time total stock units are used.

2 Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

»» TABLE 30.4: SOUTHLAND/SOUTH OTAGO INTENSIVE SHEEP AND BEEF MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
FARM WORKING EXPENSES						
Permanent wages	0	0	0.00	0	0	0.00
Casual wages	3 154	16	1.19	3 450	18	1.40
ACC	646	3	0.24	75	0	0.03
Total labour expenses	3 800	20	1.44	3 525	18	1.43
Animal health	11 222	58	4.24	10 450	54	4.23
Breeding	1 200	6	0.45	1 200	6	0.49
Electricity	3 080	16	1.16	3 388	17	1.37
Feed (hay and silage)	3 300	17	1.25	3 795	20	1.54
Feed (feed crops)	0	0	0.00	0	0	0.00
Feed (grazing)	2 650	14	1.00	1 600	8	0.65
Feed (other)	800	4	0.30	920	5	0.37
Fertiliser	15 700	81	5.93	20 880	108	8.46
Lime	1 700	9	0.64	1 921	10	0.78
Cash crop expenses	0	0	0.00	0	0	0.00
Freight (not elsewhere deducted)	2 940	15	1.11	3 380	17	1.37
Regrassing costs	7 100	37	2.78	7 730	40	3.13
Shearing expense	12 270	63	4.80	12 150	63	5.11
Weed and pest control	2 100	11	0.79	2 050	11	0.83
Fuel	10 900	56	4.12	14 170	73	5.74
Vehicle costs (excluding fuel)	6 550	34	2.48	7 460	38	3.02
Repairs and maintenance	6 000	31	2.27	8 400	43	3.40
Total other working expenses	87 512	451	33.07	99 494	513	40.32
Communication costs (phone & mail)	1 832	9	0.69	1 602	8	0.65
Accountancy	2 421	12	0.92	2 330	12	0.94
Legal and consultancy	1 385	7	0.52	1 456	8	0.59
Other administration	1 463	8	0.55	1 893	10	0.77
Water charges (irrigation)	0	0	0.00	0	0	0.00
Rates	6 090	31	2.30	6 460	33	2.62
Insurance	3 800	20	1.44	3 950	20	1.60
Other expenditure ²	5 659	29	2.14	5 175	27	2.10
Total overhead expenses	22 649	117	8.56	22 865	118	9.27
Total farm working expenses	113 961	587	43.07	125 884	649	51.01
Wages of management	58 391	301	22.07	75 000	387	30.39
Depreciation	14 400	74	5.44	14 280	74	5.79
Total farm operating expenses	186 751	963	70.58	215 164	1 109	87.19
CALCULATED RATIOS						
Economic farm surplus (EFS ³)	76	0	0.03	24 905	128	10.09
Farm working expenses/NCI ⁴	55%			54%		
EFS/total farm assets	0.0%			0.4%		
EFS less interest and lease/equity	-1.8%			-0.3%		
Interest + rent + lease/NCI	21.1%			18.1%		
EFS/NCI	0.0%			10.6%		

Notes

1 Shearing expense per stock units based on sheep stock units.

2 Includes Accident Compensation Corporation (ACC) employer levy.

3 EFS (or earnings before 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: \$31 000 allowance for labour input plus 1 percent of opening total farm working assets to a maximum of \$75 000.

4 Net cash income.

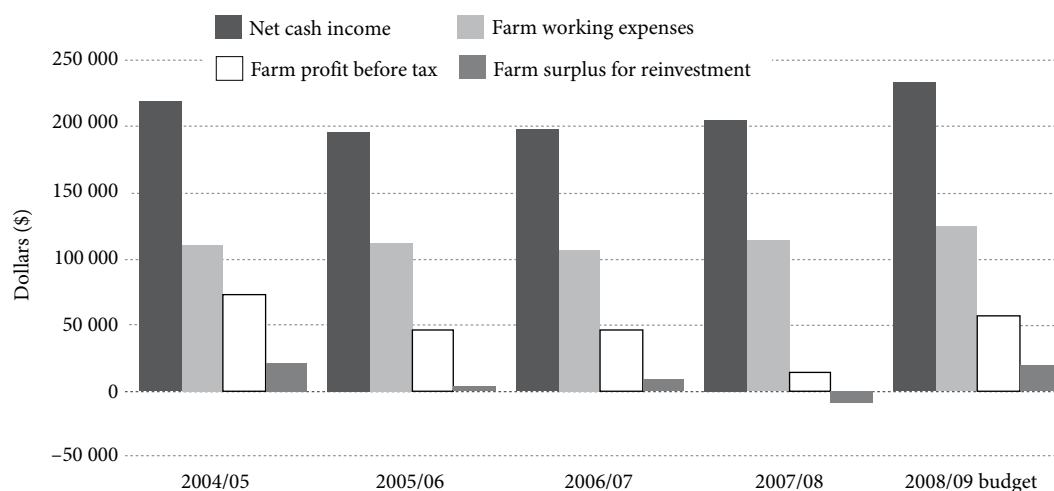
Interest costs are expected to fall slightly because of a slightly lower interest rate on term loans. The decrease comes despite an increased overdraft from last year's deficit.

► NET RESULT EXPECTED TO IMPROVE

The farm profit before tax is expected to quadruple to \$58 000 as a result of improved prices. This flows through to a farm surplus for reinvestment of \$19 000. The model budgets an almost breakeven cash position (a cash deficit of \$1000) after increases in capital purchases, development and principal repayments.

Land value has risen to around \$29 000 per hectare with a large range in values from \$20 000 to \$40 000 per hectare depending on location and physical characteristics. The value of the model farm assets has more than doubled to \$5.8 million in 2008/09. Equity increases have been substantial, with the model farm's total equity increasing 130 percent.

►► FIGURE 30.1: SOUTHLAND/SOUTH OTAGO INTENSIVE SHEEP AND BEEF MODEL FARM PROFITABILITY TRENDS



Source
MAF Monitoring Reports; 2005 to 2008.

NATIONAL SHEEP AND BEEF

BUDGET

31

»» TABLE 31.1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE NATIONAL SHEEP AND BEEF MODEL FARM SUMMARY¹

	2004/05	2005/06	2006/07	2007/08	2008/09 BUDGET
YEAR ENDED 30 JUNE					
Effective area (ha)	660	673	708	705	705
Opening total stock units	5014	5 073	4 588	4 484	4 286
Stocking rate (su/ha)	7.6	7.5	6.5	6.4	6.1
Sheep income (\$)	211 597	190 748	154 314	144 311	165 843
Wool income (\$)	49 772	46 780	42 461	40 828	43 375
Cattle income (\$)	156 300	145 082	131 256	135 921	159 601
Net cash income (NCI) (\$)	350 326	320 766	293 543	287 803	326 139
Farm working expenses (FWE) (\$)	197 816	200 551	172 783	180 002	193 851
Cash operating surplus (\$)	152 510	120 215	120 760	107 801	132 289
Farm profit before tax (\$)	105 849	62 535	43 849	19 268	58 308
Discretionary cash (\$)	94 354	54 483	79 076	57 691	86 798
Farm surplus for reinvestment (\$) ²	42 223	17	3 158	-15 410	12 047
EFS ³ /ha (\$)	158	64	27	55	114
EFS/su (\$)	20.82	8.49	4.11	8.68	18.82
FWE/NCI (%)	56	63	59	62	59
EFS/Total farm assets (%)	3.1	1.1	0.5	0.9	1.5

Notes

1 Comparisons between 2005/06 and 2006/07 are based on a re-calculated 2005/06 budget using data provided by M&WNZ. The 2005/06 budget figures in this chapter are different from those published in *Sheep and Beef Monitoring Report 2006*. Caution should be taken in comparing figures in this report with figures in previously published monitoring reports. See Appendix 2 for more information.

2 Farm surplus for reinvestment is discretionary cash less off-farm income and drawings.

3 Economic farm surplus.

»» FIGURE 31.1: NATIONAL SHEEP AND BEEF PROFITABILITY TRENDS



Source

MAF Monitoring Reports; 2005 to 2008.

»» TABLE 31.2: NATIONAL SHEEP AND BEEF MODEL BUDGET

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
REVENUE						
Sheep	144 311	205	47.27	165 843	235	58.49
Wool	40 828	58	13.37	43 375	61	15.30
Cattle	135 921	193	95.34	159 601	226	110.35
Grazing income (including hay and silage sales)	6 336	9	1.41	9 627	14	2.25
Other farm income	11 224	16	2.50	13 848	20	3.23
LESS						
Sheep purchases	7 024	10	2.30	9 486	13	3.35
Cattle purchases	43 793	62	30.72	56 669	80	39.18
Net cash income	287 803	408	64.19	326 139	462	76.09
Farm working expenses	180 002	255	40.15	193 851	275	45.23
Cash operating surplus	107 801	153	24.04	132 289	188	30.86
Interest	48 812	69	10.89	51 351	73	11.98
Rent and/or leases	5 139	7	1.15	5 203	7	1.21
Stock value adjustment	-14 639	-21	-3.26	2 237	3	0.52
Minus depreciation	19 942	28	4.45	19 664	28	4.59
Farm profit before tax	19 268	27	4.30	58 308	83	13.60
Taxation	7 954	11	1.77	1 094	2	0.26
Farm profit after tax	11 314	16	2.52	57 214	81	13.35
ALLOCATION OF FUNDS						
Add back depreciation	19 942	28	4.45	19 664	28	4.59
Reverse stock value adjustment	14 639	21	3.26	-2 237	-3	-0.52
Income equalisation	-144	0	-0.03	0	0	0.00
Off-farm income	11 940	17	2.66	12 157	17	2.84
Discretionary cash	57 691	82	12.87	86 798	123	20.25
Farm surplus for reinvestment²	-15 410	-22	-3.44	12 047	17	2.81
APPLIED TO						
Net capital purchases	15 383	22	3.43	21 076	30	4.92
Development	5 251	7	1.17	6 819	10	1.59
Principal repayments	3 674	5	0.82	3 725	5	0.87
Drawings	61 161	87	13.64	62 594	89	14.60
New borrowings	34 393	49	7.67	19 884	28	4.64
Introduced funds	0	0	0.00	0	0	0.00
Cash surplus/deficit	6 616	9	1.48	12 468	18	2.91
ASSETS AND LIABILITIES						
Farm, forest & building (opening)	4 040 748	5 729	901.25	4 909 271	6 960	1 145.34
Plant and machinery (opening)	92 667	131	20.67	90 673	129	21.15
Stock valuation (opening)	332 364	471	74.13	319 736	453	74.60
Other produce on hand (opening)	2 406	3	0.54	2 742	4	0.64
Total farm assets (opening)	4 468 186	6 335	996.58	5 322 422	7 546	1 241.73
Total assets (opening)	4 668 280	6 619	1 041.21	5 476 665	7 765	1 277.72
Total liabilities (opening)	515 178	730	114.91	547 042	776	127.63
Total equity (farm assets – liabilities)	3 953 008	5 605	881.68	4 775 380	6 771	1 114.11

Notes

1 Sheep stock units are used in the per stock unit calculation for sheep and wool income and sheep purchases. Cattle stock units are used for cattle income and purchases. The remainder of the time total stock units are used.

2 Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on farm or for principal repayments. It is calculated as discretionary cash less off-farm income and drawings.

»» TABLE 31.3: NATIONAL SHEEP AND BEEF MODEL EXPENDITURE

	2007/08			2008/09 BUDGET		
	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)	WHOLE FARM (\$)	PER HA (\$)	PER STOCK UNIT ¹ (\$)
FARM WORKING EXPENSES						
Permanent wages	9 627	14	2.15	9 842	14	2.30
Casual wages	8 038	11	1.79	9 414	13	2.20
ACC	711	1	0.16	487	1	0.11
Total labour expenses	18 376	26	4.10	19 744	28	4.61
Animal health	15 279	22	3.41	15 283	22	3.57
Breeding	727	1	0.16	714	1	0.17
Electricity	3 645	5	0.81	3 837	5	0.90
Feed (hay and silage)	8 785	12	1.96	10 291	15	2.40
Feed (feed crops)	1 366	2	0.30	1 616	2	0.38
Feed (grazing)	705	1	0.16	648	1	0.15
Feed (other)	596	1	0.13	617	1	0.14
Fertiliser	31 766	45	7.09	35 714	51	8.33
Lime	2 386	3	0.53	3 188	5	0.74
Cash crop expenses	433	1	0.10	514	1	0.12
Freight (not elsewhere deducted)	5 290	8	1.18	5 827	8	1.36
Regrassing costs	5 983	8	1.33	6 992	10	1.63
Shearing expense	18 406	26	6.03	17 885	25	6.31
Weed and pest control	5 258	7	1.17	5 662	8	1.32
Fuel	11 158	16	2.49	13 385	19	3.12
Vehicle costs (excluding fuel)	7 907	11	1.76	8 412	12	1.96
Repairs and maintenance	15 686	22	3.50	16 629	24	3.88
Total other working expenses	135 377	192	30.19	147 215	209	34.35
Communication costs (phone & mail)	2 507	4	0.56	2 586	4	0.60
Accountancy	3 211	5	0.72	3 341	5	0.78
Legal and consultancy	1 961	3	0.44	2 049	3	0.48
Other administration	2 064	3	0.46	2 246	3	0.52
Water charges (irrigation)	202	0	0.04	199	0	0.05
Rates	8 607	12	1.92	9 072	13	2.12
Insurance	4 302	6	0.96	4 490	6	1.05
Other expenditure ²	3 395	5	0.76	2 909	4	0.68
Total overhead expenses	26 250	37	5.85	26 892	38	6.27
Total farm working expenses	180 002	255	40.15	193 851	275	45.23
Wages of management ³	34 324	49	7.66	34 197	48	7.98
Depreciation	19 942	28	4.45	19 664	28	4.59
Total farm operating expenses⁴	234 268	332	52.25	247 712	351	57.79
CALCULATED RATIOS						
Economic farm surplus (EFS ⁵)	38 896	55	8.68	80 665	114	18.82
Farm working expenses/NCI ⁶	63%			59%		
EFS/total farm assets	0.9%			1.5%		
EFS less interest and lease/equity	-0.3%			0.4%		
Interest + rent + lease/NCI	19%			17%		
EFS/NCI	14%			25%		

Notes

1 Shearing expense per stock units based on sheep stock units.

2 Includes Accident Compensation Corporation (ACC) employer levy.

3 Wages of management (WOM) is calculated as follows: \$31 000 allowance for labour input plus 1 percent of opening total farm assets to a maximum of \$75 000. The WOM shown here is based on the national model asset value instead of the weighted average of the all the models WOM's. The values between the two methods differ due to the \$75 000 cap.

4 Total farm operating expenses is not a weighted average of all the models due to the non weighted WOM used.

5 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).

6 Net cash income.

SHEEP AND BEEF SECTOR

ISSUES AND DEVELOPMENTS

32

»» LAND USE CHANGE

The improvement in dairy profitability has led to unfavourable comparisons with the sheep and beef sector and is creating a strong incentive for land use change. An increasing number of sheep and beef farmers are considering including a proportion of dairy support in their farm policies. The options most often considered include grazing replacement dairy heifers, contract crop growing, grazing dry dairy cows through the winter or buying empty dairy cows and recycling them back into the dairy industry. Dairy support revenue is now between \$50 000 and \$100 000 on many intensive sheep and beef farms.

This trend is likely to reduce cattle and sheep numbers available for processing in future years and reduce demand for store stock. Some sheep and beef farmers are at the stage of their farming life that they are looking to reduce their labour requirements and become 'grass factories' supplying dairy farms. They can easily revert these farming systems to more standard sheep and beef farming if as predicted, there is an over-supply of dairy support on offer in two years' time.

Meat & Wool New Zealand estimate that up to 330 sheep and beef farms have converted to dairy, or been amalgamated with existing dairy farms during 2007/08. This has displaced 1.3 million sheep and beef stock units. This trend is expected to continue in 2008/09.

The drop in demand for store stock has led many to question the future viability of traditional hill country farms as they have limited opportunity to diversify income through dairy support or cropping. However, consultants advise that hill country farmers can finish more of their own stock and can be more flexible in timing store stock sales if they adjust breeding stock numbers and use their limited cultivatable land for feed crops.

The cash crop area has increased on intensive farms with suitable soils and is anticipated to increase further because of high grain prices. Farms with fewer sheep after drought-led destocking increased their areas of winter barley or wheat sown. There is concern that there is insufficient expertise, contracting facilities or storage facilities to manage the increased harvest. Some farmers may experience difficulties if grain prices fall as they have sown large areas and do not have plans in place for marketing their crop.

»» SUPPLY OF STOCK

There is some industry concern about a possible livestock shortage in the coming year. There will be a large reduction in lamb numbers born in spring 2008, and hill country properties may hold more lambs for finishing rather than selling as store. The supply of traditional beef weaners will be down because of the reduced national cow herd.

Farmers on finishing farms are concerned about the supply of replacement weaner bull calves. In the last two years, bull calves have been relatively cheap and the popularity of calf rearing is waning due to the low profitability of these operations. The lack of buyers for weaner bulls last autumn may have seen some farms retain them because of the low prices they were achieving. If this results in an increased supply of yearling bulls this may tide finishers over until bull rearing returns. More farmers are now prepared to sign contracts for bull rearing while others are rearing 40 or 50 calves in their sheds for the first time.

Recommendations expressed in winter 2008 by Meat & Wool New Zealand and meat processors in regard to year-round processing and the expectation of a need to target 25 kilogram lamb carcass weights within a decade, pose further challenges for hill country farmers especially in dry areas.

»» INCREASE IN COSTS

Farm expenses continue to escalate and are an area of concern for farmers. Farm working expenditure for the national model increased 4 percent in 2007/08 compared with 2006/07 and is budgeted to increase a further 8 percent in 2008/09, despite farmers reducing their inputs on discretionary items such as fertiliser, weed and pest control and repairs and maintenance. The most significant driver behind this is the increase in fertiliser costs.

The Farm Expenses Price Index shows that farm input prices (excluding livestock) increased 9.7 percent from June 2007 to June 2008, and 12.0 percent over the two years from June 2006 to June 2008 (see Table 32.1).

»» TABLE 32.1: SHEEP AND BEEF FARM EXPENSES PRICE INDEX, FOR THE QUARTER ENDED JUNE 2008

	CHANGE FROM JUNE 2007 QUARTER (%)	CHANGE FROM JUNE 2006 QUARTER (%)
Administration	3.5	8.1
Animal health and breeding	5.8	9.4
Electricity	11.3	15.9
Feed, grazing, cultivation and harvesting	14.9	17.4
Fertiliser, lime and seeds	15.6	19.4
Freight	6.3	13.5
Fuel	39.5	24.9
Insurance premiums	7.9	8.4
Rent and hire	4.0	3.8
Repairs, maintenance and motor vehicle repairs	7.7	10.1
Shearing	1.4	5.5
Weed and pest control	4.6	6.5
Subtotal excluding livestock	10.9	12.6
Livestock purchases	-8.5	-9.9
Subtotal including livestock	6.9	7.8
Local and central government rates and fees	6.6	14.0
Interest rates	9.2	12.2
Wages and salaries	2.8	5.4
All inputs excluding livestock	9.7	12.0
All inputs including livestock	6.9	8.4

Source
Statistics New Zealand.

► FERTILISER

The recent steep increases in fertiliser prices over the 2007/08 season are of serious concern to farmers, especially those on hill country farms because of the larger properties. The current budgeted price of superphosphate on the ground is close to \$700 per tonne and, at this price, the central North Island hill country model can afford to apply only about 50 percent of what is needed for maintenance. This model applied only 60 percent to 70 percent of the amount required for maintenance through most of the 1990s, reaching full maintenance levels in the early 2000s. Therefore, fertility levels in this model are not great, and many farmers cannot maintain current stocking levels for long at 50 percent of maintenance dressings.

Farmers are likely to spend the same amount on fertiliser but will target applications to the best land, based on soil tests and nutrient budgets. Nitrogen will also be heavily targeted. Some farmers are conducting more soil tests than previously so they can measure and strategically apply fertiliser to ensure the best response from limited applications. A noticeable trend is an increase in the use of lime and a move away from expensive high-analysis fertilisers.

► SHEARING

Many sheep farmers have closely examined their shearing pattern in recent years. The early part of the decade saw an increase in six-monthly shearing, for its benefits in lamb birth weights and stock management. Increases in shearing costs with no corresponding increase in wool value have led many farmers to reduce the frequency of shearing back to an eight-monthly or annual basis.

► WEED AND PEST CONTROL

Rabbit numbers are increasing on dry hill country properties in the South Island, and some farmers in Canterbury have been served with notices to carry out control operations. Pest control programmes, particularly the aerial application of poison, will become more expensive if fuel costs increase significantly as expected.

► INTEREST

Maintaining a conservative debt to equity ratio and relatively low debt servicing cost is critical to the financial viability of sheep and beef farms. Recent years have seen debt levels increase to fund cash deficits, farm succession and farm development. This increase in debt levels combined with rising interest rates over the past three years has resulted in a significant increase in debt servicing costs. Debt servicing increased to \$10.89 per stock unit (up 21 percent) in 2007/08, and is expected to increase a further 10 percent to \$11.98 per stock unit in 2008/09. Any decline in interest rates will help dampen farm interest expenses. Individual farms vary widely around this average, and any farms with high debt servicing could be at risk if they do not have other sources of income. However, equity remains high, varying from 86 percent to 91 percent across most models.

►► LAND VALUE

Land prices in the sheep and beef sector are being strongly influenced by the land's suitability for dairy or dairy support. Easier contour sheep and beef farming land that has the potential for dairying or dairy support has seen a

significant lift in land prices, often up 10 to 15 percent over the past 12 months. This is aided by those dairy farmers, who had heifers returned from grazing in poor condition due to the drought, and prompted by high grazing prices, looking to buy properties to graze stock on. They feel they are better off controlling all aspects of grazing, so are seeking to buy or lease land for this purpose.

In comparison, the value of “true” hill country is more variable, with the current poor profitability putting downward pressure on land prices, but large, attractive properties are being sought by farmers who have sold their intensive farms for dairy conversion.

Farmers have been able to obtain additional finance to offset operating losses but a lot of debt has been added over the past two or three years. Fortunately, the situation is still underpinned by high land values. The value of land and buildings in the national model has increased from \$899 per stock unit in June 2007 to \$1142 in June 2008. This is a 27 percent increase, although the drop in stock units over this period exaggerates the increase. The variability between farm types must be kept in mind with the value of land and buildings varying from \$600 to \$2270 per stock unit across the different models.

»» SUCCESSION

The steep rise in the value of sheep and beef properties in recent years combined with uncertainties over farm viability and increasing debt levels is making it increasingly difficult for the next generation to take over farming operations.

»» VIABILITY

There is concern about the viability of the sheep and beef sector, and this has been behind farmers’ calls for restructuring of the meat industry and changing land use away from sheep.

Table 32.2 shows that in 2007/08 the national sheep and beef model farm budget required a further \$11.12 income per stock unit just to meet farm working expenses, debt servicing, depreciation, drawings and tax, let alone turn a profit. Despite the improved product prices and income expected for 2008/09, the average farm has a shortfall of \$1.26 per stock unit. Furthermore, a farm business could reasonably expect some return on equity and some profit to reinvest in the business. Table 32.2 shows that if cash farm incomes do not exceed \$77 per stock unit, sheep and beef farmers will be faced with continued borrowing to fund losses or development. This underlies farmers’ desire for a higher lamb price.

»» MEAT INDUSTRY RESTRUCTURE

During 2008, several permutations for industry change started, faltered and re-emerged. Farmers have a range of views on proposals such as the mega-merger spearheaded by the Alliance Group to include the five biggest processing companies. Another option for change in the industry was the PGG Wrightson-Silver Fern Farms partnership proposal, promoted as a future vehicle for industry consolidation. Generally farmers remain supportive of the co-operative model but need a better return for their lambs to ensure their farms’ economic sustainability.

Sheep meat is still the main source of revenue for most sheep and beef farmers, so there is consternation about the performance of the meat industry. The majority want change and for it to happen quickly. Regardless of any restructuring decisions, farmers generally consider that a different marketing approach is needed. Farmers tend to think that it is the supermarkets and wholesalers who are making the money rather than the meat industry.

»» EMISSIONS TRADING SCHEME

Uncertainty about how the ETS will operate and its potential cost is of concern to both farmers and the industry and was mentioned at most farm monitoring industry meetings. Farmers said the current lack of information made it difficult to plan and make decisions.

Many sheep and beef farms are struggling to remain economically viable, and the industry is concerned that the proposed ETS may render many sheep and beef farms unviable. Industry commentators confirm that farmers have little knowledge about the ETS and believe that sheep and beef farmers currently have limited options for changing their farming systems to reduce emissions.

»» COMPLIANCE WITH REGIONAL PLANS

Sheep and beef farmers throughout the country are concerned at the limitations some regional councils are imposing on land use or the intensity of farming, and are watching the 'permitted activity' developments in Waikato, around Lakes Taupo and Rotorua and in Manawatu-Wanganui with trepidation. There is concern that some aspects of these regional council plans will make it uneconomic to farm marginal land.

The Gisborne District Council changed its district plan to regulate land use on the worst eroding areas in the district but farmers have criticised the changes as being too onerous.

In Otago and Southland, regional councils have made all hill country sheep and beef farmers aware of the need to fence stock out of waterways when intensively strip-grazing in winter time, to reduce soil and nutrient runoff and improve water quality.

»» MORALE

Low product prices, the increased cost of farm inputs, increasing farm debt and debt servicing costs, and dissatisfaction with the structure and performance of the meat industry have all had a major negative impact on farmer morale.

Many sheep and beef farmers are retrenching with some leaving the industry, but others are seeing new opportunities.

Coming into spring 2008, many farmers were reasonably optimistic as they had got through the bulk of winter without running out of feed, the exchange rate was down to around US70 cents, and meat companies were talking about \$70 to \$80 for lambs. The beef schedule also looked promising while interest rates looked to have stabilised or were set to decrease.

»» TABLE 32.2: KEY INCOME AND EXPENSES PER STOCK UNIT FOR NATIONAL SHEEP AND BEEF MODEL, 2007/08 AND 2008/09

	2007/08	2008/09 BUDGET
Cash farm income	\$64.19	\$76.09
Plus stock value adjustment	-\$3.26	\$0.52
Adjusted farm income	\$60.93	\$76.61
Farm working expenses	\$40.15	\$45.23
Interest and lease	\$12.03	\$13.19
Depreciation	\$4.45	\$4.59
Farm operating costs	\$56.63	\$63.01
Farm profit before tax	\$4.30	\$13.60
Drawings	\$13.64	\$14.60
Tax	\$1.77	\$0.26
Farm owner living costs	\$15.42	\$14.86
Farm surplus for reinvestment after stock value adjustment and depreciation	-\$11.12	-\$1.26

Source

Statistics New Zealand.

APPENDICES

APPENDIX 1
PASTORAL MONITORING TEAM

APPENDIX 2
MODEL INFORMATION

APPENDIX 3
SUPPORTING INFORMATION

APPENDIX 1

PASTORAL MONITORING TEAM

»» FARM MONITORING PROGRAMME MANAGER

Anna Thorburn, MAF Policy, Wellington, Phone (04) 894 0282

»» PUBLICATION EDITORS

Gillian Mangin, MAF Policy, Hastings

Anna Thorburn, MAF Policy, Wellington

»» SECTOR CONTROLLERS

Dairy	Phil Journeaux	MAF Policy, Hamilton
Deer	Deborah Hackell	MAF Policy, Hamilton
Sheep and beef	John Greer	MAF Policy, Christchurch

»» MODEL CONTROLLERS

Model	Model controller	Telephone
DEER		
North Island deer	Deborah Hackell	(07) 957 8311
South Island deer	Trish Burborough	(03) 951 4716
DAIRY		
Northland dairy	Russell Knutson	(07) 957 8325
Waikato/Bay of Plenty dairy	Phil Journeaux	(07) 957 8313
Taranaki dairy	Loretta Dobbs	(04) 894 0632
Lower North Island dairy	Gillian Mangin	(06) 974 8811
Canterbury dairy	Murray Doak	(03) 943 1705
Southland dairy	Trish Burborough	(03) 951 4716
SHEEP AND BEEF		
Northland sheep and beef	Russell Knutson	(07) 957 8325
Waikato/Bay of Plenty intensive sheep and beef	Phil Journeaux	(07) 957 8313
Central North Island hill country sheep and beef	Phil Journeaux	(07) 957 8313
Gisborne hill country sheep and beef	Loretta Dobbs	(04) 894 0632
Hawkes Bay/Wairarapa hill country sheep and beef	Gillian Mangin	(06) 974 8811
Western lower North Island intensive sheep and beef	Anna Thorburn	(04) 894 0282
Eastern lower North Island intensive sheep and beef	Gillian Mangin	(06) 974 8811
South Island high country sheep and beef	Karl Barclay	(03) 448 8028
Canterbury/Marlborough hill country sheep and beef	John Greer	(03) 943 1706
Canterbury/Marlborough breeding and finishing sheep and beef	Ken Muscroft-Taylor	(03) 318 8221
Otago dry hill sheep and beef	Karl Barclay	(03) 448 8028
Southland/south Otago hill country sheep and beef	Trish Burborough	(03) 951 4716
Southland/south Otago intensive sheep and beef	Graham Butcher	(03) 208 9956

»» COMMENTARY

West Coast South Island Ross Bishop (03) 768 9000

APPENDIX 2

MODEL INFORMATION

»» HOW THE MODELS WERE CREATED

The model farms depicted in this report are representative of their farm type within each region. Each model is created from information drawn from at least 20 farms and a wide cross section of agribusiness representatives. The models were prepared between June and August 2008 and are based on farmer and industry expectations at that time.

The aim of each model is to typify an average farm for the region. Budget figures are averaged from the contributing properties and adjusted to represent real farms. Income figures include off-farm income, new borrowing and other cash income. Expenditure figures include costs of management, production, debt leasing, drawings and other land development and capital purchases.

Monitoring is continually being improved to meet the needs of the users of the reports. From time to time, the models are revisited, and changes may be made. Bear this in mind when making comparisons between years.

»» CALCULATIONS USED IN THE MODELS

Part of the objective of the MAF models is to show the profitability of the models on a cash-in/cash-out basis for the season, before the introduction of outside funds such as off-farm revenue, introduced funds or new borrowing. Prior to 2007, this bottom line was depicted as the disposable surplus/deficit. This included such expenditure as capital expenditure, principal repayments and development expenditure, but excluded outside (off the farm) funds. This has been replaced by farm surplus for reinvestment.

» FARM SURPLUS FOR REINVESTMENT

Farm surplus for reinvestment represents the cash available from the farming business, after meeting living costs, which is available for investment on the farm or for principal repayments. It is calculated as follows:

- › discretionary cash;
- › less off-farm income and drawings.

» ECONOMIC FARM SURPLUS

The economic farm surplus (EFS) depicted in the model budgets is calculated as follows:

- › net cash income;
- › plus change in livestock value;
- › less working expenses (excluding interest, rent and lease costs);
- › less depreciation;
- › less wages of management (WOM).

» WAGES OF MANAGEMENT

For the deer and sheep and beef models, WOM is calculated as follows:

- › \$31 000 allowance for labour input;
- › plus 1 percent of total capital as managerial reward.

An upper limit for WOM of \$75 000 has been set.

For the dairy models, WOM is calculated as:

- › \$38 000 allowance for labour input;
- › plus 1 percent of total capital as managerial reward.

An upper limit for WOM of \$85 000 has been set.

› DAIRY PAYOUT CALCULATIONS

DEFINITION OF FINANCIAL YEAR

The MAF dairy models work on a financial year of 1 July to 30 June. The payout within the year is a combination of the advance payment to 20 June for the current year and the deferred payment made in July and August from the preceding season.

PAYMENT IN 2007/08

The deferred payment, on the 2006/07 production, was 81 cents per kilogram of milksolids. The advance payment to 20 June 2008 is calculated as \$6.62 per kilogram of milksolids, made up of \$6.55 commodity milk price, plus 7 cents value-added payment. In February 2008, Fonterra paid 10 cents (value added) per kilogram of milksolids on production through to 31 December. Assuming that an average of two-thirds of production is achieved by 31 December, the 10 cents per kilogram of milksolids would be equivalent to 7 cents per kilogram of milksolids over the whole season.

PAYMENT IN 2008/09

The deferred payment, on the 2007/08 production, was \$1.00 per kilogram of milksolids. This gives a total payment for the 2007/08 season of \$7.62 per kilogram of milksolids (\$7.90 less 28 cents retention). The 2008/09 budgets include an advance payment to 20 June 2009 calculated as \$5.41 per kilogram of milksolids. This is made up of \$5.30 commodity milk price (Fonterra's 30 May 2008 forecast advance payment rate to 20 June 2009), plus 11 cents per kilogram of milksolids value-added payment (based on two-thirds of the season's milk production attracting the 15 cents per kilogram payment).

The exception to this is Canterbury, which produces approximately 50 percent of production pre- and post-December. For the Canterbury model, the advance value-added payment in 2007/08 is 5 cents per kilogram of milksolids, giving a deferred payment of \$1.02 per kilogram of milksolids. In 2008/09, the value-added advance is equivalent to 8 cents per kilogram of milksolids, giving a total advance to 20 June 2009 of \$5.38 per kilogram of milksolids.

As this report went to press Fonterra's forecast final payout for the 2008/09 season was \$6.00 per kilogram of milksolids (down from \$7.00). With a total advance payment calculated at \$4.45 this leaves a deferred payment of \$1.42 per kilogram of milksolids to be paid in the first quarter 2009/10 (down from \$1.59 forecast deferred payment when the total forecast payout was \$7.00).

► MODEL DETAILS

The data collection for the pastoral models is contracted out. The dairy and deer data is collected by Agriculture NZ. The sheep and beef data is supplied by Meat & Wool New Zealand (M&WENZ) from the M&WENZ sheep and beef farm survey.

►► DAIRY MODELS

The dairy models represent owner-operated seasonal supply dairy farms throughout New Zealand. Each dairy model is based on a sample of 25 or more owner-operated dairy farms that supply to Fonterra. In total, data has been collected from 189 seasonal supply dairy farms.

► NORTHLAND DAIRY

The Northland model represents about 1200 spring calving dairy herds north of Auckland city. The model is created from information drawn from 25 dairy farms and a wide cross section of agribusiness representatives. The aim of the model is to typify an average dairy farm for Northland. 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.

► WAIKATO/BAY OF PLENTY DAIRY

The Waikato/Bay of Plenty dairy model represents about 5140 dairy farms in the Waikato and Bay of Plenty regions. The model is a seasonal supply farm based on an average property of 106 hectares, milking 300 cows and producing around 100 000 kilograms of milksolids in a normal season. Heifers are grazed off the farm for 12 months.

The model is created from information drawn from 50 dairy farms and a wide cross section of agribusiness representatives. The aim of the model is to typify an average dairy farm for the Waikato/Bay of Plenty region. 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.

► TARANAKI DAIRY

The Taranaki dairy model represents approximately 1800 dairy farms in the Taranaki region. The model is based on an owner-operated business with a predominantly cross-bred herd. It does not own a run-off but grazes replacement stock off and buys in 8 to 12 percent of feed used.

The model is created from information drawn from 26 dairy farms and a wide cross section of agribusiness representatives. The aim of the model is to typify an average dairy farm for Taranaki. 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.

► LOWER NORTH ISLAND DAIRY

This model represents approximately 1080 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 and 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, by New Zealand standards, somewhat prone to drought. 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 28 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.

➤ CANTERBURY DAIRY

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.

➤ SOUTHLAND DAIRY

The Southland dairy model represents about 660 dairy farms in Southland that supply milk to the Fonterra factory at Edendale.

This model has increased significantly in size, stocking rate and production over several years. In 1995, the average farm size was 130 hectares. In 2000/01, it was 182 hectares, made up of 152 hectares of milking platform and 30 hectares of leased run-off. The model size was increased in the 2001/02 season to 162 hectares of milking platform and a purchased 30 hectares of run-off. From 2005/06, the model has been 178 hectares plus 30 hectares of run-off.

Many farms in the model have been producing milk for less than six years. The size of these farms is still increasing, as is their production. An increase of up to 100 extra dairy units in the 2008/09 year will also affect the average size and production.

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 Southland. 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.

► WEST COAST SOUTH ISLAND DAIRY COMMENTARY

The West Coast South Island dairy commentary describes the collective dairy industry's perspective of the current (or just completed) season and the outlook for the next season for dairying in this region. The typical West Coast dairy farm milks 310 cows and produces around 96 000 kilograms of milksolids on 155 effective hectares. Farm size and cow numbers have gradually increased during the past 10 years. The number of dairy conversions has stabilised, with most land easily convertible for dairying now carrying dairy cows.

►► DEER MODELS

Deer farms are commonly of two main types – deer units within a mixed livestock system, and stand-alone deer farms. The deer farm models in MAF's Pastoral Monitoring Report series are based on stand-alone deer farms. Comparing the sector using a stand-alone deer farm is important for tracking the deer sector's progress and to better understand developments occurring in this sector.

► NORTH ISLAND DEER

The North Island deer model farm is a small stand-alone deer farm that is big enough to support a family, does not run sheep or beef cattle and is theoretically situated in the central North Island/East Coast/Hawkes Bay region.

Note: Prior to 2008, the theoretical location of this model farm was near Rotorua but incorporated farm monitoring data from the Waikato and Bay of Plenty.

Weaner hinds and stags are all carried over the winter and sold to slaughter. Half of the breeding hinds are mated to a cross-bred stag. The farming programme aims to get yearling stock to target slaughter weights in late spring when market prices for chilled venison traditionally peak. Each year, 25 selected yearling stags are retained as replacements to enter the velvetting herd of 80 mixed-age stags.

The model is created from information drawn from 20 deer farms and a wide cross section of agribusiness representatives. The aim of the model is to typify an average stand-alone deer farm for the North Island. Budget figures are averaged from the contributing properties and adjusted to represent a real deer farm. Income figures include off-farm income, new borrowing and other cash income.

► SOUTH ISLAND DEER

The South Island deer model represents a family-run stand-alone deer farm in Southland and south Otago. The model is based on running predominantly red hinds in the breeding herd, with hybrids used as terminal sires. The

hind herd is characterised by a blending of red deer from the United Kingdom and eastern Europe. Progeny from the breeding hinds that are not required as replacements in the breeding or velvet herds are sold for slaughter between 10 and 18 months of age, with final culling of replacements at 20 months.

The model is created from information drawn from 20 deer farms and a wide cross section of agribusiness representatives. The aim of the model is to typify an average stand-alone deer farm for the southern South Island. Budget figures are averaged from the contributing properties and adjusted to represent a real deer farm. Income figures include off-farm income, new borrowing and other cash income.

»» SHEEP AND BEEF MODELS

In 2007, MAF entered into an agreement with Meat and Wool New Zealand (M&WENZ) to use the M&WENZ sheep and beef survey data in the MAF sheep and beef models. The change was seen as an opportunity to reduce respondent burden on farmers and increase the sample of farms that the MAF sheep and beef models were based on. The survey sample increased from 240 farms to 500 farms.

In most cases, comparisons between 2006/07 and 2005/06 were based on a recalculated 2005/06 budget using data provided by M&WENZ. Caution should be taken when comparing figures in this report with data prior to 2005/06.

The sheep and beef models are all based on an owner-operated business.

» NORTHLAND SHEEP AND BEEF

The Northland sheep and beef model represents 984 hill country and intensive finishing farms from Auckland north. The cattle to sheep ratio is high, with cattle forming 75 percent of total stock units.

The model runs a breeding flock with 25 to 30 percent ewe hogget replacements. Lambs are bought in late in the autumn and finished during the winter period and early spring.

A cross-bred breeding herd is run, with nearly all homebred cattle wintered. Replacement heifers are bought in. Homebred heifers are mainly sold as prime rising 24 to 36-month heifers to the local trade market. The majority of steers are wintered over and sold on the spring grass market or carried through to slaughter from 22 to 30 months of age. A number of bull calves are purchased during the spring as weaners and sold as 24 to 36-month bulls.

Several key expense items were altered to more accurately reflect farmer decision making in the 2007/08 budget. Where appropriate these items were also applied retrospectively to the 2006/07 budget.

» WAIKATO/BAY OF PLENTY INTENSIVE SHEEP AND BEEF

This model represents 722 farms bounding the predominantly dairying districts of the Waikato/Bay of Plenty region. At 300 hectares in size (effective) the model farm represents a typical finishing beef cattle and sheep farm with rolling-to-easy hill contour and volcanic ash soil.

The dominant enterprise on the farm is bull beef finishing, combined with steer finishing and dairy grazers. A high-performance sheep flock is crossed with a high-fertility breed.

This model has been reviewed to take into account changes in farms in the area so caution should be taken when comparing figures in this report with figures in previously published monitoring reports.

➤ CENTRAL NORTH ISLAND HILL COUNTRY

This model represents 1272 hill country farms from across the central area of the North Island. It includes the Waikato, Taranaki and Manawatu/Wanganui regions.

The model represents larger-scale units, running breeding ewes and cows, with the vast majority of stock sold prime and some sold locally on the store market. The area represented generally experiences a moist summer and a long, cool winter.

➤ GISBORNE HILL COUNTRY

The Gisborne hill country sheep and beef model represents about 600 farms on steep hill country and easier hill country on mudstone soils with some pumice overlay in the Gisborne and Wairoa districts. The model farm's stock policy is based on breeding ewes and cows with replacement stock retained, surplus stock sold prime or store and some trading stock for finishing or margin trading.

➤ HAWKES BAY/WAIRARAPA HILL COUNTRY

The Hawkes Bay/Wairarapa hill country model represents 1165 hard hill country and hill country farms from the Hastings district to south Wairarapa.

The model from 2007 differs from earlier models in that it is larger in size at 624 hectares, carries less than 10 stock units per hectare and has a higher ratio of sheep to cattle.

The model farm breeds its own replacements and ewe hoggets are mated. It winter finishes some lambs and 60 percent of lambs are sold prime. It has a breeding cow herd and it also purchases weaner bulls and steers, plus some older bull beef to finish.

➤ EASTERN LOWER NORTH ISLAND INTENSIVE

This model represents 840 intensive finishing farms from Hastings district south on the east coast. It has an effective area of 347 hectares and runs 11 to 12 stock units per effective hectare. The farm has a breeding livestock policy, with sheep accounting for 60 percent of the total stock units. The farm is also involved in lamb and cattle purchasing and finishing, including winter finishing. The farm also undertakes a small amount of cash cropping.

➤ WESTERN LOWER NORTH ISLAND INTENSIVE

This model represents 420 intensive finishing farms from New Plymouth south on the west coast of the North Island.

The farms in the model have an average effective area of 208 hectares and run 11.5 to 12.5 stock units per effective hectare. Sheep account for about two-thirds of the total stock units.

The farm has a sheep breeding livestock policy and also buys in lambs, equal to a third born on farm, for finishing as hoggets. The farm also has a cattle trading policy (half in bull beef) and sells baleage and silage.

➤ SOUTH ISLAND HIGH COUNTRY

This model represents 220 high country properties throughout the South Island. The properties average 10 212 hectares and range in size from 1000 to 45 000 hectares. Summers are hot and dry and winters are cold. Most properties experience winter snowfalls. In this region 78 percent of these properties farm merino sheep, with the balance farming either mid micron or crossbreed sheep. A comment on the merino industry is included in this chapter.

➤ CANTERBURY/MARLBOROUGH HILL COUNTRY

This model represents 425 hill country farms in Canterbury and Marlborough excluding Waimate and McKenzie Districts. Farms have a proportion of land that is in tussock or too steep to be cultivated with two-wheeled tractors. Typically they run mid-micron breeding sheep and a beef cow herd and sell some store stock. There is some irrigation on lowland valleys.

➤ CANTERBURY/MARLBOROUGH BREEDING AND FINISHING

This model represents 1630 finishing breeding farms in coastal Marlborough and Canterbury. Farms are located on the dry downs and plains, in irrigated areas, and in the higher rainfall upper plains. There is a wide range of farm sizes, stocking rates, stock classes, and performance in this region. The farms in the model have an average effective area of 365 hectares and run 9–10 stock units per effective hectare.

Breeding ewe flocks with lamb finishing predominate, with cattle finishing and/or grazers on many properties. Some farmers also derive income from some cash cropping, deer, beef breeding cows, lamb finishing, farm forestry, and off-farm sources. Cattle returns are calculated on a beef finishing policy.

➤ OTAGO DRY HILL COUNTRY

This model represents 400 farms in the Otago and South Canterbury areas. They range in size from 500 to 4000 hectares and are spread from Waimate to Millers Flat in Central Otago, with the main concentration being in the Middlesmarch and inland Palmerston areas.

These farms are characterised by systems that cope with dry summers and long, cold winters. The rainfall is 400 to 700 millimetres per annum, but drought days number over 100 per year. These properties are predominantly hill with a small area of valley floor. Some have a small area of irrigated valley floor.

► SOUTHLAND/SOUTH OTAGO HILL COUNTRY

This model represents 720 farms in the moderately rolling clay downlands to steeper hill country of South Otago and Southland. The farms have mostly cultivated pastures, with the balance in improved, but steeper, hill and tussock blocks.

The typical production system is breeding ewes with some hogget lambing, and the majority of lambs finished but some store lambs can be sold each year. There is a herd of breeding cows with their best calves finished. There may also be some trading of cattle.

► SOUTHLAND/SOUTH OTAGO INTENSIVE

This model represents 1600 intensive sheep and beef farms in Southland and South Otago. The farms are on the plains and downlands with, usually, ample summer rainfall.

This class of farm is being seriously challenged by the expanding dairy industry with some farms being converted to milking platforms and others replacing sheep and beef with dairy support enterprises, such as dairy heifer grazing and cow wintering. Cereal cropping is also increasing.

APPENDIX 3

SUPPORTING INFORMATION

Chapter 3 reports estimates of greenhouse gas emissions and losses of nitrogen in the soil through nitrate leaching. These estimates are derived from MAF's analysis of the farm monitoring pastoral models using AgResearch's nutrient budget model *Overseer*.

Assumptions had to be made about certain land use practices because the models provided insufficient information for the *Overseer* analysis.

Outlined below is the range of assumptions that were made across all models in determining nitrate leaching levels and greenhouse gas emissions.

The MAF farm monitoring models do not provide information on electricity and fuel use or an inventory of capital items. Therefore, actual emissions from carbon dioxide and capital development components will be slightly higher than has been calculated. This is particularly important for farms reliant on pumped groundwater for irrigation (for example, Canterbury). These sources, however, provide only about 14 percent of average total farm emissions.

»» ASSUMPTIONS IN THE DAIRY MODELS

The assumptions made in the dairy models are as follows:

- › No capital information is included (because it is unavailable).
- › Young stock are grazed off the farm from 9 months of age.
- › The effluent area is approximately 20 percent of total effective hectares.
- › Northland uses settling ponds and all other models use spray systems to dispose of effluent.
- › All supplements purchased are assumed to be on a drymatter basis.
- › Mean annual rainfall is taken from maps provided within *Overseer*.
- › Default figures are used for soil test results.
- › No additional nitrogen is applied to the effluent block. Any other elements are halved on the effluent block.
- › Effective farm area includes the milking platform and the run-off (where one exists).
- › All feed grown on the runoff and bought to the milking platform is internal to the farm, as is winter grazing on the runoff.
- › Where the runoff is not big enough to support the entire herd for two months the number that could be supported has been calculated and the remainder are wintered off the property (Southland).
- › Irrigation on Canterbury models is derived from a weighted average from individual farm unit data.
- › National averages are based on the weightings in Table A3.1.

»» TABLE A3.1: WEIGHTINGS FOR NATIONAL AVERAGES, 2006/07 AND 2007/08

MODEL	WEIGHTING (%)	
	2006/07	2007/08
Northland	9.1	8.3
Waikato/Bay of Plenty	43.6	42.8
Lower North Island	10.7	10.4
Taranaki	13.3	12.9
Canterbury	12.6	14.4
Southland	10.8	11.2

»» ASSUMPTIONS IN THE SHEEP AND BEEF MODELS

The assumptions made in the sheep and beef models are as follows:

- › No capital information is included (because it is unavailable).
- › Stock units are opening numbers.
- › Where fertiliser is not specified in the model a combination of di-ammonium phosphate and 15 percent Potassic Super is used (the amount is determined by fertiliser costs in models).
- › Farms are run as one block.
- › Topography is from previous sheep and beef monitoring reports.
- › Climate data is from maps in Overseer.
- › National averages are based on the weightings in Table A3.2.

»» TABLE A3.2: WEIGHTINGS FOR NATIONAL AVERAGES, 2006/07

MODEL	WEIGHTING (%) 2006/07
Northland	10.1
Waikato/Bay of Plenty	9.6
Central North Island	14.5
Gisborne hill country	1.8
Hawkes Bay/Wairarapa hill country	15.4
Eastern lower North Island	5.6
Western lower North Island	2.9
Canterbury/ Marlborough breeding and finishing	12.4
Canterbury/ Marlborough hill	9.1
Otago dry hill	2.5
South Island high country	1.9
Southland/south Otago hill	6.7
Southland/south Otago intensive	7.6

»» ASSUMPTIONS IN THE DEER MODELS

The assumptions made in the deer models are as follows.

- › No capital information is included (because it is unavailable).
- › Stock units are opening numbers.

