

“COMMERCIAL DEER FARMING IN NEW ZEALAND”

BY

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Many farmers in South Africa are considering alternative ways of farming due to the high occurrence of stock theft. Although not inspired by theft, a new industry in the form of deer farming has developed in New Zealand over the past twenty-five years and there is no reason way the same thing can't happen in South Africa with either indigenous game or already available fallow deer.

Deer are the first new animals to be domesticated for over 5000 years. The farming of deer started in New Zealand, and this country remains the world's largest and most advanced deer farming industry.

Deer are not native to New Zealand. The first deer were brought there from England and Scotland for sport in the mid-late 19th Century, and released mainly in the Southern Alps and its foothills in the South Island. The environment proved to be ideal, and by the middle of the 20th Century deer were regarded as a pest because of their impact on the environment and native forests.

The export of feral (wild) deer started in the 1960s, turning a pest into an export earner. Industry pioneers saw an opportunity in the early 1970s to build on this base by capturing live deer and farming them. A new industry was born and rapidly spread throughout New Zealand.

According to the New Zealand Game Industry Board, more than 90 percent of the New Zealand deer industry's products are exported. Table 1 shows that the volume of venison exported increased from 11,639 tons in 1996 to 17,725 tons in 1998. A small decrease is expected for 2000.

Regarding the value of venison exports, Table 2 indicates that there is a rapid increase since 1996 from \$145 million to a provisional \$188 million in 2000. The deer industry will earn an estimated \$257 million in total for 2000.

The major market for New Zealand venison is Western Europe and Scandinavia, accounting for approximately 80 percent of total venison exports. Germany is New Zealand's largest single market, contributing approximately 40 percent of total export earnings. Other European countries (combined) represent about 30 percent of export value and the United States is the second largest single market, at about 14 percent of export earnings.

Production

Reflecting the original imported wild population, the majority of New Zealand's deer herd (about 85 percent) is Red Deer (*Cervus elaphus*). The balance of the national herd is predominantly Elk (also known as Wapiti or Elk-Wapiti), which is descended from elk originally imported from Canada or red/elk hybrids. There are also small numbers of Fallow Deer. Genetic improvements have been

made with additional imported bloodlines from Eastern Europe, the UK and North America. The total number of deer production since 1991 is shown in Table 3.

The New Zealand Game Industry Board acknowledges three basic types of farming operations, namely breeding, venison finishing and velvet production. Farmers may concentrate on one or a combination of these farming operations. Deer breeding involves breeding and selling stock. Rising one-year hinds not selected as replacement breeding stock are finished for venison or sold at live sales.

Breeders can focus on breeding for venison or velvet production. Venison finishing involves purchasing all stock as weaners and selling as finished stock specifically for the chilled venison trade which peaks from October through to January. Velvet production involves purchasing or breeding stock and selecting stags with potential to retain for velvet production. Stags not selected for the velvet herd are finished (having been velveted), but would not meet the timing requirements of the chilled venison trade.

Venison

Farmed venison is a culinary treat. It is a natural, tender and healthy meat with a mild distinctive flavour and smooth texture, which lends itself to many cooking styles and cuisines. With virtually no fat, calories or cholesterol, venison has the advantage of being extremely healthy without sacrificing eating pleasure. Importantly, New Zealand deer receive no hormones or growth stimulants. No such products are licensed for use on deer in New Zealand.

Venison was once known as the 'meat of kings' as only royalty and favourite courtiers were permitted to own or hunt deer. Its traditional use as a cold-weather dish, often marinated and cooked over a slow heat for many hours, stems from those olden days. In Europe, those traditions remain and venison is prized as meat for festive occasions. However, it does not have any resemblance with the strong gamey flavours of wild venison. Sophisticated New Zealand farming techniques mean that deer are able to roam and graze naturally in the open air, free from stresses which can toughen muscles and develop strong tastes. As a result, New Zealand farmed venison is naturally tender and mild in flavour.

Modern venison suits the lighter culinary repertoire. As a naturally lean meat, venison is ideal for cooking quickly over the high heat of a barbecue or wok, stir-fried or roasted and served with a light sauce and perhaps a salad. Also, modern venison processing techniques mean that the ageing process now takes place in a sterile process, once the venison has been vacuum packed.

Deer Velvet

The name 'velvet' refers to the early growing stage of deer antler (before it calcifies into hard horn) although it also describes the velvety external coating. Antlers are deciduous. Each spring, male deer (stags) grow new antlers from the base of the previous year's antlers. They grow rapidly – up to 10 kg in 55-60 days.

For animal and handler welfare, antlers are removed at this stage of growth. Otherwise, the antlers harden and calcify, eventually shedding their external coating to expose hard bony antlers, these can be damaging to other animals and to farmers. If not removed, the antlers are naturally 'cast' (they fall off naturally) in winter to allow the growing cycle to begin again the following spring.

The removed antlers are kept frozen and marketed for medicinal purposes. The main markets are Korea, USA and domestic markets in New Zealand self.

Profitability

The New Zealand Deer Industry is a relatively young industry and has expanded rapidly over the past decade. The relative profitability of deer farming compared with other land-based enterprises, is one of the key drivers behind this expansion. The results from official analysis on various land-based enterprises indicate that historically deer-farming profitability has exceeded that of traditional sheep and beef breeding and finishing. This explains why traditional sheep and beef enterprises have been diversified to include deer farming, and why there have been shifts in land use in favour of deer farming.

The Net Margins from sixteen pastoral enterprises, relative to their size (ha), location and stocking rate (SU) are compared in Table 4. The Net Margin is calculated by subtracting Cash Farm Expenses from Cash Farm Income. The Net Farm Income per ha, as well as per stock unit is compared with each other.

Dairy farming remains the leading pastoral farming enterprise in New Zealand generating a Net Margin exceeding \$1,200/ha. It is however closely followed by deer while sheep and cattle enterprises fall well behind. The profitability of deer farming is quite significant according to Table 3 and coupled with its low labour requirement will continue to attract new farmers into the industry.

The future

The New Zealand Deer Farmers' Association is of the opinion that the industry has moved on from a period of uncertainty in the early 1990s and is in the midst of a strong expansion phase. Prices in overseas markets are strong and are only threatened by the deer industry's ability to supply them with sufficient volumes.

With the existing strong and well organised marketing structure which underpins the industry, New Zealand can continue to be the world leader in the production of farm raised venison. In the process, it has achieved its objectives of being the driving force behind the marketing agenda, assuring venison is promoted and sold as a profitable, healthy, gourmet food.

TABLE 1: VOLUME OF NEW ZEALAND TOTAL DEER INDUSTRY EXPORTS

November Years	1996	1997	1998	1999	2000 <i>Provisional</i>
Venison (Kg)	11,639,326	13,377,609	17,725,499	17,332,492	16,694,569
Velvet (Kg)	200,130	210,034	194,925	176,483	132,392
Hides (Num)	326,539	249,203	283,386	565,457	299,130
Co-Products (Kg)	913,720	1,801,228	2,071,234	1,271,074	1,918,668
Leather (Sq Metre)	119,655	100,491	110,109	104,821	102,259
Live Exports (Num)	8	12	14	32	50

Source: New Zealand Game Industry Board

TABLE 2: VALUE OF NEW ZEALAND TOTAL DEER INDUSTRY EXPORTS

November Years	1996 NZ\$	1997 NZ\$	1998 NZ\$	1999 NZ\$	2000 NZ\$ <i>Provisional</i>
Venison	145,927,112	145,026,850	158,889,768	161,003,033	188,726,939
Velvet	57,772,446	48,034,991	23,105,383	24,613,377	40,848,105
Hides	9,015,180	7,856,759	7,801,532	6,480,921	7,330,415
Co-Products	7,235,793	11,513,046	13,267,066	11,603,548	14,382,247
Leather	5,812,583	4,410,246	5,731,783	5,193,610	5,955,209
Live Exports	18,160	11,786	178,591	65,568	54,265
TOTAL	225,781,274	216,853,678	208,974,123	208,960,057	257,297,180

Source: New Zealand Game Industry Board

TABLE 3: TOTAL NUMBER OF FARMED DEER IN NEW ZEALAND

Year ended September	Total production (numbers)
1999	429,000
1998	412,000
1997	313,000
1996	309,000
1995	408,000
1994	351,600
1993	429,400
1992	345,200
1991	202,200

Source: New Zealand Game Industry Board

TABLE 4: ENTERPRISE NET MARGIN COMPARISONS

Enterprise	District	ha	Stock Unit (SU)	Cash Farm Income NZ\$	Cash Farm Expenses NZ\$	Net Margin NZ\$	Net Margin NZ\$/ha	Net Margin NZ\$/SU
Sheep & Cattle								
Large Hill	Gis/Wairoa	1514	11653	313679	258551	55128	36.41	4.73
Small Hill	Gis/Wairoa	435	4264	132834	78235	54599	125.51	12.80
Summer Dry	H/Bay-Wrpa	428	3763	131061	76390	54671	127.74	14.53
Summer Moist	H/Bay-Wrpa	400	4554	179717	101300	78417	196.04	17.22
Hill Country	Taranaki	250	2888	101205	45228	55977	223.91	19.38
Hill Country	Wng/Rng/Man	373	3505	116709	67842	48867	131.01	13.94
Finishing	H/Bay-Wrpa	200	2696	160621	93496	67125	335.63	24.90
Finishing	Man/Rang	155	1994	149274	85822	63452	409.37	31.82
Dairying								
Medium Kiwi	Taranaki	62	1432	194882	92025	102857	1658.98	71.83
Medium Tui	South North Is	79	1491	203037	105015	98022	1240.78	65.74
Deer Breeding								
Venison & Velvet	North Island	100	1500	135168	57732	77436	774.36	51.62
T/Sire & Venison	North Island	100	1500	130925	58110	72815	728.15	48.54
Wap Ven Contract	North Island	100	1500	161782	60618	101164	1011.64	67.44
Falow Venison	North Island	100	1800	137474	63256	74218	742.18	41.23
Red Velvet	North Island	50	751	79844	32662	47182	943.64	62.83
Deer Finishing								
Crossbred Stags	North Island	100	1500	139896	78528	61368	613.68	40.91

Source: "The way forward" by Ed M. Hills.

PICTURES



The almost extinct Mesopotamium Fallow Deer at Invermay Agricultural Centre, Mosgiel, New Zealand.

(Picture taken by Rikus Theunissen, 7 years old, with an instamatic camera!!)



After 25 years the farmed deer in New Zealand is still wild although hand raised fawns can become very tame.

(Marli and Rikus Theunissen on the Fallow Deer farm of Phyllis Leigh near Tiahape, New Zealand)



A breeding fallow deer stag with its antlers removed, reducing injuries during the rut.



A New Zealand farmer removing young antlers of a weaner with an ordinary sheep castrating rubber band.



Red Deer/Wapiti hybrid weaners being auctioned.