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BRIEF COMMUNICATION

The profitability of farming red deer in New Zealand

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Financial returns or profitability of farming red deer differ widely depending on the policy and objectives of each farmer. Obviously climate constraints, topography and carrying capacity will have significant influence on overall profitability. The principle "on-farm" factors affecting profit are, fawning percentage, death rate, velvet yield, grading and price, venison and livestock price. The basic standards and costs used in calculating the following financial returns are:

Hinds fawn as 2 year olds	Hind = 1.9 stock units
85% live fawns at 6 months	Stag = 1.8 - 2.2 stock units
50-50 male/female fawns	3-15 mths old = 1.2-1.4 stock units
5% death rate	Venison = \$3.50/kg
10% culling	Velvet m.a. = 2 kg/head
3% stag ratio	2 year = 1 kg/head
15% replacements	1 year = 0.5 kg/head

Table 1 illustrates the basic return available from farming a herd of 100 mixed-age red deer, using the known returns from venison and velvet. Here, all surplus stock over and above the basic breeding herd are slaughtered at 2 years of age.

This is a hypothetical example, as at present the price for female livestock exceeds carcass value. However, in order to give a base for comparison, a return of \$174/hind is presented. Variations of \$1/kg

of venison would affect the net return by \$57/hind. Currently returns for venison of \$5/kg are being suggested which would make the net return \$259/head, \$1191/ha, or 12% on capital.

TABLE 1 Returns for a breeding herd of 100 mixed age hinds slaughtering at 2 years of age (\$).

Venison			
2-year hinds	26	65 kg at 3.50	5 915
2-year stags	41	80 kg at 3.50	11 480
aged stags	10	75 kg at 3.50	2 625
Velvet			
2-year stags	41	1 kg at 70.00	2 870
breeding stags			1 000
Gross income			23 890
Running costs			6 456
Net income			17 434
Net income/hind			174

Adjusters:

Venison \pm \$1/kg = \$57/hindVenison 2 year \pm \$10/kg = \$4/hind

Table 2 compares the returns from a policy of selling weaner hinds and stags with selling rising 2-year-old hinds and slaughtering 2-year-old stags. These figures are net, following deductions for farm

TABLE 2 Returns for a breeding herd of 100 mixed-age hinds (\$)

Policy	Selling weaners		Selling 1½ year hinds, 2 year stags	
Hinds	27 at 700	18 900		
Stags	43 at 200	8 600		
1½ year hinds			26 at 1100	28 600
Aged hinds			10 at 500	5 000
Venison: 2 year stags	10 at 500	5 000	41 at 80 kg	11 480
Velvet: 2 year stags			41 at 70 kg	2 870
breeding stags		1 000		1 500
Gross income		33 500		49 450
Costs		3 273		5 781
Net income		30 227		43 669
Net income/hind		302		436
Adjusters: weaner hind)		27		26
1½ year hind)				
aged hind) \pm \$100		10		10
weaner stag)		43		
venison \pm \$1 kg				33
2 year velvet \pm \$10 kg				4

TABLE 3 Returns for herd of 100 stags (\$)

Policy	Velvet	Buying 10 months—Selling 25 months	
Velvet			
mixed age	70 at 100	14 000	
2 year	15 at 70	1 050	6 650
1 year	15 at 10	75	
Venison	10 at 90	3 150	26 600
Gross income		18 275	33 250
Costs		3 030	2 700
Replacements	15 at 200	3 000	
Net income		12 245	10 550
Net income/stag		122	105
Adjusters:			
velvet m.a. stag \pm)		14	
2 yr stag \pm) \$10/kg		1.50	9.50
venison \pm \$1/kg			76
purchase price \pm \$10			10

running costs of \$15/s.u./year so the surplus is available to meet taxation, labour and/or living costs, and interest and principal on monies borrowed. The values used in calculating these returns are based on the average prices for livestock over the past season or so. However variations to these have been formulated and are shown, enabling ready calculations to be made to assess profitability based on other values. The price shown for aged hinds is perhaps lower than actually achieved but is considered more realistic than those recently obtained.

The returns from farming stags for velvet and venison are shown in Table 3. Again an increase in venison price has a significant effect on net returns, particularly in the fattening example.

Table 4 illustrates comparative returns per hectare based on a carrying capacity of 20 s.u./ha. These figures need to be kept in perspective and a full analysis of the overall financial situation, present

land use, land carrying capacity, topography and climatic considerations must be taken into account when evaluating potential profit. These figures are a guide only, utilising bare land in all comparisons and allow for a set-up price of \$5000/ha, ready to farm. The dairying returns are supplied by the New Zealand Dairy Board, and the sheep and cattle figures calculated from data supplied by the New Zealand Meat and Wool Boards' Economic Service. The dairy cow value has been calculated at \$350/head and the sheep and cattle at \$20/s.u. The stock value used to achieve a return on capital for the velvet herd is \$400/head. All other stock values are used as in the tables, with mixed-age hinds being the same as rising 2-year hinds.

These data are examples only and variations and improved returns could be achieved under policies formulated for individual farms and farmers.

The capital and land required to return a net income of \$25 000 from which to meet labour and/or

TABLE 4 Comparative returns (\$) at 20 s.u./ha

	\$/head	Stocking rate/ha	\$/ha	Return on capital %*
Hinds				
venison/velvet	174	4.6	800	7.5
selling weaners	302	9.0	2718	18.2
1½—2 year olds	436	5.0	2180	20.8
Stags				
velvet	122	10.0	1220	13.6
venison buy 10 months, sell 25 months	105	11.0	1155	16.0
Dairying	277	2.5	692	11.8
Sheep/beef intensive North Island	12/s.u.		240	4.4

* + \$5000/ha land and buildings

TABLE 5 Area of land and capital (land, buildings, stock) required to return \$25,000 net income

Policy	ha	Capital
Hinds		
venison/velvet	31.3	314 878
sell weaners	9.2	137 080
1½—2 year olds	11.5	120 750
Stags		
velvet	20.5	184,500
venison buy 10 months		
sell 25 months	21.6	155 520
Dairying	36.1	212 087
Sheep/beef intensive North Island	104.2	562 680

living costs, tax, interest and principal are shown in Table 5. This example utilises values already presented, again it must be stressed that the \$5000/ha figure is the cost of purchasing and developing a

piece of land to a stage where it will support the various farming policies compared.

The wide differences in land area and capital required is self-evident and highlights the profitability of farmed deer as an alternative land use. These examples are for land capable of carrying 20 s.u./ha, thus it is important to evaluate each situation on its merit and carefully consider all of the factors relevant to successfully farming deer. It has been noted that in a few instances due to a number of reasons, it has been just as profitable to expand a current farming policy if it only requires more stock and not capital development.

The farming of deer is a new industry with a big future and providing livestock prices do not reach silly levels and the projected venison price of \$5/kg is realised, then this would support an investment of \$1100/hind. The contribution this will make to New Zealand's overall economy and export earnings will be significant.