

HAWKE'S BAY/WAIRARAPA SHEEP AND BEEF

Key results from the Ministry for Primary Industries 2012 sheep and beef monitoring programme

KEY POINTS

- The 2011/12 year will be remembered as one where just about everything went right: it had a favourable production season, high commodity prices and extraordinary store pricing.
- Increased production at good prices lifted net cash income \$123 900 (28 percent) to \$562 700 in 2011/12. Easing prices in 2012/13 are expected to result in a 13 percent reduction in net cash income to \$489 000.
- Farm working expenses increased \$43 700 (19 percent) in 2011/12, with increases in the cost of labour and catch-up spending on fertiliser, weed and pest control and repairs and maintenance. Farmers plan to keep expenses tightly controlled for the 2012/13 year, with an overall increase of just 3 percent expected.
- Farm profit before tax increased 69 percent to \$209 900 in 2011/12 but is budgeted to drop to \$137 300 in 2012/13, which is still ahead of 2010/11. The extra profit is accompanied by increased taxation in both years; with the improved farm surplus resulting in increased debt reduction, capital purchases and farm development in 2011/12.

Table 1: Key parameters, financial results and budget for the Hawke's Bay/Wairarapa sheep and beef farm model

Year ended 30 June	2008/09	2009/10 ¹	2010/11	2011/12 actual	2012/13 budget
Effective area (ha)	570	570	570	570	570
Breeding ewes (head)	2 705	2 560	2 595	2 600	2 560
Replacement ewe hoggets (head)	660	640	700	750	800
Other sheep (head)	188	143	160	282	257
Breeding cows (head)	105	96	102	100	107
Rising one-year cattle (head)	155	133	134	114	109
Other cattle (head)	116	109	110	101	103
Opening sheep stock units (ssu)	3 362	3 406	3 242	3 642	3 643
Opening cattle stock units	1 809	1 638	1 686	1 530	1 559
Opening total stock units (su)	5 170	5 043	4 928	5 172	5 202
Stocking rate (stock unit/ha)	9.1	8.8	8.6	9.1	9.1
Ewe lambing (%)	114	122	114	125	127
Average lamb price (\$/head)	78.21	71.42	92.93	113.00	93.00
Average store lamb price (\$/head)	68.00	58.00	72.00	105.00	79.00
Average prime lamb price (\$/head)	85.00	78.00	100.00	115.00	98.00
Average wool price (\$/kg)	2.15	2.25	3.80	3.65	3.00
Total wool produced (kg)	16 521	16 007	15 548	17 784	17 559
Wool production (kg/ssu)	4.9	4.7	4.8	4.9	4.8
Average rising two-year steer (\$/head)	735	920	980	1 200	1 200
Average cull cow (\$/head)	520	660	837	970	950
Net cash income (\$)	382 415	333 857	438 768	562 701	488 989
Farm working expenses (\$)	196 593	199 095	226 979	270 650	278 431
Farm profit before tax (\$)	43 083	63 184	124 011	209 869	137 340
Farm surplus for reinvestment (\$) ²	61 078	-9 252	64 168	104 742	36 537

Notes

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

2 Farm surplus for reinvestment is the cash available from the farm business, after meeting living costs, which is available for investment on the farm or for principal repayments. It is calculated as farm profit after tax plus depreciation plus stock adjustments less drawings.

Table 2: Hawke's Bay/Wairarapa sheep and beef model budget

	2011/12			2012/13 budget		
	Whole farm (\$)	Per hectare (\$)	Per stock unit ¹ (\$)	Whole farm (\$)	Per hectare (\$)	Per stock unit ¹ (\$)
Revenue						
Sheep	381 165	669	104.66	318 432	559	87.41
Wool	64 912	114	17.82	52 677	92	14.46
Cattle	203 085	356	132.73	199 480	350	127.95
Grazing income (including hay and silage sales)	10 000	18	1.93	8 000	14	1.54
Other farm income	7 000	12	1.35	6 000	11	1.15
Less:						
Sheep purchases	21 260	37	5.84	22 880	40	6.28
Cattle purchases	82 200	144	53.72	72 720	128	46.65
Net cash income	562 702	987	108.80	488 989	858	94.00
Farm working expenses	270 650	475	52.33	278 431	488	53.52
Cash operating surplus	292 052	512	56.47	210 558	369	40.48
Interest	62 250	109	12.04	57 675	101	11.09
Rent and/or leases	5 250	9	1.02	5 250	9	1.01
Stock value adjustment	1 638	3	0.32	6 315	11	1.21
Minus depreciation	16 320	29	3.16	16 608	29	3.19
Farm profit before tax	209 869	368	40.58	137 340	241	26.40
Income equalisation	0	0	0.00	0	0	0.00
Taxation	51 810	91	10.02	41 096	72	7.90
Farm profit after tax	158 059	277	30.56	96 244	169	18.50
Allocation of funds						
Add back depreciation	16 320	29	3.16	16 608	29	3.19
Reverse stock value adjustment	- 1 638	- 3	-0.32	- 6 315	- 11	-1.21
Drawings	68 000	119	13.15	70 000	123	13.46
Farm surplus for reinvestment²	104 742	184	20.25	36 537	64	7.02
Reinvestment						
Net capital purchases	17 000	30	3.29	7 000	12	1.35
Development	4 400	8	0.85	7 000	12	1.35
Principal repayments	18 250	32	3.53	10 000	18	1.92
Farm cash surplus/deficit	65 092	114	12.59	12 537	22	2.41
Other cash sources						
Off-farm income	3 000	5	0.58	6 000	11	1.15
New borrowings	0	0	0.00	0	0	0.00
Introduced funds	0	0	0.00	0	0	0.00
Net cash position	68 092	119	13.17	18 537	33	3.56
Assets and liabilities						
Farm, forest and building (opening)	3 300 000	5 789	638.06	3 300 000	5 789	634.36
Plant and machinery (opening)	100 247	176	19.38	102 210	179	19.65
Stock valuation (opening)	837 877	1 470	162.00	839 515	1 473	161.38
Other produce on hand (opening)	0	0	0.00	0	0	0.00
Total farm assets (opening)	4 238 124	7 435	819.44	4 241 725	7 442	815.39
Total assets (opening)	4 265 354	7 483	824.71	4 271 725	7 494	821.15
Total liabilities (opening)	950 000	1 667	183.68	910 000	1 596	174.93
Total equity (farm assets - liabilities)	3 288 124	5 769	635.76	3 331 725	5 845	640.46

Notes

1 Sheep stock units are used in the per stock 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 is the cash available from the farm business, after meeting living costs, which is available for investment on the farm or for principal repayments. It is calculated as farm profit after tax plus depreciation plus stock adjustments less drawings.

Table 3: Hawke's Bay/Wairarapa sheep and beef model expenditure

	2011/12			2012/13 budget		
	Whole farm (\$)	Per hectare (\$)	Per stock unit (\$)	Whole farm (\$)	Per hectare (\$)	Per stock unit (\$)
Farm working expenses						
Permanent wages	28 500	50	5.51	31 350	55	6.03
Casual wages	8 550	15	1.65	8 550	15	1.64
ACC	1 081	2	0.21	955	2	0.18
Total labour expenses	38 131	67	7.37	40 855	72	7.85
Animal health	19 705	35	3.81	20 288	36	3.90
Breeding	1 710	3	0.33	1 821	3	0.35
Electricity	4 560	8	0.88	5 130	9	0.99
Feed (hay and silage)	4 560	8	0.88	3 420	6	0.66
Feed (feed crops)	3 990	7	0.77	3 990	7	0.77
Feed (grazing)	855	2	0.17	855	2	0.16
Feed (other)	855	2	0.17	570	1	0.11
Fertiliser	55 448	97	10.72	61 553	108	11.83
Lime	7 980	14	1.54	8 550	15	1.64
Cash crop expenses ¹	3 980	7	0.77	4 280	8	0.82
Freight (not elsewhere deducted)	6 700	12	1.30	7 000	12	1.35
Regrassing costs	3 990	7	0.77	3 990	7	0.77
Shearing expenses ²	24 400	43	6.70	25 137	44	6.90
Weed and pest control	6 270	11	1.21	5 130	9	0.99
Fuel	10 000	18	1.93	10 500	18	2.02
Vehicle costs (excluding fuel)	9 120	16	1.76	8 550	15	1.64
Repairs and maintenance	28 500	50	5.51	26 220	46	5.04
Total other working expenses	192 623	338	37.24	196 984	346	37.87
Communication costs (phone and mail)	2 000	4	0.39	2 000	4	0.38
Accountancy	5 000	9	0.97	5 000	9	0.96
Legal and consultancy	2 500	4	0.48	2 500	4	0.48
Other administration	4 500	8	0.87	4 500	8	0.87
Water charges (irrigation)	200	0	0.04	300	1	0.06
Rates	12 255	22	2.37	12 825	23	2.47
Insurance	7 600	13	1.47	8 500	15	1.63
ACC employer	4 641	8	0.90	4 467	8	0.86
Other expenditure	1 200	2	0.23	500	1	0.10
Total overhead expenses	39 896	70	7.71	40 592	71	7.80
Total farm working expenses	270 650	475	52.33	278 431	488	53.52
Calculated ratios						
Economic farm surplus (EFS ³)	203 988	358	39.44	126 847	223	24.38
Farm working expenses/NCI ⁴	48%			57%		
EFS/total farm assets	4.8%			3.0%		
EFS less interest and lease/equity	4.2%			1.9%		
Interest+rent+lease/NCI	12.0%			12.9%		
EFS/NCI	36.3%			25.9%		
Wages of management	73 381	129	14.19	73 417	129	14.11

Notes

1 Includes forestry expenses.

2 Shearing expenses per stock unit based on sheep stock units.

3 EFS is calculated as follows: net cash income plus change in livestock values less farm working expenses less depreciation less wages of management (WOM). WOM is calculated as follows: \$31 000 allowance for labour input plus 1 percent of opening total farm assets to a maximum of \$75 000.

4 Net cash income.

FINANCIAL PERFORMANCE OF THE HAWKE'S BAY/WAIRARAPA SHEEP AND BEEF FARM MODEL IN 2011/12

Higher returns for lambs, sheep and wool increased the cash operating surplus for the Hawke's Bay/Wairarapa sheep and beef farm model in 2011/12 by \$80 300 (38 percent) to \$292 100 or \$512 per hectare. Farm working expenses increased \$43 700, but the rise in revenue was nearly three times this amount at \$123 900.

Best season for many years

The 2011/12 season was the best for many years. Spring was warmer and drier than average. There was good pasture growth and utilisation in the north but more frosts in Wairarapa through until October, when pasture growth took off. Lambing was much better than the three previous years, with an absence of storms after the mid-August snowfall that covered the region.

Strong pasture growth throughout summer enabled farmers to take lambs and cattle through to heavier weights, even though for lambs this was not always well-rewarded. Clover was plentiful in the sward and animals were heavier and healthier. Regular summer rainfall, with no significant dry spells, resulted in high pasture covers that lost their quality in late summer.

SHEEP RETURNS INCREASE

Sheep revenue (sales less purchases) increased 53 percent to \$359 900 in 2011/12, compared with \$235 200 in 2010/11. This was due to a lift in prices for all classes of stock and 8 percent (168) more lambs being sold. Sheep stock units were up 4 percent at the start of 2011/12 on a standard stock unit basis, compared with a year earlier. (See note on use of performance-based stock units in the information on the model.)

Improved lambing despite the snow storms

A record snow storm in August, accompanied by three days of sleet and wind, caused large localised lamb losses. Otherwise, increased lamb survival, combined with good mating weights in autumn 2011, resulted in 125 percent lambing, well up on the previous three years, which ranged from 114 percent to 122 percent.

Good prices for lambs and cull ewes but slim margins for traders

Lamb prices averaged \$113 per head, up 22 percent on 2010/11. The average store lamb

price was 46 percent higher in 2011/12, but with the good feed conditions, farmers opted to carry more lambs through to finish. The farms monitored sell about 75 percent of lambs as prime and 25 percent on the store market in most years. However, in 2011/12, the good pasture growth enabled farmers to sell around 80 percent of lambs prime although they were held longer than usual to reach killable weights.

Plentiful feed and a general shortage of livestock due to previous droughts played havoc with store prices. The high store lamb price relative to the prime schedule, particularly later in the season, also meant fewer lambs were bought for trading and winter finishing. Cull ewe prices were exceptionally high, averaging \$120 per head on monitored farms.

The prime lamb schedule peaked at \$8.20 per kilogram in November. It was held up by farmers retaining stock. It fell sharply from \$7.00 per kilogram through February and March, to below expected levels based on the usual seasonality of the schedule. Accentuated by European market signals, it fell to \$5.60 per kilogram in May. This contrasted with the rising schedule in early 2011, causing some farmers to rue the decision to finish more lambs. Some farmers would have received a higher price for a store lamb earlier in the 2011/12 season than they did finishing some of the lambs in the autumn.

The average lamb carcass weight was up slightly. However, lamb (and trading stock) growth rates were not as good as expected given the exceptional pasture production, due in part to lower feed quality and cloudy, cooler weather. Industry commentators observed that yields for forage crops were variable and generally average in quality. Stock did not seem to do so well on these crops over summer.

Wool weights up but price off its peak

Wool production rose 14 percent to 17 800 kilograms in 2011/12 due to increased sheep numbers, extra lambs shorn and higher feeding levels. The average wool price for the model in 2011/12 was \$3.65 per kilogram down 4 percent on 2011/12. This was 62 percent higher than the \$2.25 received in 2009/10. Prices for New Zealand strong wool peaked early in the season at over \$6.50 clean before dropping back to around

\$4.15 per kilogram (clean). The price in May was 35 percent lower than the same time the previous year. The higher quantity of wool offset the slightly lower price, resulting in a 10 percent increase in wool revenue in 2011/12 to \$64 900.

Stock numbers steady

Overall, total stock units increased just 0.6 percent during 2011/12. Sheep stock units held steady with numbers marginally down at year end, while cattle stock units increased slightly due to a few more older cattle being on hand at year end compared with opening. Extra hoggets were retained and more were mated. There was a heavier cull of older ewes whose performance had been compromised by successive droughts (2007 to 2010) while prices were at record highs. These ewes were replaced with a reduced number of bought-in two-tooths. The extra ewe hoggets are regarded as trading stock with multiple options: they can be sold as winter trade lambs if feed is short, kept to provide better selection for replacement ewes or carried through and sold for good money as two-tooths. Finishers have also been taking in more replacement ewe lambs as grazing for hill country farms.

Cattle margins reduced

Cattle revenue (sales less purchases) fell by \$9 400 (7 percent) following the decrease in cattle on hand at 1 July 2011. Farmers purchased fewer cattle in late 2010/11 than expected, due to the high prices prevailing at the time. Cattle purchases returned to more usual levels in 2011/12, though the poor margins meant that fewer cattle were traded.

With plenty of cattle feed and the general shortage of livestock as a result of the earlier droughts, store

cattle prices were relatively strong, even with the higher beef schedule in 2011/12, compared with a year earlier. As schedule prices fell early in 2012, cattle were carried longer to heavier weights to try to capture a better margin and control pasture. The value of the beef cow herd, which had dwindled over the drought years on these properties, was clearly demonstrated this season as farmers struggled to cope with the surplus pasture.

EXPENDITURE INCREASES 19 PERCENT

Farm working expenses increased \$43 700 to \$270 700 in 2011/12, with significant increases in wages and catch-up spending on fertiliser, repairs and maintenance and weed and pest control. There were general increases for most operating items. Farm working expenses for the model equate to \$52.33 per stock unit, similar to the median for monitored farms, where the total ranges from \$22.89 to \$74.51 per stock unit.

Permanent wages and casual labour increased 20 percent to \$38 100 in 2011/12. Farmers commented that some who had shared labour units were going back to employing a full-time person. Also, because farmers were getting older and they could justify a second labour unit to help with repairs and maintenance when returns were good.

Shearing costs increased \$1900, or 8 percent, as more sheep were shorn in 2011/12 due to stock being carried for longer and incentives at the works that encouraged more shearing. Animal health costs increased \$1100, or 6 percent, with more drenching of young stock that were held for longer; more dipping for fly strike due to warm, wet conditions; and more expensive drench families being used to slow down drench resistance.

Table 4: Hawke's Bay/Wairarapa sheep and beef model cash farm income

Year ended 30 June	2008/09 (\$)	2009/10 (\$)	2010/11 (\$)	2011/12 (\$)	2012/13 budget (\$)
Sheep sales less purchases	221 149	192 848	235 238	359 905	295 552
Cattle sales less purchases	113 745	90 294	130 249	120 885	126 760
Wool	35 521	36 015	59 081	64 912	52 677
Grazing income (including hay and silage sales)	3 000	5 000	5 500	10 000	8 000
Other income	9 000	9 700	8 700	7 000	6 000
Net cash income	382 415	333 857	438 768	562 701	488 989

Note

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

Significant pasture surpluses conserved increasing feed costs

Hay and silage making costs increased 81 percent, to \$4600, as more pasture was conserved in the good growing season. This increase was largely offset by small reductions in fodder cropping, grazing and other feed costs. Poor weather provided challenges in harvesting the surplus pasture. As a result, some paddocks were opened back up to stock and some conserved feed will be of only moderate quality. Many farmers were able to rebuild reserves of baleage and fill haybarns, and some of the surplus was sold.

Improved returns have allowed major catch up on maintenance

Improved prices and production on the farm model allowed farmers to lift fertiliser expenditure in 2011/12, up 34 percent to \$97 per hectare. Lime applications increased 27 percent to \$8000. Farmers also increased repairs and maintenance, particularly of buildings, fences and tracks, spending a total of \$50 per hectare in 2011/12, up 39 percent compared with 2010/11.

Expenditure on weeds and pests increased 79 percent to \$6300. A large proportion of this related to increased spraying for porina.

IMPROVED NET RESULT REINVESTED ON FARM

Farm profit before tax jumped to \$209 900 in 2011/12, an increase of 69 percent or \$85 900, a record for this model. This enabled reinvestment in the farm including \$17 000 of capital spending, \$4400 on development, and principal repayments of \$18 300. Some farms are paying lump sums of \$50 000 to \$100 000 off debt, but most farmers are reducing overdrafts

and maintaining a much healthier current account rather than paying off more term debt. This was the first year of cash surplus for many, so most of the capital spending was on smaller items of plant and machinery, for example, quad bikes and weighing scales, and replacing cars, rather than larger investments like new tractors.

Tax planning is important

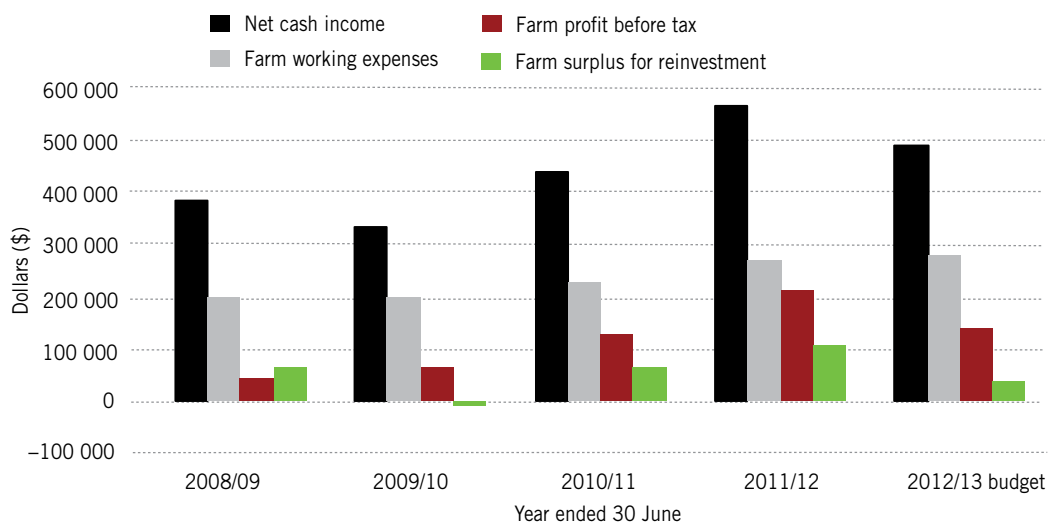
Taxation on the farm partnership model more than trebled to \$51 800 for 2011/12, up from \$15 300 in 2010/11. The increase in tax reflects the improved incomes in both years and includes some terminal tax for 2010/11. Farm accountants commented that tax planning became important to their farming clients and this, along with business restructuring, increased the accounting and legal and consultancy expenditure in 2011/12. Most farmers no longer have tax losses or write-offs carried forward from previous years to reduce their tax liability.

Interest rates continue to fall

Interest costs fell \$3100 (5 percent) as higher fixed-term mortgages finished and moved onto lower floating rates. Debt servicing for the farm model, including rent and lease, dropped to 12 percent of the net cash income, from 15 percent in 2010/11, as a result of increased income. The equity level on the farm model is 78 percent.

Return on assets was 5 percent in a season that provided the best returns in many years. There were a few distressed property sales, although these fell as farms returned to viability. There was the odd sale at a good price, but no volume on which to base any change in the value of the land and buildings.

Figure 1: Hawke's Bay/Wairarapa sheep and beef farm model profitability trends



BUDGET FINANCIAL PERFORMANCE OF THE HAWKE'S BAY/WAIRARAPA SHEEP AND BEEF FARM MODEL IN 2012/13

The cash operating surplus for the Hawke's Bay/Wairarapa sheep and beef farm model is budgeted at \$210 600 for 2012/13, a drop of 28 percent compared with the exceptional 2011/12 year, but equal to 2010/11. While the budgeted net cash income of \$489 000 is down 13 percent on 2011/12, it is still better than 2010/11.

FARM REVENUE FORECAST TO DROP 13 PERCENT

Lower lamb, sheep, wool, cattle and grazing revenue is budgeted for 2012/13, with net cash income expected to fall \$73 700 to \$489 000. This is largely due to expected lower sheepmeat and wool prices offsetting a small improvement in cattle margins.

Farms are well set up for 2012/13

Ewes were in good condition going into winter 2012. Hogget mating was up due to a favourable season, with extra ewe hoggets kept and more of them reaching the minimum live weight for mating. Ewe scanning percentages were up 10 to 15 percent. However, based on the excellent survival rate in 2011, industry commentators believe the improvement in lambing percentage is likely to be modest. The farm model is budgeting on a two percentage point improvement in lambing to 127 percent. This will result in around 135 more lambs being available for sale in 2012/13 (up 5 percent). There is the potential for lambing to be nearer 130 percent if there are no storms, as the ewes are in much better condition than in past years.

Cattle were 40 to 80 kilograms heavier going into winter 2012 so are likely to be killed earlier at better prices, resulting in similar cattle returns per head as were achieved in 2011/12. There are slightly fewer cattle for sale as more calves were sold in autumn 2012, but those for sale will be older on average and the trading margin is expected to be higher. A 5 percent rise in cattle revenue is expected in 2012/13.

Falling sheepmeat prices expected

A \$20 decrease is budgeted in the average lamb price to \$93 per head in 2012/13, based on \$98 per head for prime lambs and \$79 for store lambs.

However, farmers are hoping for an average price of over \$100 per head. A return to the usual policy of selling about 75 percent of lambs prime and the remaining 25 percent store is expected, based on a more normal pasture growth curve. There were slightly fewer winter trade lambs carried through, and the average price is expected to be \$125 per head, down from \$150 in 2011/12. The cull ewe price is also expected to fall to \$95 per head. Sheep revenue (sales less purchases) is expected to fall 18 percent from 2011/12.

Further fall in wool revenue expected

Industry commentators are anticipating wool prices will drop about 20 percent in 2012/13. This reflects the lower prices at the end of the 2011/12 season and the downside risk associated with falling cotton prices. The wool price in the farm model budget is expected to be \$3.00 per kilogram, down from \$3.65 per kilogram in 2011/12. Wool weights should remain above average due to the good feed levels in summer and autumn 2012. The result is an expected 19 percent reduction in wool revenue in 2012/13, to \$52 700.

FARM EXPENDITURE WILL INCREASE SLIGHTLY

Farmers are budgeting on farm working expenses increasing 3 percent, to \$278 400 or \$488 per hectare in 2012/13. Farmers are expecting to maintain productive investment on-farm despite the lower income; however, they are being generally cautious. Further cost increases are expected for: fertiliser, wages, shearing, animal health, electricity, freight, fuel, rates and insurance. To offset these increases, farmers are planning to reduce spending on repairs and maintenance and weed and pest control. The total feed budget is expected to fall 14 percent reflecting a more normal season in terms of expenditure on conserving surplus pasture.

The 11 percent budgeted increase for fertiliser anticipates rises in fertiliser prices and spreading costs. It includes the application of fertiliser that was intended to be spread in late 2011/12, when work was delayed by weather disruptions and/or bottlenecks in terms of infrastructure such as trucks and planes.

NET RESULT DETERIORATES

The farm model surplus for reinvestment is predicted to fall to \$36 500 in 2012/13, 65 percent lower than in 2011/12. Farmers are planning a modest level of capital purchases, development spending and principal repayments and, in total, these are expected to be around 60 percent of 2011/12 levels.

Farm profit before tax is expected to fall 35 percent to \$137 300 in 2012/13. Following the high farm profit before tax in 2011/12, the farm model has a tax bill of \$41 100 in 2012/13, again including some terminal tax for the prior year. Given the reduction in income, it is expected farmers will revise their provisional tax to avoid paying more than necessary. The costs of tax planning are included in overhead expenses.

INFORMATION ABOUT THE MODEL

This model represents around 2000 farms south of the Napier–Taupo highway in the Hawke's Bay, Taranaki and Wairarapa regions.

The model comprises mainly sheep and cattle breeding and finishing farms, with most of the cropping done for grazing livestock. Growing barley, squash and maize is not uncommon on the more fertile lower-lying land in the region.

The farm model is 570 effective hectares and covers a range of environments: from the hill country in the western foothills of the main central mountain range, the dry central belt, to the coastal hills in the east. As a result, average rainfall ranges from 2000 millimetres per annum to 500 millimetres per annum. The terrain is easy to medium hill, but most properties have some "flats", typically used for more intensive farming practices, and some steeper country that is potentially erosion prone.

Stocking rates vary but averaged 9.1 based on opening stock numbers in July 2011. The total stock units of 5170 comprised 70 percent sheep and 30 percent cattle. Note that sheep stock units are calculated on performance, based on a lambing percentage. One standard sheep stock unit is based on a 111 to 120 percent ewe lambing. Based on the higher lambing percentage

for this model, in both 2011/12 and 2012/13, breeding ewe numbers were multiplied by 1.1 stock units. (This partly explains the increase in stock units as at July 2011 for the 2011/12 year.) Any per stock unit calculations or indices should take this into account when comparing to other sources of financial information.

The sheep system is a breeding ewe flock, breeding its own ewe replacements with, depending on the season, three-quarters of the lamb progeny being finished to slaughter weights and the rest sold store. Most of these store lambs stay within the region.

The model represents a range of cattle policies from breeding cow herds through to intensive bull finishing. The model has a 100-head mixed-age cow herd. Heifers are mated as rising two-year olds. The model finishes both steers and bull beef and, depending on the season, will buy in around 30 weaner bulls, 30 older bulls and 30 older beef cattle to finish.

The results for 2010/11 have been revised from those published earlier to reflect a drop in cattle purchases in late 2010/11.

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