

# NORTH ISLAND DEER

This report contains the key results from MAF's 2010 deer monitoring programme. Please note that the sample of farms has changed between 2008/09 and 2009/10. Caution should be taken when comparing data between these two years.

## KEY POINTS

- › Farms are rebuilding physically and financially following drought over the last three years. The farm profit before tax in the model in 2009/10 was \$35 per stock unit, up 90 percent on 2008/09.
- › Hinds and weaners were retained in 2009/10 to build herd numbers for venison and velvet production. Additional stags are predicted to be kept in 2010/11 to increase velvet production volumes.
- › The cash surplus in 2009/10 was \$18 600 and is predicted to increase to \$25 100 in 2010/11. Farmers are budgeting for 2010/11 velvet and venison prices to remain similar to those of 2009/10. These surpluses include approximately \$15 500 of off-farm income.
- › Farm working expenditure per stock unit in 2009/10 decreased 9 percent compared to \$53.30 in 2008/09. This is mainly attributed to lower fertiliser prices. Expenses are budgeted to remain steady in 2010/11.
- › Deer farmers are cautiously optimistic about market prospects. They remain cautious not to increase stocking rates too quickly and keep expenditure under control.

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

YEAR ENDED 30 JUNE	2006/07	2007/08	2008/09	2009/10 <sup>1</sup>	2010/11 BUDGET
Effective area (ha)	140	140	140	220	220
Opening deer stock units	2 197	2 197	2 198	2 203	2 261
Mixed age breeding hinds (head)	440	440	440	400	420
Rising 2-year hinds (head)	100	100	110	140	100
Rising 1-year hinds and stags (head)	454	454	486	440	500
Rising 2-year stags (head)	25	25	25	80	83
Rising 3-year plus stags (head)	80	80	57	40	37
Stocking rate (stock units/ha)	15.7	15.7	15.7	10.0	10.3
<b>FAWNING<sup>2</sup></b>					
Farm average (%)	86	85	80	85	86
Mixed age hinds (%)	88	88	85	88	88
2-year-old hinds (%)	74	70	60	75	80
<b>VELVET</b>					
Average price (\$/kg)	100	75	55	81	81
Farm average (includes re-growth but excludes yearling velvet) (kg/stag)	2.5	3.6	2.2	2.7	2.7
Mixed age stags (kg/stag)	4.5	4.7	4.5	4.8	5.0
3-year-old stags (kg/stag)	4.1	4.1	3.5	3.5	3.5
2-year old stags (kg/stag)	2.2	2.4	2.0	2.0	2.0
<b>VENISON</b>					
Average price (\$/kg)	...	...	7.93	6.86	6.82
2-year-old stags carcass weight (kg)	70	72	70	60	60
Yearling stags carcass weight (kg)	56	57	54	56	56
<b>INCOME</b>					
Net cash income (\$)	148 688	155 043	221 351	216 563	217 745
Farm working expenses (\$)	98 322	103 828	128 333	117 423	119 948
Farm profit before tax (\$)	23 390	23 523	41 006	77 916	75 979
Farm surplus for reinvestment <sup>3</sup> (\$)	-34 140	-14 748	31 922	18 753	15 350

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

3 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 available.



»» TABLE 2: NORTH ISLAND DEER MODEL BUDGET

	2009/10			2010/11 BUDGET		
	WHOLE FARM (\$)	PER HECTARE (\$)	PER DEER STOCK UNIT (\$)	WHOLE FARM (\$)	PER HECTARE (\$)	PER DEER STOCK UNIT (\$)
<b>REVENUE</b>						
Deer sales	176 850	804	80.28	182 210	828	80.59
Velvet (per stag stock unit)	33 492	152	46.97	33 005	150	43.32
Other farm income	26 400	120	11.98	18 400	84	8.14
<b>LESS:</b>						
Deer purchases	20 179	92	9.16	15 870	72	7.02
<b>Net cash income</b>	<b>216 563</b>	<b>984</b>	<b>98.30</b>	<b>217 745</b>	<b>990</b>	<b>96.31</b>
<b>Farm working expenses</b>	<b>117 423</b>	<b>534</b>	<b>53.30</b>	<b>119 948</b>	<b>545</b>	<b>53.05</b>
<b>Cash operating surplus</b>	<b>99 140</b>	<b>451</b>	<b>45.00</b>	<b>97 797</b>	<b>445</b>	<b>43.26</b>
Interest	20 569	93	9.34	21 165	96	9.36
Rent and/or leases	0	0	0.00	0	0	0.00
Stock value adjustment	7 430	34	3.37	7 700	35	3.41
Minus depreciation	8 085	37	3.67	8 353	38	3.69
<b>Farm profit before tax</b>	<b>77 916</b>	<b>354</b>	<b>35.37</b>	<b>75 979</b>	<b>345</b>	<b>33.61</b>
Taxation	12 817	58	5.82	13 282	60	5.87
<b>Farm profit after tax</b>	<b>65 098</b>	<b>296</b>	<b>29.55</b>	<b>62 696</b>	<b>285</b>	<b>27.73</b>
<b>ALLOCATION OF FUNDS</b>						
Add back depreciation	8 085	37	3.67	8 353	38	3.69
Reverse stock value adjustment	-7 430	-34	-3.37	-7 700	-35	-3.41
Off-farm income	15 272	69	6.93	15 500	70	6.86
<b>Discretionary cash</b>	<b>81 025</b>	<b>368</b>	<b>36.78</b>	<b>78 850</b>	<b>358</b>	<b>34.88</b>
<b>APPLIED TO:</b>						
Net capital purchases	9 873	45	4.48	4 590	21	2.03
Development	5 543	25	2.52	1 200	5	0.53
Principal repayments	0	0	0.00	0	0	0.00
Drawings	47 000	214	21.33	48 000	218	21.23
New borrowings	0	0	0.00	0	0	0.00
Introduced funds	0	0	0.00	0	0	0.00
<b>Cash surplus/deficit</b>	<b>18 609</b>	<b>85</b>	<b>8.45</b>	<b>25 060</b>	<b>114</b>	<b>11.08</b>
<b>Farm surplus for reinvestment<sup>1</sup></b>	<b>18 753</b>	<b>85</b>	<b>8.51</b>	<b>15 350</b>	<b>70</b>	<b>6.79</b>
<b>ASSETS AND LIABILITIES</b>						
Farm, forest & building (opening)	1 741 520	7 916	790.52	1 676 400	7 620	741.47
Plant and machinery (opening)	53 900	245	24.47	55 688	253	24.63
Stock valuation (opening)	368 790	1 676	167.40	376 220	1 710	166.40
<b>Total farm assets (opening)</b>	<b>2 164 210</b>	<b>9 837</b>	<b>982.39</b>	<b>2 108 308</b>	<b>9 583</b>	<b>932.51</b>
<b>Total assets (opening)</b>	<b>2 164 210</b>	<b>9 837</b>	<b>982.39</b>	<b>2 108 308</b>	<b>9 583</b>	<b>932.51</b>
Total liabilities (opening)	298 100	1 355	135.32	298 100	1 355	131.85
<b>Total equity (assets - liabilities)</b>	<b>1 866 110</b>	<b>8 482</b>	<b>847.08</b>	<b>1 810 208</b>	<b>8 228</b>	<b>800.66</b>

**Note**

<sup>1</sup> 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 3: NORTH ISLAND DEER MODEL EXPENDITURE

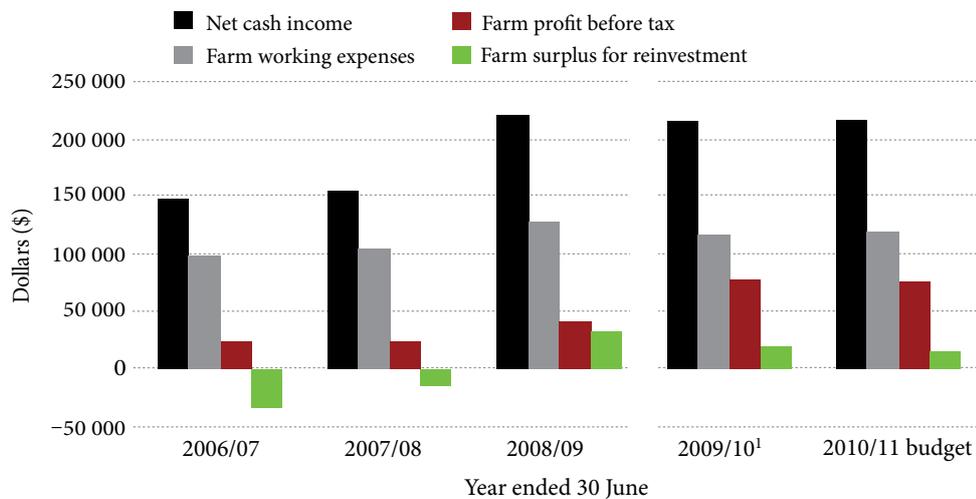
	2009/10			2010/11 BUDGET		
	WHOLE FARM (\$)	PER HECTARE (\$)	PER DEER STOCK UNIT (\$)	WHOLE FARM (\$)	PER HECTARE (\$)	PER DEER STOCK UNIT (\$)
<b>FARM WORKING EXPENSES</b>						
Permanent wages	0	0	0.00	0	0	0.00
Casual wages	7 000	32	3.18	7 500	34	3.32
ACC	175	1	0.08	423	2	0.19
<b>Total labour expenses</b>	<b>7 175</b>	<b>33</b>	<b>3.26</b>	<b>7 923</b>	<b>36</b>	<b>3.50</b>
Animal health	7 000	32	3.18	7 100	32	3.14
Breeding	950	4	0.43	1 000	5	0.44
Electricity	3 730	17	1.69	4 175	19	1.85
Feed (hay and silage)	14 000	64	6.35	14 000	64	6.19
Feed (feed crops)	7 500	34	3.40	8 500	39	3.76
Feed (grazing)	0	0	0.00	0	0	0.00
Feed (other)	6 000	27	2.72	4 000	18	1.77
Fertiliser	23 760	108	10.79	22 200	101	9.82
Lime	800	4	0.36	2 275	10	1.01
Cash crop expenses	0	0	0.00	0	0	0.00
Freight (not elsewhere deducted)	1 350	6	0.61	1 400	6	0.62
Regrassing costs	3 500	16	1.59	4 000	18	1.77
Weed and pest control	2 640	12	1.20	2 640	12	1.17
Fuel	9 777	44	4.44	10 500	48	4.64
Vehicle costs (excluding fuel)	3 701	17	1.68	3 414	16	1.51
Repairs and maintenance	6 800	31	3.09	7 000	32	3.10
<b>Total other working expenses</b>	<b>91 508</b>	<b>416</b>	<b>41.54</b>	<b>92 204</b>	<b>419</b>	<b>40.78</b>
Communication costs (phone and mail)	2 941	13	1.33	3 041	14	1.35
Accountancy	3 000	14	1.36	3 200	15	1.42
Legal and consultancy	600	3	0.27	600	3	0.27
Other administration	800	4	0.36	800	4	0.35
Rates	7 040	32	3.20	7 480	34	3.31
Insurance	2 600	12	1.18	2 600	12	1.15
ACC employer	560	3	0.25	600	3	0.27
Other expenditure	1 200	5	0.54	1 500	7	0.66
<b>Total overhead expenses</b>	<b>18 741</b>	<b>85</b>	<b>8.51</b>	<b>19 821</b>	<b>90</b>	<b>8.77</b>
<b>Total farm working expenses</b>	<b>117 423</b>	<b>534</b>	<b>53.30</b>	<b>119 948</b>	<b>545</b>	<b>53.05</b>
<b>CALCULATED RATIOS</b>						
Economic farm surplus (EFS <sup>1</sup> )	30 982	141	14.06	29 661	135	13.12
Farm working expenses/NCI <sup>2</sup>	54%			55%		
EFS/total farm assets	1.4%			1.4%		
EFS less interest and lease/equity	0.6%			0.5%		
Interest+rent+lease/NCI	9%			10%		
EFS/NCI	14%			14%		
Wages of management	52 642	239	23.90	52 083	237	23.04

**Notes**

1 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.

2 Net cash income.

»» FIGURE 1: NORTH ISLAND DEER MODEL PROFITABILITY TRENDS



**Note**

<sup>1</sup> 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.

## FINANCIAL PERFORMANCE OF THE NORTH ISLAND DEER FARM MODEL IN 2009/10

The cash operating surplus for the North Island deer model in 2009/10 was \$99 100 (\$45 per stock unit), up 6 percent per stock unit from 2008/09. Net cash income per stock unit was down 2 percent but this was more than offset by a 9 percent decrease in farm working expenses compared with 2008/09. Farm profit before tax, when adjusted for the change in stock value, increased to \$35.37 per stock unit, an increase of 90 percent.

### NET CASH INCOME DOWN 2 PERCENT

Net cash income per stock unit of \$98.30 in 2009/10, compared with \$100.70 in 2008/09, was somewhat constrained as North Island deer herds rebuilt numbers during 2009/10 (up by 40 head in the model). The increase in stock came through increased hind retention and weaner purchases. Income was affected by fewer than average numbers of stock for sale and also reduced weights of stock sold following the previous years of drought.

### FAWNING PERCENTAGES RECOVERING FOLLOWING DROUGHT; BUT CARCASS WEIGHTS DOWN

Fawning percentages at 85 percent showed a recovery to pre-drought levels. Reasonable grass cover combined with slightly lower stocking rates following the drought cull increased hind condition and subsequent reproductive performance. Rising two-year hind fawning percentages in particular showed a 15 percentage point increase on 2008/09.

Carcass weights for rising two-year stags were down 14 percent from 70 to 60 kilograms, due to the drought effects. Good velvet stags and rising two-year stags in better condition were held back to take advantage of the higher velvet price and steady venison prices. The carcass weights of yearling stags were stable at around 56 kilograms.

### VENISON PRICES AFFECTED BY EXCHANGE RATES

The average venison price in 2009/10 fell 14 percent compared with 2008/09. Although the market

remains relatively strong, exchange rates are less certain, due to the volatile European economic climate. Venison prices held relatively steady through 2009/10, with the schedule between \$6.40 and \$8.40 per kilogram of carcass weight. Following significant destocking throughout recent years as a response to drought, an increasing number of deer farmers took advantage of the reasonable venison prices by moving from mainly breeding and finishing to more finishing by purchasing additional weaners. The model now buys in and finishes an additional 60 to 80 weaners each year.

Mixed weaners sold for an average of \$4.75 per kilogram of liveweight. This was about \$1.00 less per kilogram than in 2008/09.

### VELVET PRICES RISE SIGNIFICANTLY

The velvet market has historically been volatile. This trend continued with velvet prices increasing 47 percent on 2008/09 levels. The reduced supply following velvet herd culling in recent years meant prices started off at higher levels than the previous season and were maintained throughout. The average price for velvet in the model for 2009/10 was \$81 per kilogram, with "A" grades fetching up to \$108 per kilogram. Velvet production of mixed stags in the model increased to about 4.8 kilograms per stag (up 0.3 kilograms per stag on 2008/09) as a result of better genetics and selective culling.

Velvet sales made up 15 percent of the North Island deer model's revenue, up from 8 percent in 2008/09 and back in line with 2007/08 levels. Deer farmers retained more rising two-year stags with the option of putting on weight for venison or carrying them through for velvetting, with a long-term view to building numbers of mixed-aged stags. A higher proportion of dry stock in the herd gives better flexibility for managing feed during droughts.

### DROP IN THE COST OF FERTILISER ATTRIBUTED TO REDUCED EXPENDITURE

Total farm working expenditure per stock unit in 2009/10 dropped 9 percent from 2008/09 to \$53.30 per stock unit. The decrease is mainly attributed to a drop in fertiliser expenditure of 20 percent, due to lower prices rather than reduced application. Superphosphate prices reduced from \$550 per tonne in 2008/09 to \$320 per tonne in 2009/10. Although there was increased interest in alternative fertilisers and plant health products in 2008/09, a number of farmers returned to using traditional fertilisers.

Feed expenditure in 2009/10 increased slightly on 2008/09 as a reflection of increasing costs, including production and cartage. Although the 2009/10 season was favourable climatically in many parts of the North Island with timely rain, there were feed gaps within the season. A creeping drought in Hawke's Bay and a late summer-autumn drought in the Waikato and Bay of Plenty required ongoing use of supplements and crops where available to keep condition on stock.

Repairs, maintenance and vehicle expenditure including fuel was down on 2008/09. Fuel expenditure decreased by 4 percent, which reflects a reduction from prices seen in 2008 when fuel reached a record \$2.11 per litre for 91 octane.

Total farm working expenses in 2009/10 were \$117 400 and represented 54 percent of net cash income (4 percentage points less than the previous year).

### DEER FARMERS MADE SMALL SURPLUS

The North Island deer farm model's profit before tax was \$77 900. This is a 90 percent increase compared with 2008/09 and a more than three-fold increase from 2007/08. This upward trend is mainly driven by a better season climatically, a reasonable and stable venison schedule and an increased velvet price. As a consequence of the increased profitability, deer farmers have increased deer numbers. Some mixed livestock farms are also planning on a higher proportion of deer stock units in the livestock mix.

After tax, development, net capital expenditure and drawings, the model had a cash surplus of \$18 600 in 2009/10. However, this surplus includes off-farm income of \$15 300. There were no principal repayments of term loans.

## BUDGET FINANCIAL PERFORMANCE OF THE NORTH ISLAND DEER FARM MODEL IN 2010/11

The cash operating surplus of \$97 800 in 2010/11 is expected to be similar (down 1 percent) from \$99 100 in 2009/10. While net cash income is expected to increase slightly, the increase in farm working expenses is greater.

Although there are expected to be more deer sales, they are budgeted to be at a slightly lower price per kilogram of carcass weight, while the velvet price is unchanged from 2009/10.



### REVENUE SIMILAR

Net cash income is budgeted at \$217 700, an increase of 1 percent on 2009/10.

This is mainly due to the 20 more animals for sale offsetting the reduced venison price, which is predicted to be \$6.82 per kilogram, less than 1 percent down from 2009/10. The increased venison sales, fewer deer purchases and unchanged velvet expectations more than make up for an expected drop in the amount of other farm income.

### SIZE OF DEER HERDS INCREASE

The size of North Island deer herds is expected to continue increasing with an increase in the number of two-year and older stags. Deer farmers with mixed stock are predicted to increase deer numbers and reduce sheep and cattle numbers as the return on deer is expected to continue to be better than the return on sheep and cattle.

Fawning percentages are expected to be similar for mixed-age hinds in 2010/11 but better body condition of rising two-year hinds means an expected increase to 80 percent fawning in this group.

Deer kill numbers are expected to be up slightly on 2009/10 with increased hind and weaner numbers available.

Carcass weights of stags are predicted to remain steady at 60 kilograms for rising two-year stags, still below the 70 kilograms achieved in 2008/09. Venison prices are expected to peak around \$8 per kilogram, as supply continues to be short and better market coordination is expected to maintain or increase demand. This gives a predicted average of \$6.82 per kilogram of carcass weight over the whole season.

The stocking rate is expected to increase slightly during 2010/11 to finish at 10.3 stock units per hectare as herds continue to be rebuilt. Farmers remain cautious about increasing stocking rates too high, following the recent series of droughts.

### VELVET RETURNS EXPECTED TO REMAIN STEADY

Velvet prices are expected to remain steady at about \$81 per kilogram in 2010/11. Farmers predict the better coordinated market access in China and South Korea and more in-market demand will help keep the price stable. Velvet production for mixed-age stags is expected to increase from 4.8 kilograms per stag in 2008/09 to 5 kilograms per stag in 2010/11. This is a reflection of better body condition and genetics

following culling in 2008/09. With velvet prices providing good returns, farmers are expected to slightly increase the number of good velveted rising-two-year stags in 2010/11.

### **FARM WORKING EXPENSES EXPECTED TO REMAIN SIMILAR**

Total farm expenses in 2010/11 are budgeted to increase slightly (2 percent) to \$119 900. Expenditure is predicted to be redistributed with more spent on feed crops (chicory, lucerne and fodder beet) and lime applications in 2010/11. This is balanced by a small reduction in fertiliser prices and volumes applied; resulting in whole farm fertiliser costs budgeted to be down by \$1600 in 2010/11.

Total farm working expenses are budgeted to fall marginally on a per stock unit basis (to \$53.05 per stock unit) and are 55 percent of the expected net cash income. Cash operating surplus falls slightly to \$97 800.

### **DEER FARMING RETURNS TO STEADY PROFITS**

The 2010/11 North Island deer model's farm profit before tax is expected to decrease slightly from \$77 900 in 2009/10 to \$76 000 in 2010/11.

Deer farmers remain cautious not to increase stocking rates too quickly and to keep expenditure down following unpredictable weather patterns and a number of possible cost increases. The main cost increases are budgeted to come from four sources: the implementation of the Emission Trading Scheme, National Animal Identification and Tracing, an increase in Goods and Services Tax, and bank interest rates as the economy recovers.

The North Island deer model is expected to have a cash surplus of \$25 100 (\$11.08 per stock unit), up 35 percent on 2009/10.

## **INFORMATION ABOUT THE MODEL**

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 and beef cattle but includes on-farm income from grazing as part of the farm's pasture management. In response to the majority of North Island deer farms running mixed stock types for pasture management purposes, the North Island deer model has included on-farm grazing income since 2008/09, so caution should be taken when comparing with prior years. The model farm is theoretically situated in the central North Island/East Coast/Hawke's Bay regions.

Weaner hinds and stags are 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, approximately 25 yearling stags are retained as replacements to enter the velveted herd of 120 mixed aged stags.

The North Island deer model is created from information drawn from 20 deer farms and a wide cross-section of agribusiness representatives. The aim of the North Island deer 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.

For more information on the model contact: [angela.bell@maf.govt.nz](mailto:angela.bell@maf.govt.nz)

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Front cover image: Hinds and fawns on summer crop. Photos by Tony Pearse, Producer Manager, DINZ.

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