

SOUTH ISLAND DEER



This model represents deer farms in Southland and South Otago that stock deer only. The model farm size and stocking rate changed in 2007/08 to reflect the trend of a higher proportion of the regional deer herd being farmed on more extensive properties. This was due in part to a change in land use of the more intensive deer units.

KEY POINTS

- Physical production in the 2008/09 season was near average. The 2007/08 drought had some flow-on effects on fawning percentages, early season weights and finishing times.
- Net cash income increased 22 percent to \$101 per stock unit. This was due to a 34 percent increase in the average schedule price of venison.
- The average velvet price in 2008/09 was down 23 percent on 2007/08 to \$58 per kilogram. This was below the estimated national weighted average of \$61.50 per kilogram. Velvet producers are hopeful that the expected lower supply in 2009/10 will increase the velvet price. In the meantime, there has been a shift away from velvetting stags.
- Farm working expenditure rose 24 percent to \$138 400 in 2008/09, driven by items such as feed, fertiliser and repairs and maintenance. These increases represented close to maintenance input levels for the property after a number of below maintenance years.
- Farm profit before tax increased 60 percent to \$81 300 in 2008/09. Increased profitability saw discretionary expenditure increase markedly on drawings, capital purchases, and development.
- Deer farmer morale was positive with expectations their businesses will remain profitable in the short to medium-term. This is backed by meat companies' cautious optimism in venison prices.

»» TABLE 1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGET FOR THE SOUTH ISLAND DEER MODEL

YEAR ENDED 30 JUNE	2005/06	2006/07	2007/08 ^R	2008/09	2009/10 BUDGET
Effective area (ha)	180	180	201	201	201
Opening deer stock units	2 860	2 752	2 848	2 748	2 764
Mixed age breeding hinds (head)	540	540	563	568	568
Rising 2-year hinds (head)	130	130	100	82	94
Rising 1-year hinds and stags (head)	552	564	538	514	538
Rising 2-year stags (head)	65	50	81	78	70
Rising 3-year plus stags (head)	95	104	119	109	100
Stocking rate (stock units/ha)	15.9	15.3	14.2	13.7	13.8
FAWNING¹					
Farm average (%)	84	84	86	84	87
Mixed age hinds (%)	87	86	87	85	89
2-year-old hinds (%)	72	74	78	75	76
VELVET					
Average price (\$/kg)	42	95	75	58	80
Farm average (includes re-growth but excludes yearling velvet) (kg/stag)	3.0	3.4	3.7	3.4	3.5
Mixed age stags (kg/stag)	4.0	4.3	4.7	4.2	4.5
3-year-old stags (kg/stag)	2.9	3.6	3.9	3.6	3.7
2-year old stags (kg/stag)	1.8	2.3	2.7	2.3	2.4
CARCASS WEIGHTS					
2-year-old stags (kg)	65	65	65	65	65
Yearling stags (kg)	56	55	55	57	58
INCOME					
Net cash income (\$)	142 508	183 216	227 602	277 147	293 868
Farm working expenses (\$)	78 230	92 254	111 540	138 434	136 778
Farm profit before tax (\$)	12 500	51 088	50 855	81 335	107 926
Farm surplus for reinvestment ² (\$)	-15 104	10 952	25 600	24 746	37 393

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.

^R The model parameters have been revised, so the data for 2007/08 will not match that published in *Pastoral Monitoring Report 2008*.



»» TABLE 2: SOUTH ISLAND DEER MODEL BUDGET

	2008/09			2009/10 BUDGET			CHANGE BETWEEN 2008/09 AND 2009/10 (%)
	WHOLE FARM (\$)	PER HECTARE (\$)	PER DEER STOCK UNIT (\$)	WHOLE FARM (\$)	PER HECTARE (\$)	PER DEER STOCK UNIT (\$)	
REVENUE							
Deer sales	234 756	1 168	85.43	247 828	1 233	89.65	6
Velvet (per stag stock unit)	29 281	146	30.87	39 040	194	42.51	33
Other farm income	15 869	79	5.77	10 000	50	3.62	-37
LESS:							
Deer purchases	2 759	14	1.00	3 000	15	1.09	9
Net cash income	277 147	1 379	100.85	293 868	1 462	106.30	6
Farm working expenses	138 434	689	50.38	136 778	680	49.48	-1
Cash operating surplus	138 714	690	50.48	157 090	782	56.83	13
Interest	45 760	228	16.65	38 525	192	13.94	-16
Rent and/or leases	0	0	0.00	0	0	0.00	..
Stock value adjustment	3 452	17	1.26	5 308	26	1.92	54
Minus depreciation	15 071	75	5.48	15 947	79	5.77	6
Farm profit before tax	81 335	405	29.60	107 926	537	39.04	33
Taxation	15 768	78	5.74	29 172	145	10.55	85
Farm profit after tax	65 566	326	23.86	78 755	392	28.49	20
Add back depreciation	15 071	75	5.48	15 947	79	5.77	6
Reverse stock value adjustment	-3 452	-17	-1.26	-5 308	-26	-1.92	54
Off-farm income	27 393	136	9.97	21 417	107	7.75	-22
Discretionary cash	104 578	520	38.06	110 810	551	40.08	6
APPLIED TO:							
Net capital purchases	21 878	109	7.96	11 084	55	4.01	-49
Development	9 531	47	3.47	8 125	40	2.94	-15
Principal repayments	0	0	0.00	0	0	0.00	..
Drawings	52 439	261	19.08	52 000	259	18.81	-1
New borrowings	0	0	0.00	0	0	0.00	..
Introduced funds	0	0	0.00	0	0	0.00	..
Cash surplus/deficit	20 730	103	7.54	39 601	197	14.33	91
Farm surplus for reinvestment¹	24 746	123	9.01	37 393	186	13.53	51
ASSETS AND LIABILITIES							
Farm, forest and building (opening)	4 500 000	22 388	1638	3 510 000	17 463	1270	-22
Plant and machinery (opening)	100 475	500	37	106 311	529	38	6
Stock valuation (opening)	592 030	2 945	215	595 482	2 963	215	1
Other farm related investments (opening)	0	0	0	0	0	0	..
Total farm assets (opening)	5 192 505	25 833	1890	4 211 793	20 954	1524	-19
Total liabilities (opening)	547 000	2 721	199	497 000	2 473	180	-9
Total equity (assets-liabilities)	4 645 505	23 112	1691	3 714 793	18 482	1344	-20

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

.. Not applicable.

»» TABLE 3: SOUTH ISLAND DEER MODEL EXPENDITURE

	2008/09			2009/10 BUDGET			CHANGE BETWEEN 2008/09 AND 2009/10 (%)
	WHOLE FARM (\$)	PER HECTARE (\$)	PER DEER STOCK UNIT (\$)	WHOLE FARM (\$)	PER HECTARE (\$)	PER DEER STOCK UNIT (\$)	
FARM WORKING EXPENSES							
Permanent wages	0	0	0.00	0	0	0.00	..
Casual wages	4 744	24	1.73	4 700	23	1.70	-1
ACC	81	0	0.03	127	1	0.05	57
Total labour expenses	4 825	24	1.76	4 827	24	1.75	0
Animal health	7 749	39	2.82	7 740	39	2.80	0
Breeding	1 319	7	0.48	1 382	7	0.50	5
Electricity	5 359	27	1.95	5 529	28	2.00	3
Feed (hay and silage)	14 015	70	5.10	12 256	61	4.43	-13
Feed (feed crops)	3 500	17	1.27	3 500	17	1.27	0
Feed (grazing)	0	0	0.00	0	0	0.00	..
Feed (other)	9 481	47	3.45	8 048	40	2.91	-15
Fertiliser	28 584	142	10.40	30 000	149	10.85	5
Lime	2 040	10	0.74	2 140	11	0.77	5
Freight (not elsewhere deducted)	1 292	6	0.47	1 300	6	0.47	1
Regrassing costs	5 551	28	2.02	5 700	28	2.06	3
Weed and pest control	2 734	14	0.99	2 840	14	1.03	4
Fuel	10 084	50	3.67	10 700	53	3.87	6
Vehicle costs (excluding fuel)	8 955	45	3.26	10 200	51	3.69	14
Repairs and maintenance	11 102	55	4.04	9 787	49	3.54	-12
Total other working expenses	111 764	556	40.67	111 122	553	40.20	-1
Communication costs (phone and mail)	2 262	11	0.82	2 350	12	0.85	4
Accountancy	3 642	18	1.33	3 940	20	1.43	8
Legal and consultancy	351	2	0.13	280	1	0.10	-20
Other administration	1 766	9	0.64	1 450	7	0.52	-18
Rates	4 523	23	1.65	4 720	23	1.71	4
Insurance	4 300	21	1.56	4 420	22	1.60	3
Water charges (irrigation)	0	0	0.00	0	0	0.00	..
Other expenditure ¹	5 000	25	1.82	3 668	18	1.33	-27
Total overhead expenses	21 844	109	7.95	20 828	104	7.53	-5
Total farm working expenses	138 434	689	50.38	136 778	680	49.48	-1
Wages of management	75 000	373	27.29	73 118	364	26.45	-3
Depreciation	15 071	75	5.48	15 947	79	5.77	6
Total farm operating expenses	228 505	1 137	83.15	225 842	1 124	82.18	-1
CALCULATED RATIOS							
Economic farm surplus (EFS ²)	52 095	259	18.96	73 334	365	26.53	
Farm working expenses/NCI ³	50%			47%			
EFS/total farm assets	1%			2%			
EFS less interest and lease/equity	0.1%			0.9%			
Interest+rent+lease/NCI	17%			13%			
EFS/NCI	19%			25%			

Notes

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

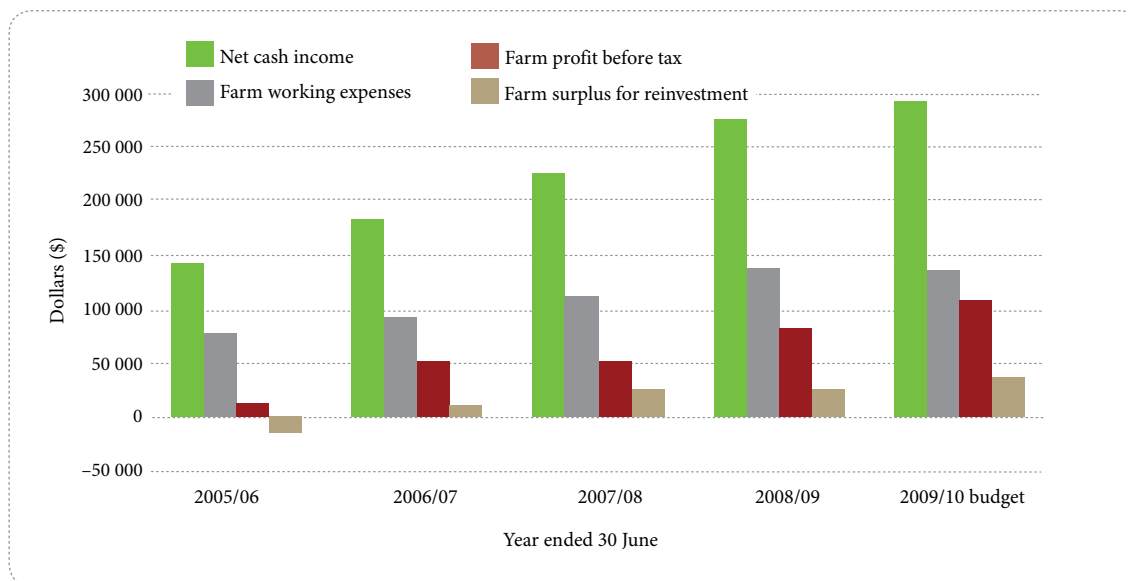
2 EFS (or earnings before interest and tax) is calculated as follows: net cash income plus change in livestock values less farm working expenses less depreciation less wages of management (WOM). WOM is calculated as follows: \$31 000 allowance for labour input plus 1 percent of opening total farm assets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

3 Net cash income.

Symbol

.. Not applicable.

»» FIGURE 1: SOUTH ISLAND DEER MODEL PROFITABILITY TRENDS



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

The 2008/09 cash operating surplus for the South Island deer model was \$138 700 (\$50.48 per stock unit). This was an improvement of 20 percent on 2007/08 and was driven by increased venison revenue.

2008/09 BETTER THAN THE PREVIOUS YEAR

Most deer farms went into the 2008 winter with lower than average feed reserves and stock condition. This was due to the 2008 drought and deer farmers being unable to compete with the booming dairy industry which drove supplementary feed prices to extremely high levels. The feed shortage flowed through into higher than usual dry rates in hinds, and slightly later calving dates. However, further detrimental impacts were limited by a relatively kind winter.

Fluctuating pasture growth rates throughout the year characterised 2008/09. In general there was a slow start to spring growth in many areas, followed by moderate pasture growth rates in summer, and strong autumn growth. May was a wet month, which interrupted weaning in some areas. There was no “summer drought” although soil moisture limited pasture growth on lighter soils in late March and April 2009.

Most properties had a net feed surplus for the season which allowed them to replenish supplementary feed stocks and, in some cases, sell surplus grass. Hinds went to the stag in good condition which bodes well for the 2009/10 season.

SIGNIFICANT LIFT IN REVENUE DUE TO VENISON PRICE

Net cash income increased by 22 percent (from \$80 per stock unit up to \$101 per stock unit) in the 2008/09 year. This was driven by a 26 percent increase (\$48 300) in the value of stock sales and a \$9000 increase in other farm income (predominantly surplus feed sales). Velvet income was down 25 percent (\$10 000) on the previous year making up only 11 percent of the total farm income.

The average venison price over all stock killed was \$8.31 per kilogram. The venison schedule started at an above average level and the traditional decline throughout the season, as product changes from chilled supply to predominantly frozen was not as pronounced. This was the major driver in increased income.



KILL WEIGHTS VARIABLE

While the average yearling stag carcass weight was up 1.5 kilograms to 56.5 kilograms, the average yearling hind carcass weight was down 1 kilogram to 51 kilograms. A slightly higher proportion of rising two year hinds was retained, leaving lighter hinds for processing. Processors commented that there were fewer over-fat carcasses than usual. Deer co-products (offal and pelts) made up 7 percent of the total carcass value.

VELVET PRICES AND WEIGHTS DOWN

The weighted average velvet price for the 2008/09 season was \$58 per kilogram, which was 23 percent down on the 2007/08 season's price of \$75 per kilogram. This was due to weaker market demand. However, demand strengthened markedly towards the end of the 2008/09 velvet selling season as more sales occurred.

Average velvet weights were down 8 to 12 percent across older stag age groups. This was not necessarily due to a change in the yield from individual animals, but more the result of a number of stags being velveted early before being culled to take advantage of the buoyant venison market.

OFF-FARM INCOME STILL IMPORTANT

Approximately 50 percent of farmers with deer units are still supplementing this income with other sources. This is generally through a second job, contracting work or another block of land running sheep and beef. The total amount of off-farm income on the model increased by 33 percent (\$6800) in the 2008/09 year.

EXPENDITURE INCREASES UNAVOIDABLE

From 2004/05 to 2007/08 deer farmers pruned their expenses to a bare minimum. After two years of above average venison returns, expenditure returned to near maintenance. However, increases in fuel, fertiliser and feed prices meant the dollar expended did not buy as much as it had previously. Farm working expenditure increased 24 percent to \$50.38 per stock unit and accounted for 50 percent of net cash income.

SUPPLEMENTARY FEED STOCKS REPLENISHED

Expenditure on total feed increased 32 percent (\$6500). The increase came from more balage and silage being made on-farm from surplus pasture, and early season purchases of grain and concentrates made when prices were high. Contracting costs for making feed have increased 10 to 20 percent due to rises in labour and fuel costs, pushing up feed expenditure further.

FERTILISER PRICE SPIKE

Although farmers applied lower tonnages of fertiliser and lime, expenditure increased due to the fertiliser price increases. This resulted in fertiliser spending increasing by 70 percent to \$10 per stock unit in 2008/09. Some maintenance applications were deferred but fertiliser for feed crops was applied when fertiliser prices peaked. Superphosphate cost around \$550 per tonne in December 2008, compared with \$184 per tonne in 2006/07. By June 2009 superphosphate had come back to \$388 per tonne.

INCREASED PROFITABILITY ALLOWS FARMERS TO UNDERTAKE DEFERRED WORK

Regrassing expenditure increased by \$2800. This was primarily due to farmers catching up on deferred regrassing programmes and a desire for better pastures to finish their now highly profitable deer.

The total spent on general repairs and maintenance increased by 196 percent (\$7400) on 2007/08. However, it was still only \$11 100 in total for the 2008/09 year. The increased venison returns for the second year running have allowed farms to carry out maintenance previously deferred due to lack of profitability.

DEBT SERVICING STAYS UP

As the model has a mixture of fixed and floating interest rates with a variety of review dates, the significant drop in market interest rates is yet to filter through to reduce debt servicing expenses in this model.

Average interest rates for the model's term debt were 8 percent per annum and 10 percent for overdrafts.

No principal was repaid. Debt servicing accounted for 17 percent of net cash income.

CASH SURPLUS DECREASES DUE TO INCREASED REINVESTMENT

Despite the increased net cash income, the overall cash surplus decreased by 52 percent to \$20 700 in 2008/09. This was mainly due to the increased expenditure on development, capital purchases and drawings to improve the farm and farmer's lifestyle.

The discretionary cash (money available to spend on these three areas) was up 22 percent on last season to \$104 600.

MORE CAPITAL PURCHASES AND DEVELOPMENT

There was a \$20 400 increase in capital purchases and an \$8200 increase in development expenditure compared with the 2007/08 year. However, this expenditure came from a very low base and totalled only \$1.00 per stock unit in 2007/08. It rose to \$11 per stock unit in 2008/09.

Farmers felt they had cash available to undertake desired development and make some of the capital purchases they had put off in previous years - approximately 35 percent of the monitored farmers made a significant capital purchase.

DRAWINGS ALSO INCREASED

The level of personal drawings increased by 33 percent to \$52 400. This was due to the rising cost of living and farmers feeling that the increased profitability gave them enough cash to afford this additional expenditure.

BUDGET FINANCIAL PERFORMANCE OF THE SOUTH ISLAND DEER MODEL FARM IN 2009/10

The cash operating surplus is projected to increase again in 2009/10, by \$18 400 or 13 percent. This increase depends on an expected increase in velvet sales, deer sales improving further and a budgeted 1 percent decrease in farm working expenditure.



FURTHER LIFT IN REVENUE EXPECTED

Farmers are anticipating a further 6 percent lift in net cash income for 2009/10 to \$106 per stock unit. This is driven by a 6 percent increase in income from deer sales to \$247 800 and a 33 percent increase in income from velvet sales to \$39 000.

Hinds and weaners were in good condition going into the 2009 winter, so farmers are expecting at least average production. If the schedule profile throughout the season stays flat farmers may hold some finishing animals longer to increase average kill weights, possibly by one to two kilograms.

MEAT VALUES SIMILAR AND MORE ANIMALS TO KILL

The average venison price in the 2009/10 season is expected to be \$8.26 per kilogram carcass weight, which is a 1 percent decrease on last season. This fits with processing companies' current expectations of a flatter

schedule but the same or slightly lower average value per kilogram. This is due to good in-market demand for venison in the short and medium term.

The expected increase in deer income is partially from increased killing weights but also from a greater number of animals available to kill. The 2009/10 season opens with more weaners available for sale and a trend away from velveted stags towards more breeding hinds and finishing weaners.

VELVET RETURNS UP

Velvet income is expected to increase by 33 percent or \$10 000 in 2009/10, despite a reduced number of animals to be velveted. This is due to a 38 percent increase in the expected velvet price, rising to \$80 per kilogram. This price expectation is driven by a shortage of velvet as New Zealand's total production drops from 500 tonnes (green) in 2007/08 to around 350 tonnes in 2009/10.

The velvet weights per head are expected to increase by 3 to 7 percent due to selective culling in the previous two years, which has retained superior velvet producers. Poorer velvet yielding animals have been sent to the works and therefore the genetic quality of most herds is expected to have improved over this time.

LESS FEED SOLD AND OFF-FARM INCOME EXPECTED TO DROP

Other farm income is expected to drop by 37 percent to \$ 3.60 per stock unit. Because of the decreased demand from the dairy industry farmers expect that in 2009/10 there will be less opportunity to profit from surplus feed sales as there was in the first half of the 2008/09 season.

Total off-farm income is expected to drop by 22 percent to \$21 400 in 2009/10. This is in response to the increased profitability of deer farming over the past two seasons and a lower dependence on off-farm income.

FARM EXPENDITURE BUDGETED TO STAY THE SAME

Farmers expect their farm working expenditure will decrease by 1 percent to \$49.50 per stock unit in 2009/10. Industry commentators believe that the reality of holding expenses will be difficult. Total farm working expenditure is expected to be \$136 800.

FEED COSTS DECREASE

Total feed costs are anticipated to decrease by 12 percent as rather than conserving grass to replenish their feed reserves, farmers choose to utilise it in the paddock. A decrease in the price of concentrates and grain is also expected as demand weakens.

MANY EXPENSES STAY AT SIMILAR LEVELS

Fertiliser and lime expenditure is expected to increase by 5 percent to \$11.60 per stock unit. This reflects farmers taking advantage of lower prices and applying larger quantities. Many farmers hope to apply full maintenance fertiliser levels. This was deferred in previous years due to a combination of high fertiliser prices and low deer farm profitability.

Farmers expect to spend slightly less on repairs and maintenance in 2009/10 and plan to shift some of their spending away from farm maintenance and spend a little more on vehicles.

LOWER INTEREST RATES COMING THROUGH

Interest paid is expected to decrease by 16 percent (down \$7200) in 2009/10 as mortgages come due and are fixed at lower interest rates. Most farmers also expect to pay less overdraft interest due to lower overdraft balances throughout the year.

CASH SURPLUS TO INCREASE SIGNIFICANTLY

The overall cash surplus is expected to increase by 91 percent to \$39 600 (\$14.30 per stock unit in 2009/10). This is a combination of the farm profit after tax increasing by 20 percent and capital purchases decreasing by 49 percent.

The increased farm profit in the previous year means that tax paid in 2009/10 is expected to increase by 85 percent to \$ 10.55 per stock unit.

Capital purchases are expected to decrease by 49 percent in 2009/10 following the major purchases made in 2008/09. Farmers do plan to continue spending on development albeit at slightly lower levels than in 2008/09.

LAND PRICES FALL

By July 2008 land value had increased dramatically, fuelled by dairy conversion purchases. Since 1 July 2008 there has been a significant softening of the market and farm sales have all but dried up. Industry estimates put land prices back by at least 20 percent at 1 July 2009. The model's opening value of farm land and buildings for 2009/10 was \$990 000, or 22 percent less than a year earlier. Small increases in plant and stock value occurred but deer farmers still had \$930 700 less equity compared with 2008/09.

INFORMATION ABOUT THE MODEL

Deer are run on two main types of farms – deer units within a mixed livestock system, and stand-alone deer farms. The majority of deer in New Zealand are farmed on deer units and they are generally smaller than stand-alone deer farms. The deer farm models in MAF's Pastoral Monitoring Reports are based on stand-alone deer farms and therefore represent an important but not predominant deer farming type. 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.

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 which 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 monitored properties and adjusted to represent a model deer farm. Income figures include off-farm income, new borrowing, and other cash income.

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