

Variability in Venison Returns

A study of the impact of the forces that influence the viability and sustainability of the New Zealand farmed deer industry in relationship to the German game market.

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Introduction

The venison industry has been characterised by a number of boom bust cycles that have been highly destabilising for all sectors in the supply chain. During the last ten years we have seen three major cycles with the latest putting the industry and many of its farmers financially on the edge of it's own killing knife.

Long term price and supply stability is the key to growth and has been a catch cry of industry leaders for some time. In recent history, powerful international and unusual events can all be cited as the major initiators of the dramatic change in industry fortune. Nevertheless, the reliance of the NZ industry to date on the narrow constraints of traditional trade and conservative outlets has added a vulnerability to achieving the potential revenue of farm-raised venison for suppliers and processors alike.

This study will examine the relationship that has developed since 1967 with the German game trade and the New Zealand venison industry. To understand how the game trade has influenced core trading and how the venison industry has developed there is a need to define the market structure and evaluate its influence and its driving forces. For example describing what major forces exist and how they have developed over the last twenty years, how the farm raised and feral venison industries has evolved in that time and to give particular attention to what factors have contributed to venison returns from 2000 to today.

The New Zealand Deer Industry (In Brief)

The Beginning (1851-1973)

The first recorded liberation of red deer in New Zealand took place in 1851, followed in succeeding years by wapiti, moose, sika, rusa, fallow, whitetail, chital, mule and samba deer in various parts of New Zealand. By 1906 deer numbers were becoming far too numerous, benefiting from their adaptability and with no shortage of feed and no natural predators.

The first deer cull (initially meaning the eradication of weak deer and stags with poor quality trophy antlers, latterly meaning the eradication of all deer) was undertaken by the Otago Acclimatisation Society and by 1922 had paid out a bonus on 6,300 animals. By this time, deer had been recognised as a potential pest in terms of their impact on the environment and in acclimatisation work.

The New Zealand Forest Service stepped in and began an eradication program in 1927. In 1930 the Internal Affairs Department took over and in their first year culled 16,423 animals, hunters were paid a bonus on the number of tails they produced, by 1934 they were culling 100,000 deer annually.

After World War Two (1945) hunters found that deerskins had become a highly exportable commodity as they were used in self-sealing fuel tanks in planes and car seat covers. By the late 1950's deer culling was well established in both islands. The 1950's also saw the first aircraft used to help the hunters with building materials and food drops.

1953 saw the pioneer Jamie Maddren of Christchurch sending a trial shipment of venison to the USA - this failed to secure a continuing market. However by 1959 Buchanan and Forsyth had cemented a continuing market in the USA and the feral venison industry was born.

During Easter 1963 the first commercial helicopter recovery of deer in the Matukituki Valley of Lake Wanaka, Central Otago was undertaken - 110 deer were successfully delivered to Taylor's Wanaka Venison Factory and a marginal profit was made, which proved it could be made into a business.

The early game packing and export regulations became law in 1967. This regulation was introduced to prevent exporting companies from exporting product that was unfit for human consumption, which would have damaged or halted the emerging industry. The Minister of Agriculture now had control of the export product through the use of meat inspectors and certification. At this time West Germany was New Zealand's major market.

Annual exports peaked at just over 4,000 tonnes in 1972 and 1973.

The Development of Deer Farming in New Zealand

By the mid 1960's it was becoming evident that the deer numbers would not be able to stand up to the pressure of hunting and it would soon become uneconomic for the industry to survive on solely killed game. 1968 saw the first capture and relocation of deer for research to Professor Coop at Lincoln College, to study if deer could successfully be held on improved pastures and handled and farmed. By 1972/73 it was clearly established that deer did breed in captivity and their stocking rate was comparable to sheep at 1.5 stock units.

Following intensive lobbying, 1969 saw an amendment in the Noxious Animals Act allowing farming of deer by licence holders. Until then, those that were selling and buying deer were contravening this Act, as deer were classed as a Noxious Animal. The first licensed deer farm in New Zealand was established in 1971 in Taupo, with 25 further farms being established relatively quickly including a Ministry Of Agriculture's Research Division farm at Invermay Mossgiel. This initiative followed Lincoln College's decision to move into other areas of work and Dr Jock Allison developed the, soon to be regarded as, foremost deer research unit in the world under the leadership of Dr Ken Drew with a dedicated research team that had strong connections with the foremost early farmers.

The New Zealand Deer Farmers Association was established in 1975 to provide a structure for co-ordinated discussions between deer farmers and thereby collective development of the deer industry.

The other major players in the deer industry were the processors and exporters of deer products. In the early 1980's this group formed a representative body, The New Zealand Deer Industry Association, NZDIA, as a forum for communication of their issues and joint initiatives.

The factors contributing to the development of a farmed deer industry were:

- The European market demand for venison;
- A falling supply of venison producing animals
- The passing of legislation permitting farming of deer by license holders
- The ability to source large numbers of deer from feral stocks to rapidly establish a live stock base
- The evolution of the capture of live deer from helicopters
- A growing velvet market in South Korea
- A taxation incentive and a strong interest in a new initiative by key entrepreneurial figures.

(Dynamics of supply and demand for New Zealand venison and velvet, MAF Paper 1994/2002)

Prior to 1981 farmed deer could be shot in the paddock provided that they were identified as farmed when they were sent to the game packinghouse. The venison from those farmed deer received a brown stripe and it was specifically excluded from the major West German market. This created a sudden growth in the number of deer being presented with no ears, as farmed deer were either earmarked or tagged. This forced the director of MAF, John McNab, to stipulate that deer had to be received ears on.

Early in 1981 he abruptly warned that deer farmers had three months before the informal arrangement, as it was known, which permitted on farm slaughter, would cease. After nine months, on farm shooting was prohibited. This forced the industry to construct purpose built facilities known as DSP's or Deer Slaughter Premises. These had their own set of regulations and continued to define deer as game as

distinct from farmed stock, which has both profound market and internal implications for processors, industry and the market. This was in terms of tariff relief and the early exclusion of the traditional meat processors from the deer industry. With the advent of DSP's and transport to the plants, deer would receive antemortem and post-mortem inspection and have the same high hygiene standard that was demanded of the whole of New Zealand's export meat industry. This opened up access to markets, which previously had not permitted the import of hunted deer.

As the first DSP's were being built the Deer Farmers Association moved to establish a Game Exporters Advisory Committee which first meet in December 1981. Its purpose was to "coordinate activities in export and marketing related matters and to establish working guidelines and standards to be adhered to on a voluntary basis, pending establishment of the proposed Game Industry Board." It was not until February 1984 that the Game Industry Board (GIB) held its first meeting, the GIB was established under the Primary Producers Marketing Act Regulations of 1985. The industry by this time had grown to include 2500 farmers.

The Game Industry Board was established in 1984 with a charter to assist in the orderly development of the game industry and in the marketing of game and products derived from game. It had no commercial role, (unable to buy or sell product) regulatory functions (export licensing, quota management) it only has the power to strike a levy for industry good activity in orderly market development, and collected at DSP's and velvet processors.

1985 to 1993 saw what would have to be the most turbulent and critical times for the industry or, as NZDFA president, James Guild, stated in his address to the First World Deer Farming Congress in 1993, "a period of re adjustment"

"This was a period of crashing livestock values, falling production returns, political intervention, farm bankruptcies, industry division and disagreement. To illustrate this readjustment, a telling example is the change in capital valuation of yearling hinds. In 1977 they were worth \$600 to \$700/head. By 1985 they had reached \$4,000/head, with some sales at \$5,000/hd but by 1992 values for lighter weight yearling hinds were worth \$150/hd, and increasing to between \$200 and \$300/hd.

"The main reason for this dramatic change of values was due to the change in the livestock taxation standard values. Deer farmers had enjoyed a livestock valuation system based on statutory imposed values for tax purposes. The novelty and scarcity of deer had rapidly driven market values upwards creating opportunities for substantial tax write-offs. This in turn attracted investment from the urban economy, and the deer industry experienced an agricultural version of a share market boom.

"The review of primary sector taxation in 1985 put an immediate stop to the rapidly expanding deer industry. It was the introduction of a tax on unrealised income based on earlier valuations of their livestock, the share market crash, and impact of an international recession for deer farmers and investors that created an environment where breeding hinds became unattractive to farm and deer farmers focus shifted to finishing and velvet antler production." (James Guild World Deer Congress 1993)

April 1986 - the impact of the Chernobyl Nuclear power plant disaster caused consumption of venison in the game season to fall as wild deer in Europe were found to have become affected with small doses of radiation. At this time New Zealand farm raised venison was not differentiated from European hunted venison.

Venison imports into Germany decreased from 11,803.03 tonnes in 1985 to 8,812.80 tonnes in 1986, a decrease of 25.3%.

1989 heralded the collapse of USSR; with the former communist states using every means at their disposal to obtain foreign currency Strategies that impacted NZ included.

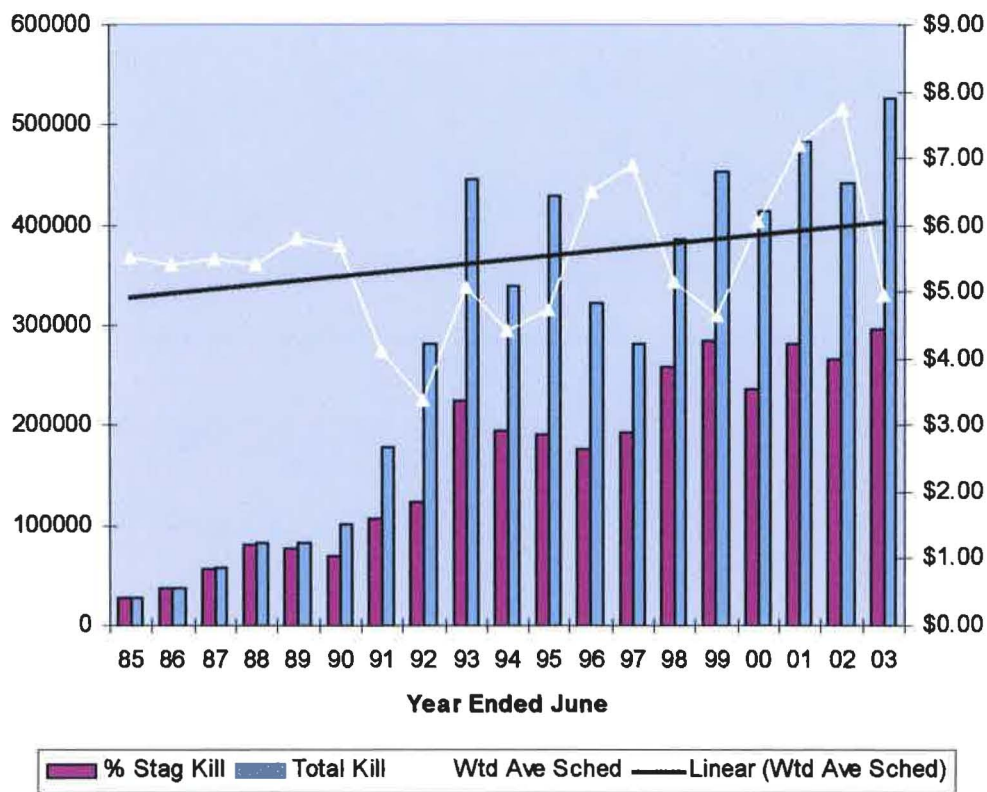
- 1 The export of enormous quantities of East European venison to West Germany that virtually collapsed the market.
- 2 The collapse of the Korean velvet market in 1991 due to the oversupply of velvet into Korea from the USSR.
- 3 Rapid expansion and a lack of confidence in the NZ industry as a result primarily due to the collapse of the velvet market.

*1991 The GIB adopts the 'On-Farm Quality Assurance Program'.
December 1992 the GIB established "Cervena® Company Ltd"*

In 1992 the Chairman of the Game Industry Board, Tom Williams stated in his annual report "In 1984 we established the New Zealand Game Industry Board. In 1992 the environment we operate in has changed, and it is timely to review whether that name is still appropriate.

We are no longer in the 'game' industry; we are the farmed deer industry."

Figure 1.
Annualised production in relation to weighted schedule, with stags as percentage of total kill numbers.



Source: Statistics New Zealand (SNZ) year ending 30th June
 GIB production figures

In 1987 37,074 animals were killed, by 1993 445,707 animals were killed - an increase of 1200%. It is also of interest to note that numbers of hinds killed have increased from 74,000 in 1987 to 220,740 in 1993, an increase of 146,740 or nearly 198.29%.

1992 Fortex's Summit plant in Rotorua and Venison New Zealand's Fielding plant become the first two meat plants in New Zealand to be awarded ISO 9001.

April 1993 GIB launched Cervena® in New Zealand and USA

The strategies behind Cervena® were

- Use Cervena brand name to differentiate New Zealand product
- Positioned as Natural Tender Venison
- Emerging markets of USA, Canada, New Zealand and Australia targeted initially
- In overseas markets, reinforce origin through 'The Taste of New Zealand' positioning
- Targeted at restaurant chefs, with emphasis on fine cuisine
- Emphasises great taste, excellent nutritional value and year round availability

Venison export marketing companies franchised by Cervena Co to use Cervena® brand and marketing material

Cervena appellation is restricted to Nth America and NZ. Only premium cuts qualify, and franchised exporters may only Source use the appellation.

Figure 2

Exports of Chilled venison into the USA

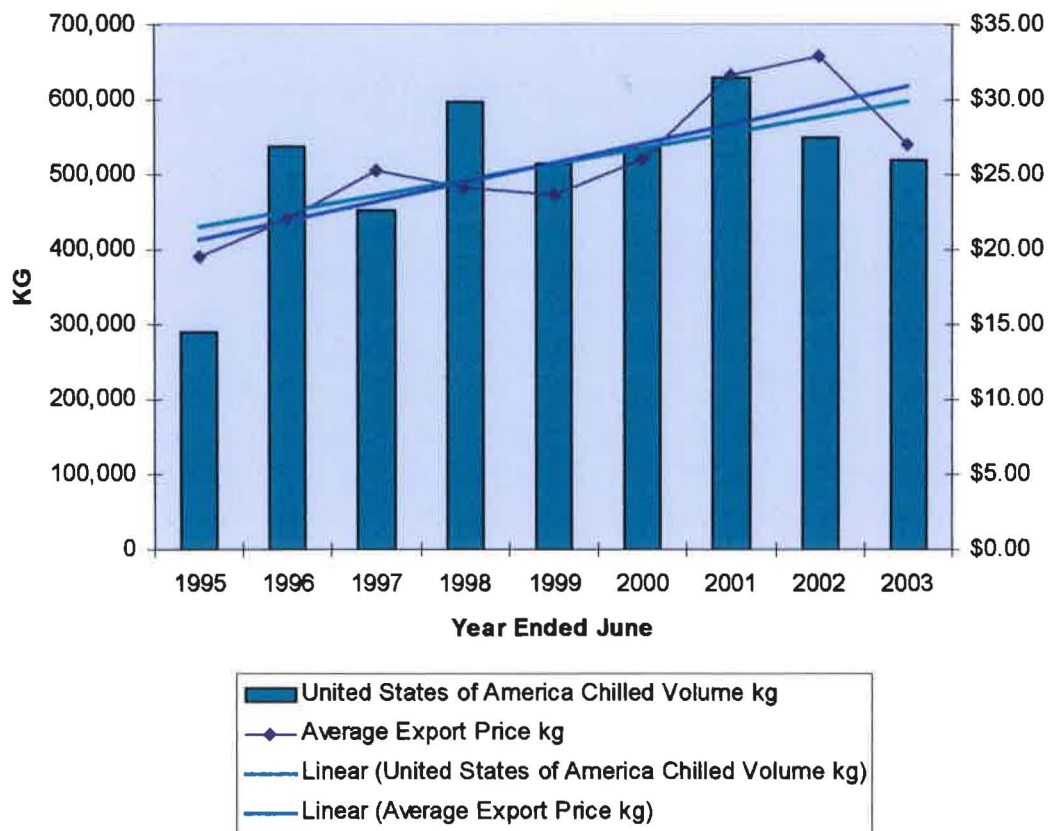


Figure 2 shows a small increase in Chilled Venison sales and price to the USA.

Certification Trademark markets "Zeal quality mark"

Use Zeal quality mark to differentiate New Zealand product.

Zeal quality mark is used in all other venison markets and applies to all cuts. Licensed exporters may only use the mark.

Emphasises consistent quality standards and year round availability

Established European markets targeted initially

Targeted at the restaurant trade

Venison export marketing companies licensed to use Zeal quality mark by New Zealand Game Industry Board

: NZGIB Annual report 1992

Venison New Zealand and New Zealand Venison went into receivership in late 1993. European market indicator prices fell 40% after Fortex dumped large volumes of frozen stock, the impact was devastating on industry returns and confidence

Confidence and schedule levels did not increase until June 1994 after Fortex's collapse.

- 1995 to 1997 saw record export earnings with strong international demand for venison, which was reflected in market and schedule prices, due in part to the drop in supply.

Year ended June 1995 22,115.89 tonnes of venison processed down to 17,593.8 tonnes for year ended June 1997 a change of 79.55%.)

- 1996 saw a record FOB export value of NZ\$11.37 per kg for venison, but a 22% fall in velvet export earnings from 1996 to 1997, initiated an increase kill of stags leading up to Christmas 1996. Product was available at the wrong time of year and unsettled the venison markets. Then from January to July 1997 kill levels were low leaving the market without sufficient supply.

From August to September 1997 there was a sudden surge in supply, this unexpected flow of product had a significant effect on our markets in Europe, with importers and distributors left holding high priced product on a falling market. Equally the resultant effect on the deer farmed sector was dramatic.

Quote from Richard Riddiford's Chairman's report 1996/97, regarding short-term horizons.

"Partly this is a structural issue, with assets tied up in property, farmers are vulnerable to cash flow driven decisions. Processors and exporters face similar pressures when profitability is driven by production throughput more than market returns.

"But it also reflects the lack of "long term partnership" attitude both on-shore and in our international markets. The seesaw effect of one sector 'winning' while the other 'losses' from year to year is damaging.

"I have been critical of the actions of deer farmers over the past two years withholding stock when venison markets have been desperate for product. There is no satisfaction when warning of dissatisfied customers, lost credibility and falling returns come to pass.

"In fairness, I must also question exporters management of our international markets."

- 1998 velvet prices were hit hard by the Asian economic crises, velvet export sales plummeted from \$48.7m in 1997 to \$23m in 1998 (GIB annual report 1997/98), leading to an increase kill of stags through the period of 1998 to 1999 - an increase of over 100,000 animals from 1997 to 1998. (Figure 1)

Figure 3

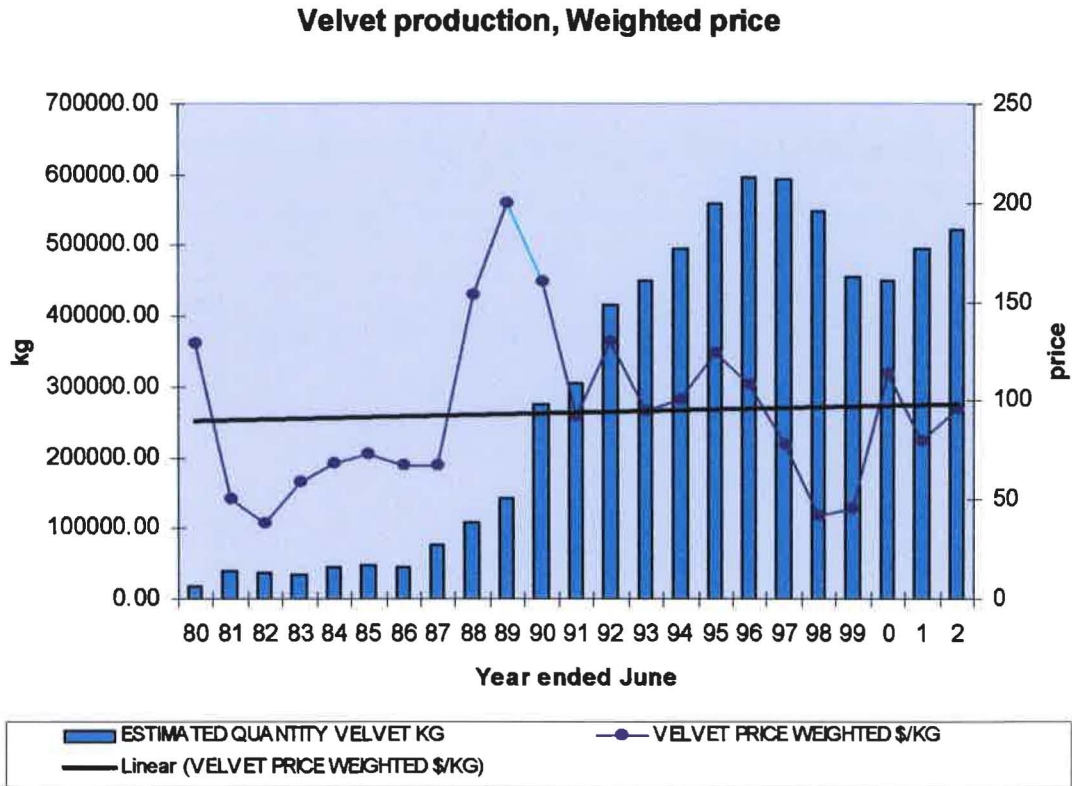


Figure 3 shows just how volatile the velvet market is with dramatic rises and fall in value. It clearly shows the drop in volume due to the kill of over 100,000 velvet stags in 1997/98.

2000 Cervena® became a stand-alone appellation with funding withdrawn by the GIB.

Recent history again reflected events of international significance, largely beyond any influence by the NZ marketers or industry relationships, although all sectors were quick to seize an apparent opportunity and financial windfall.

- 2000/2001 season saw unprecedented demand for venison in Europe driven by the following macro influences

- BSE in beef (food safety issue)
- Foot and Mouth in sheep, cattle and pigs (animal health issue)

These issues were both related to domesticated red meats. The natural reaction was for companies in Europe to look for alternative proteins and it did not matter

weather it was venison, crocodile, buffalo, ostrich, kangaroo etc. This gave New Zealand companies' a false sense of opportunity, as NZ venison seemed to be the obvious choice.

Domestically the environment changed to companies striving to meet orders, increasing procurement pressure and giving very little resistance to increasing prices from the market place, leading to unsustainable returns in the NZ industry. There are a number of reasons why these prices were unsustainable:

- The German Government was making the economy look more buoyant than it was.
- The true costs of the amalgamation of the East and West were starting to bit home.
- The currency change to the Euro included a lot of criticism of price gouging (upping the price) particularly the restaurant trade, and there was a lot of bad press at the time.
- All our major trading partners were in recession, ie USA, Japan and Europe.
- Other cheaper proteins were becoming available

Late 2001 saw a return of confidence in beef sales and consumption that coincided with Argentina being able to use its full year quota plus an additional 10% into Germany after it's previous ban due to foot and mouth was lifted.

The fear of quota allocation is that if you do not use it, you my lose it, so Argentina filled it's quota in a very short time at a price that it could move the product, previously suspect (from a food safety angle) product at €3-4/kg for high value Strip loin of beef. At this time most importers were holding expensive venison at prices never before seen.

Venison demand was totally undercut. It did not just ease it ceased totally.

One company reported that over the Christmas New year period of 2001/2002 you could not give venison away, due to high stocks:

- in the market place
- on the water
- in New Zealand

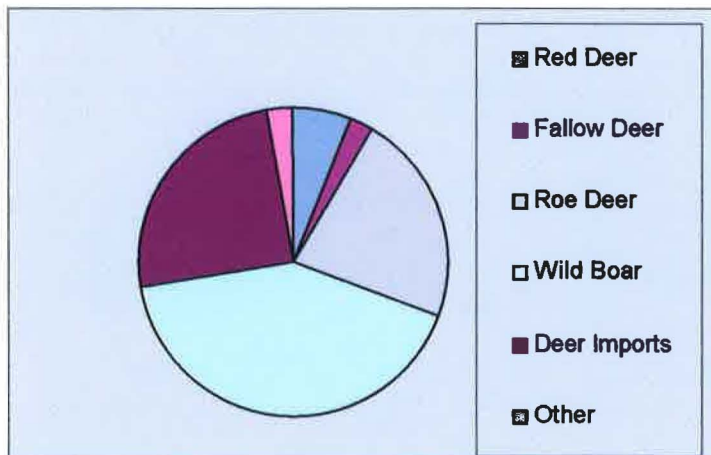
This led to companies in New Zealand and Germany having to freeze down expensive chilled product and sell it over the next two years trying to minimise their losses as product found its way through the market.

To quote from an importer in the market, " The biggest damage however was created by the driven price policy. They did believe they could dictate the prices, and with that they squeezed the price screw until it broke."

A Review of the Traditional Game Trade in Germany

Figure 4

German Game Consumption



New Zealand started exporting venison to West Germany in 1967. The strong and traditional demand for game, including venison, is the major reason the New Zealand Deer industry is here today. It is therefore important to review just what the German game trade is.

Hunting in Germany has a huge tradition going back hundreds of years to when royals were the only ones allowed hunting, as a privilege of their land ownership. Hunting takes place in the autumn and early winter months, (September to December). Today, in order to be allocated a 'hunting licence' would be hunters have to pass some serious exams. Under normal circumstances they would have to acquire the knowledge of a Veterinary, Zoologist, or Food scientist to meet the requirements. Whether they have to identify dangerous insects, or developing diseases, it's all part of the requirements of being a hunter in Germany. Hunters are required to be more of a caretaker than a hunter.

Once they are a certified hunter they can go hunting with someone that owns or rents the hunting ground. Being a landowner does not give you the right to hunt that land, you have to own or rent the right to hunt on that land, two very separate titles. As a landowner you are paid a rent and compensated for any damages that has been caused by the animals (especially Wild boars). Hunters cover these costs by the sale of killed animals.

As a hunter they have to manage their resources, i.e. the land, forest and animals - these include observing and counting animals, feeding during the winter period, forest regeneration and submitting the acquired knowledge to the local governing body. There are heavy penalties if they kill a male that has not been permitted.

Table 1: German Hunting, Farmed production and imports.

	Numbers Killed			Tonnes			
	Kg/animal	1999/00	2000/01	2001/02	1999/00	2000/01	2001/02
Red Deer	65	51 200	53 241	57 593	3 328	3 461	3 621
Fallow Deer	35	39 140	45 609	48 951	1 370	1 596	1 614
Roe Deer	12.5	892 500	1 071 236	1 060 272	11 156	13 390	13 253
Muflon	20	5 600	5 869	6 270	112	117	125
Sika	30	840	894	1 023	252	27	31
Chamois	15	3 800	4 087	4 237	57	61	64
Wild Boar	41	403 700	350 976	531 887	16 552	14 390	21 807
Hare	4	401 800	442 127	466 350	1 607	1 769	1 865
Rabbit	1.5	191 800	188 172	168 825	288	282	253
Pheasant	1.25	271 400	336 908	318 821	339	421	399
Wild Ducks	1	588 000	516 868	549 118	588	517	549
Pigeons	0.2	710 000	749 729	831 216	142	150	166
Total Hunted					35 791	36 182	43 748
Imports Tonnes				1999	2000	2001	2002
Wild Boar				3 218	3 137	3 643	3 071
Hare				1 910	2 385	1 999	1 698
Rabbit				6 896	6 755	11 565	7 589
Deer				16 133	17 742	20 473	15 132
Total Imports Tonnes				28 157	30 019	37 680	27 490
Total Consumption Tonnes					65 810	73 862	71 238
Consumption Per kg Head @ 82 million people					1.24	1.11	1.15

Source, German Statistics Department Year Ended 30th March

Germany is a large consumer of game meats. Game includes hare, springbok, impala, deer, kangaroo, pig, chamois, rabbit, pheasant, partridge, wild duck and ringdove

Their other main supply of game venison is from deer farms, there are over 2,000 deer farms stocked mainly with Fallow deer, and the average size of these farms is around 18 deer. They have a restriction on the capture of feral deer so the growth of deer farming is constrained by the non-availability of breeding stock.

Farmed animals are shot on the farm and sold to local restaurants and retailers - this can only be done during the game season.

Figure 5

% of Chilled Venison's Volume and Value against Frozen Venison, Total Exports

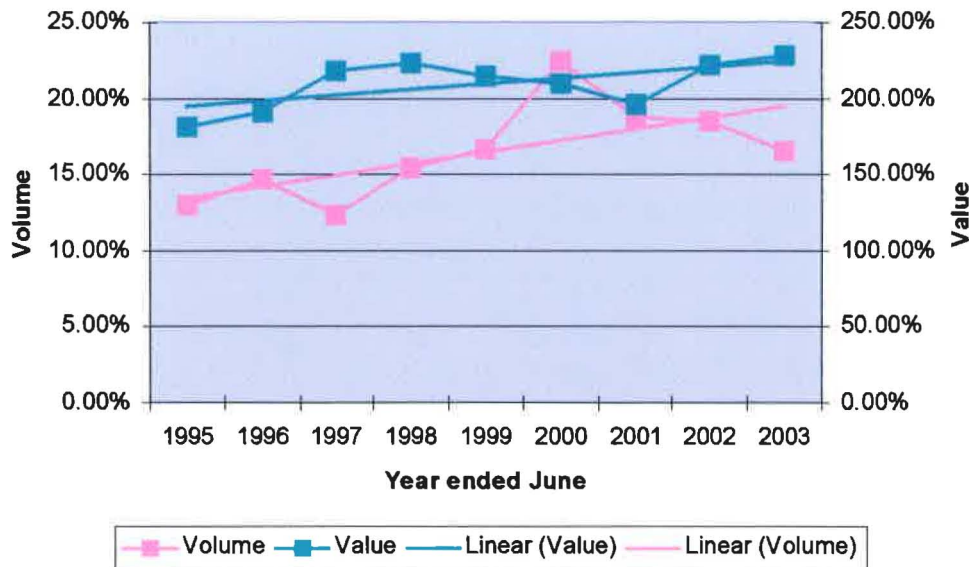


Figure 5 shows that chilled venison is increasing in volume and the difference in value is increasing against frozen venison, in contrast to the German market, figure 6 where the difference in value is decreasing.

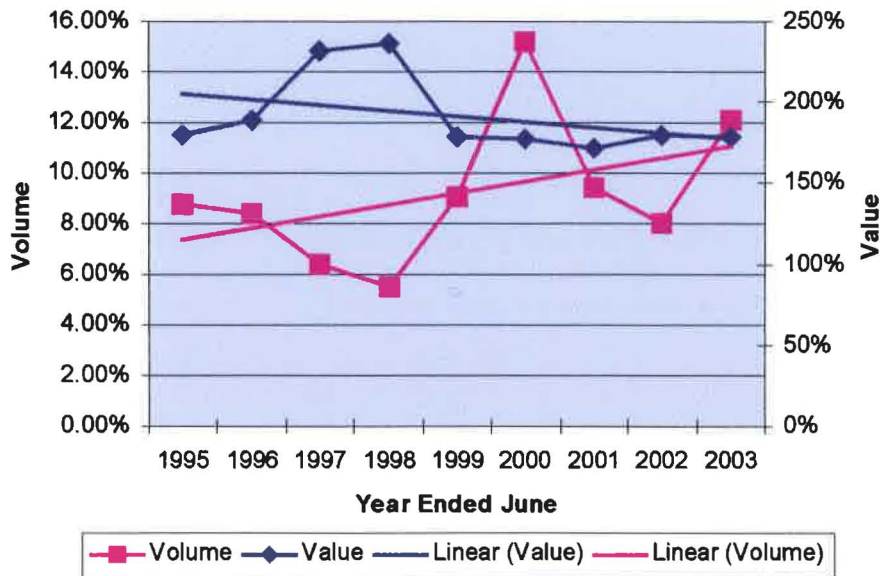
Current Issues Facing the Venison industry

- **To Manage Supply and Demand**
 - Producers withholding stock when the schedule is high, when the market wants it and selling stock when the schedule is low, when the market (game trade) does not want it. Figure 1
 - Poor reputation in the market place for our business relationships - too many times we have either oversupplied or undersupplied the market.

- Processors, importers forward buying product 12 months of the year for a 3-4 month selling season, where we are competing with a lot of other imported and domestic hunted products.

Figure 6

% of Chilled Venison's Volume and Value against Frozen Venison, in the German Market



In figure 6 it shows how much more chilled venison is worth to the industry, it is only 12% of our exports into Germany but is worth 190% more than frozen venison per kg.

- Processors exporters competing for procurement and again in the market place.
 - This has to be a no win situation, company's in the market undercutting each other, when they should be working more closely together ie integrated marketing. Procurement competition does not give a true market indicator to producers as well as leads to over inflated prices short term which generally result in poor prices long term, 2000 to present day is a prime example, figure 1.
- Differentiation
 - Attempts at differentiation have proven very costly and have given little return to the producer investors.

In 2002 50.78% of New Zealand's venison went into Germany, representing 24.22% of that region's venison consumption, and only 11.48% of that region's overall game needs. This means that we are always going to be price takers not price makers.

By way of an example, this quote is from an email received from an importer in Europe, dated 1 Jul 2003. Quote "The Game Manufacturer's can buy, without larger problems in Hungary, Poland or in other EU countries and they pay the 'price setter' bone-in Haunch €2.00/2.10. With that you can calculate yourself that the boneless Legs are around €2.70 and the 4 cut leg standard at €3.60."

➤ Cervena®

This is an appellation created to provide a product definition of prime New Zealand farmed venison. The Cervena® appellation is currently under review in order to establish what role it might play in the continuing development of the venison industry.

To this point, stakeholders have invested \$18M in support of Cervena® and Cervena® programmes. Not all processor/exporters have chosen to market under the appellation, some have chosen to take a more branded approach (alongside the Zespri of NZ Kiwi Fruit). Brands such as Silver Fern, have been developed by its owner PPCS, with investment solely from its Co-op members who by default have also invested in the Cervena® appellation through NZGIB levies.

The critical question the venison industry is asking itself is, "What benefit have these programmes delivered to its producers?" It has been discussed earlier in the project that the majority of our venison production still goes to the German game market. As an industry we have not attempted to differentiate our product to game consumers in Germany. It should be noted that while NZ calls deer meat "venison", in European countries, venison is a collective word meaning game meats.

Whilst Cervena® may have been introduced to some of our markets too early, its principals would find more acceptance in the minds of today's consumers. Consumers are looking for red meat that is healthy and raised in a natural environment.

Competition for red meat proteins has seen industrialisation of farming practices to produce consistent and cheap meat products - the NZ venison industry staunchly refuses to follow this path. The dilemma for our producers is that investment in maintaining our products image is not reflected in stabilisation of farm gate returns.

➤ Exporters investment in the market place, current and potential markets. (Retail, health, restaurant chains, airlines etc) niche markets inside the demographic market

Do processor/exporters have an incentive to build new markets and return the maximum value to the New Zealand producer, or do they just work on margins?

For example, when the schedule is low their exposure is less – ie less interest, product is easier to move, and they have greater margins to play with. You only have to look at an example of bull farmers who are traders working on margins only.

A Buy a 250kg bull at \$3.00/kg or \$750hd and hope to sell it with a schedule at \$3.50/kg at 300kgCW or \$1,050hd, a margin of \$300, with interest at 7% for 9 months of \$39.37, profit before costs is \$260.63.

B Buy a 250kg bull at \$2.00/kg or \$500hd and sell on a schedule of \$2.70 at 300kgCW or \$810 hd, a margin of \$310, with interest at 7% for nine months is \$26.24 profit before costs is \$283.76.

In example A the risk is higher for the schedule to go down than it is for it to raise, greater risk. But in example B the risk is a lot less for the schedule to fall and there is a greater chance that it may raise, a lot less risk and better business.

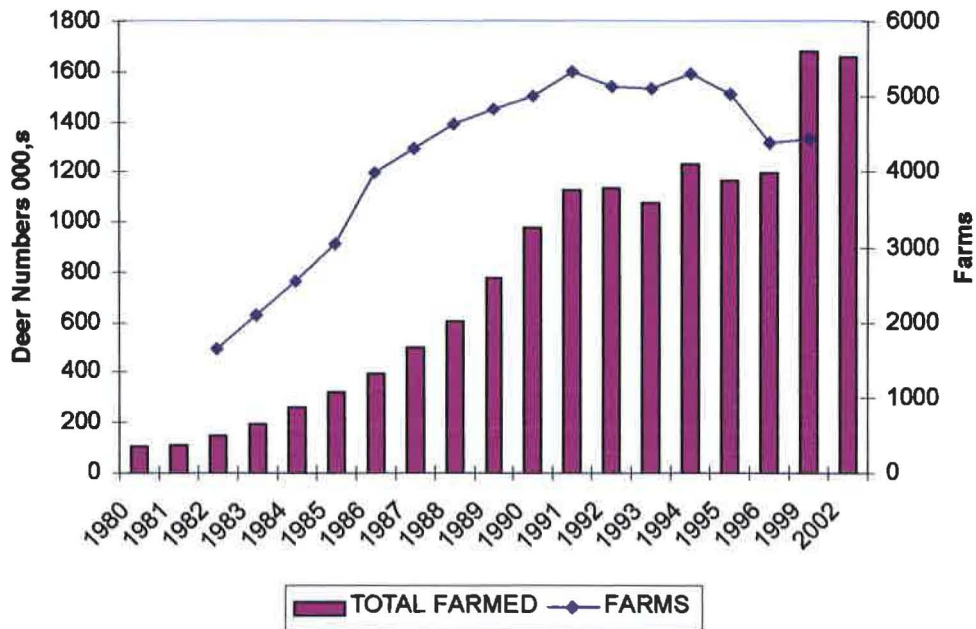
Another example. Company A develops a new product and markets it at a cost of \$10 million. Company B comes along after getting the product out of the market, analysing and then copying it at a fraction of the cost. Company B then offers the same product to the same market at a reduced cost, because they do not have to recover the cost of the \$10 million invested by company A.

- **A lack of knowledge about what the markets wants:**
 - From chef requirements to, cash and carry stores, to the person buying it to cook at home or on the BBQ, to airlines, health stores and health related options i.e. rest homes, hospitals and restaurant chains.
 - The trends and future competitors in the markets - not just from game products but from other proteins ie beef, lamb, pigs, poultry, fish etc

- **Animal welfare, traceability and sustainability**
 - More and more we are hearing that the market wants traceability and knowledge that the animals are looked after in a caring environment that is not damaging to the long-term health of this planet. For example we only have to look at the fact that velveting is not accepted in Europe and supermarkets in England will not accept venison of farms that velvet their deer.

- **Competition for land use in New Zealand not just from forestry, life stye blocks, expanding urban areas but also from other farming alternatives, sheep, beef and dairy.**

Figure 7



Source, SNZ, year ending 30 June

Figure 7 shows that the number of deer farms peaked at 5340 in 1991, with an average of 212 deer per farm and there has been a steady decline in farm numbers till 1996 when numbers reached their lowest since 1991 at 4427 farms, with an average of 272 deer per farm.

Most deer farmers have more than one class of stock so are fully aware of changes in farm gate returns. After all, most modern NZ farmers will compare returns on different livestock classes, the base for this comparison will be kilos of grass consumed and turned into gross revenue.

As an example, current average breeding hind performance is returning a gross margin of \$21.48/SU (after interest), which is a return on capital of 24%. Current average breeding ewe performance is returning a gross margin of \$56.63/SU (after interest), which is a return on capital of 70%.

Under current market conditions farmers of breeding hinds require weaner values of \$3.50 /kgLWT for weaner stags and \$3.00 /kgLWT for weaner hinds. At these values the finisher requires a net schedule of \$5.75/kg C.WtT to achieve 12 cents/kgDM and \$6.00/kg C.WtT to achieve 14 cents/kg DM. This is compared to a moderate performance breeding ewe operation.
(See Gross margins in Appendix)

Conclusions

- Differentiation of New Zealand Venison
 - Going head to head with other game products is a no win situation, we need to be looking at branding in Europe and moving away from being called "game", it is to important to note that Venison means "Game Meat". Cervena® may have a part here, the Brand is already registered and legally protected in 40 international markets.
 - Using the Generic brand "New Zealand Farm Raised Venison" is not enough. To most people, where is and what is New Zealand? Farm raised?? How in sheds, in the open, are they velveted? Venison means Game Meat. Clean and Green, every other country is clean and green. We will have to be a lot smarter if we are going to market venison on the international market, not just sell it as in the past.
 - New Zealand venison comes from a game animal that we have domesticated; it is farmed alongside other domesticated animals, ie sheep, cattle, ostrich. It is also processed by the main three meat companies in New Zealand, PPCS, Richmond's, and Alliance who have approximately 80% plus of market share, so is it game or is it red meat?
The Europeans know that we farm deer, so why do we call it game?
 - What would be the ramification with Tariffs and Quotes if venison were moved from game meat to a red meat? These are questions that need to be answered. Quotas have a bad rap in New Zealand but are they all that bad? It would bring stability to the German market if they knew just how much product they were going to get in any one year, if we take the example of Quotas of Lamb into the USA Prices have could increased as well. It would also force companies to look at alternative markets as in the past they have found it to easy to sell venison into Germany and work on a margin only.
However the industry does not want to underestimate the benefits of game meats as they have very good health profiles in terms of nutritional value.

Table 2
Nutritional Profile – based on 100 gm portions

	Calories	Fat	Cholesterol	Protein	Iron
New Zealand Venison Leg cut, roasted	157	6	73	27	4
Beef topside, lean roasted	183	5	81	34	4
Veal Fillet, lean, roasted	230	12	115	32	2
Lamb Leg, roasted	199	12	92	23	3
Pork Leg Steak, lean grilled	251	13	102	33	3
Chicken Leg, Skinless grilled	197	11	148	24	3
Salmon, broiled	165	6	71	25	1

Source DINZ

- Need to start from where the product is consumed, and work backwards.
 - In the past DINZ has taken the market initiative from the people that sell in the market place, but they are not actually dealing in the market place, the chef and consumer. We need to spend more time talking to Butchers in supermarkets, chefs in restaurants and find out what they want and make venison more user friendly, both the chef and the butcher do not have the time or the expertise to cut down venison into usable pieces, they want to be able to get a product that is user friendly, ie consistent price, quality and cut.
 - Five items that sell in Europe
 1. Leg Roast
 2. Minnie Leg Roast
 3. Medallions or Scallops
 4. Goulash
 5. Stir Fry
 - Research what size packages, ie 4 Medallion or 6? What size 1kg or 500gram packs? What does a chef/ consumer do with a 2.5kg Back Strap, if they only need half of it?
 - Set measurable targets and report on annually.

➤ Improve market monitoring and information.

- More dialog between the market and the industry in New Zealand, take note of what companies and those in the market are saying, an example of this is during the FGM presentation May 2001 Graham Brown noted that the current Market issues were,
 - ✓ Volatility due to Foot and Mouth and BSE,
 - ✓ Chefs looking for better value, with a sharper focus on other proteins, and greater attention to centre? plate costs.
 - ✓ Major economies cooling.
 - ✓ Three significant closures of in New York late April.
 - ✓ Fashionable restaurants in less expensive neighbourhoods and industrial areas.

Here was a warning to all the industry that increasing pressure on the value within New Zealand was resulting in the market looking at their bottom lines, and the shift to less expensive protein was already happening ie Kangaroo and Ostrich.

- Working with Meat New Zealand and incorporate their model.

➤ Diversification in the market and within the market.

- We sell only 16% of total venison chilled but at 225% more value than frozen, we have to find more chilled markets, that are supplied 12 months of the year to take the risk and cost out of buying venison 12 months of the year for a 4-months selling season.

Some examples are,

- Health food agencies. ie Jenny Craig, Gyms that offer food.
- High value retirement homes and hospitals.
- Targeting age or cultural groups
- Restaurant chains

- Long term contracts and building solid relationships in the market and at home, to long it has been them and use, without one sector or the other we do not have an industry, The Game Industry Board recognised this and changed there name to Deer Industry New Zealand with four Producer appointees and three Venison processors/ exporters and one velvet exporter a true industry board.
- Set measurable targets and report annually.

“We are never going to exploit the farm meat industry as long as we continue to hide behind the game meat banner.”

Weekly Average Schedule

		Year							
	Week	1989	1990	1991	1992	1993	1994	1995	1996
1-Jan	1	\$5.96	\$6.50	\$4.86	\$4.51	\$5.83	\$4.40	\$5.20	\$7.06
8-Jan	2	\$5.90	\$6.41	\$4.75	\$4.55	\$5.73	\$4.38	\$5.09	\$7.05
15-Jan	3	\$5.88	\$6.36	\$4.66	\$4.55	\$5.65	\$4.34	\$5.07	\$7.01
22-Jan	4	\$5.98	\$6.26	\$4.65	\$4.58	\$5.56	\$4.34	\$5.04	\$6.94
29-Jan	5	\$5.98	\$6.23	\$4.63	\$4.58	\$5.56	\$4.31	\$5.00	\$6.93
5-Feb	6	\$5.98	\$6.25	\$4.61	\$4.58	\$5.60	\$4.31	\$5.01	\$6.86
12-Feb	7	\$6.00	\$6.23	\$4.61	\$4.58	\$5.61	\$4.31	\$5.01	\$6.83
19-Feb	8	\$6.01	\$6.16	\$4.61	\$4.56	\$5.66	\$4.32	\$5.06	\$6.79
26-Feb	9	\$6.08	\$6.01	\$4.63	\$4.56	\$5.63	\$4.37	\$5.06	\$6.74
5-Mar	10	\$6.10	\$5.93	\$4.61	\$4.56	\$5.60	\$4.38	\$5.06	\$6.74
12-Mar	11	\$6.16	\$5.88	\$4.61	\$4.56	\$5.58	\$4.37	\$5.16	\$6.73
19-Mar	12	\$6.20	\$5.88	\$4.60	\$4.55	\$5.58	\$4.38	\$5.19	\$6.67
26-Mar	13	\$6.25	\$5.83	\$4.50	\$4.55	\$5.56	\$4.36	\$5.21	\$6.69
2-Apr	14	\$6.28	\$5.83	\$4.50	\$4.55	\$5.55	\$4.36	\$5.21	\$6.69
9-Apr	15	\$6.28	\$5.88	\$4.46	\$4.55	\$5.55	\$4.37	\$5.23	\$6.73
16-Apr	16	\$6.28	\$5.91	\$4.46	\$4.55	\$5.56	\$4.37	\$5.29	\$6.83
23-Apr	17	\$6.31	\$5.91	\$4.40	\$4.51	\$5.66	\$4.39	\$5.35	\$6.83
30-Apr	18	\$6.33	\$5.95	\$4.36	\$4.53	\$5.68	\$4.42	\$5.45	\$7.10
7-May	19	\$6.38	\$5.96	\$4.33	\$4.53	\$5.70	\$4.43	\$5.57	\$7.18
14-May	20	\$6.50	\$5.98	\$4.25	\$4.61	\$5.71	\$4.49	\$5.65	\$7.33
21-May	21	\$6.50	\$6.03	\$4.16	\$4.66	\$5.78	\$4.51	\$5.80	\$7.45
28-May	22	\$6.51	\$6.06	\$4.10	\$4.71	\$5.85	\$4.53	\$5.86	\$7.59
4-Jun	23	\$6.51	\$6.10	\$3.88	\$4.81	\$5.85	\$4.53	\$5.97	\$7.73
11-Jun	24	\$6.61	\$6.11	\$3.78	\$4.91	\$5.90	\$4.54	\$6.00	\$7.92
18-Jun	25	\$6.85	\$6.13	\$3.70	\$5.01	\$5.98	\$4.59	\$6.04	\$8.02
25-Jun	26	\$7.01	\$6.20	\$3.63	\$5.05	\$5.98	\$4.58	\$6.13	\$8.15
2-Jul	27	\$7.15	\$6.20	\$3.56	\$5.11	\$5.93	\$4.76	\$6.24	\$8.33
9-Jul	28	\$7.26	\$6.20	\$3.53	\$5.18	\$5.76	\$4.85	\$6.31	\$8.43
16-Jul	29	\$7.28	\$6.20	\$3.56	\$5.28	\$5.65	\$4.87	\$6.46	\$8.51
23-Jul	30	\$7.30	\$6.20	\$3.70	\$5.30	\$5.56	\$4.87	\$6.68	\$8.65
30-Jul	31	\$7.33	\$6.20	\$4.05	\$5.35	\$5.51	\$4.98	\$6.82	\$8.73
6-Aug	32	\$7.36	\$6.20	\$4.21	\$5.50	\$5.48	\$5.05	\$6.85	\$8.82
13-Aug	33	\$7.38	\$6.23	\$4.18	\$5.56	\$5.43	\$5.13	\$6.87	\$8.82
20-Aug	34	\$7.43	\$6.23	\$4.18	\$5.66	\$5.43	\$5.22	\$6.92	\$8.84
27-Aug	35	\$7.46	\$6.28	\$4.18	\$5.90	\$5.43	\$5.29	\$6.93	\$8.82
3-Sep	36	\$7.58	\$6.30	\$4.18	\$6.00	\$5.43	\$5.33	\$7.03	\$8.81
10-Sep	37	\$7.70	\$6.21	\$4.18	\$6.15	\$5.42	\$5.43	\$7.09	\$8.75
17-Sep	38	\$7.76	\$6.21	\$4.20	\$6.15	\$5.42	\$5.56	\$7.11	\$8.75
24-Sep	39	\$7.83	\$6.21	\$4.28	\$6.20	\$5.40	\$5.65	\$7.21	\$8.71
1-Oct	40	\$7.83	\$6.21	\$4.43	\$6.33	\$5.38	\$5.75	\$7.31	\$8.71
8-Oct	41	\$7.50	\$6.20	\$4.51	\$6.38	\$5.36	\$5.78	\$7.31	\$8.88
15-Oct	42	\$7.30	\$5.95	\$4.51	\$6.50	\$5.35	\$5.78	\$7.29	\$8.60
22-Oct	43	\$7.21	\$5.76	\$4.51	\$6.51	\$5.33	\$5.77	\$7.29	\$8.54
29-Oct	44	\$7.11	\$5.73	\$4.51	\$6.51	\$5.30	\$5.77	\$7.28	\$8.44
5-Nov	45	\$7.11	\$5.63	\$4.58	\$6.45	\$5.09	\$5.71	\$7.25	\$8.06
12-Nov	46	\$7.00	\$5.60	\$4.58	\$6.28	\$4.93	\$5.67	\$7.25	\$7.77
19-Nov	47	\$6.69	\$5.53	\$4.58	\$6.30	\$4.86	\$5.60	\$7.23	\$7.60
26-Nov	48	\$6.93	\$5.46	\$4.55	\$6.18	\$4.77	\$5.54	\$7.23	\$7.38
3-Dec	49	\$6.86	\$5.31	\$4.55	\$6.11	\$4.66	\$5.40	\$7.20	\$7.20
10-Dec	50	\$6.71	\$5.08	\$4.48	\$6.03	\$4.58	\$5.30	\$7.18	\$6.91
17-Dec	51	\$6.58	\$4.91	\$4.48	\$5.96	\$4.51	\$5.20	\$7.15	\$6.62
24-Dec	52	\$6.55	\$4.91	\$4.48	\$5.93	\$4.44	\$5.20	\$7.10	\$6.55
Average		\$6.75	\$5.98	\$4.33	\$5.29	\$5.47	\$4.89	\$6.20	\$7.67

Year

	Week	1998	2000	2001	2002	2003
1-Jan	1	\$4.70	\$ 5.68	\$7.25	\$ 7.39	\$ 4.43
8-Jan	2	\$4.68	\$ 5.65	\$7.18	\$ 7.14	\$ 4.43
15-Jan	3	\$4.68	\$ 5.62	\$7.13	\$ 6.56	\$ 4.32
22-Jan	4	\$4.68	\$ 5.60	\$7.12	\$ 6.52	\$ 4.24
29-Jan	5	\$4.68	\$ 5.62	\$ 7.09	\$ 6.48	\$ 4.23
5-Feb	6	\$4.68	\$ 5.63	\$ 7.09	\$ 6.48	\$ 4.20
12-Feb	7	\$4.68	\$ 5.63	\$ 7.09	\$ 6.49	\$ 4.20
19-Feb	8	\$4.68	\$ 5.65	\$ 7.09	\$ 6.49	\$ 4.20
26-Feb	9	\$4.68	\$ 5.68	\$ 7.14	\$ 6.51	\$ 4.20
5-Mar	10	\$4.73	\$ 5.68	\$ 7.09	\$ 6.54	\$ 4.15
12-Mar	11	\$4.75	\$ 5.68	\$ 7.20	\$ 6.52	\$ 4.10
19-Mar	12	\$4.80	\$ 5.68	\$ 7.29	\$ 6.51	\$ 4.12
26-Mar	13	\$4.89	\$ 5.68	\$ 7.32	\$ 6.38	\$ 4.12
2-Apr	14	\$4.91	\$ 5.70	\$ 7.40	\$ 6.26	\$ 4.12
9-Apr	15	\$4.93	\$ 5.72	\$ 7.47	\$ 6.04	\$ 4.12
16-Apr	16	\$4.91	\$ 5.78	\$ 7.54	\$ 5.82	\$ 4.13
23-Apr	17	\$4.91	\$ 5.82	\$ 7.66	\$ 5.61	\$ 4.13
30-Apr	18	\$4.91	\$ 5.90	\$ 7.77	\$ 5.49	\$ 4.12
7-May	19	\$4.91	\$ 5.98	\$ 7.89	\$ 5.43	\$ 4.12
14-May	20	\$4.91	\$ 6.02	\$ 8.08	\$ 5.41	\$ 4.13
21-May	21	\$4.91	\$ 6.08	\$ 8.22	\$ 5.40	\$ 4.08
28-May	22	\$4.93	\$ 6.14	\$ 8.33	\$ 5.38	\$ 4.08
4-Jun	23	\$4.93	\$ 6.28	\$ 8.46	\$ 5.34	\$ 4.08
11-Jun	24	\$4.94	\$ 6.37	\$ 8.58	\$ 5.30	\$ 4.08
18-Jun	25	\$4.96	\$ 6.43	\$ 8.75	\$ 5.25	\$ 4.08
25-Jun	26	\$4.97	\$ 6.46	\$ 8.84	\$ 5.25	\$ 4.07
2-Jul	27	\$5.00	\$ 6.49	\$ 9.02	\$ 5.28	\$ 4.07
9-Jul	28	\$5.01	\$ 6.50	\$ 9.07	\$ 5.29	\$ 4.12
16-Jul	29	\$5.02	\$ 6.57	\$ 9.24	\$ 5.29	\$ 4.20
23-Jul	30	\$5.02	\$ 6.70	\$ 9.37	\$ 5.45	\$ 4.29
30-Jul	31	\$5.00	\$ 6.76	\$ 9.51	\$ 5.59	\$ 4.41
6-Aug	32	\$4.96	\$ 6.91	\$ 9.61	\$ 5.73	\$ 4.53
13-Aug	33	\$4.87	\$ 7.01	\$ 9.71	\$ 6.11	\$ 4.68
20-Aug	34	\$4.80	\$ 7.17	\$ 9.83	\$ 6.33	\$ 4.79
27-Aug	35	\$4.76	\$ 7.27	\$ 10.00	\$ 6.45	\$ 4.95
3-Sep	36	\$4.75	\$ 7.44	\$ 10.06	\$ 6.61	\$ 5.05
10-Sep	37	\$4.75	\$ 7.56	\$ 10.14	\$ 6.68	\$ 5.01
17-Sep	38	\$4.75	\$ 7.65	\$ 10.17	\$ 6.65	\$ 5.02
24-Sep	39	\$4.81	\$ 7.71	\$ 10.17	\$ 6.55	\$ 5.12
1-Oct	40	\$4.88	\$ 7.75	\$ 10.17	\$ 6.39	\$ 5.10
8-Oct	41	\$4.96	\$ 7.76	\$ 10.14	\$ 6.25	\$ 5.07
15-Oct	42	\$5.04	\$ 7.84	\$ 10.13	\$ 6.01	\$ 4.96
22-Oct	43	\$5.09	\$ 7.80	\$ 10.13	\$ 5.83	\$ 4.89
29-Oct	44	\$5.10	\$ 7.75	\$ 10.08	\$ 5.67	\$ 4.82
5-Nov	45	\$5.12	\$ 7.66	\$ 9.93	\$ 5.42	
12-Nov	46	\$5.12	\$ 7.58	\$ 9.79	\$ 5.18	
19-Nov	47	\$5.15	\$ 7.45	\$ 9.48	\$ 5.02	
26-Nov	48	\$5.17	\$ 7.39	\$ 9.16	\$ 4.76	
3-Dec	49	\$5.15	\$ 7.32	\$ 8.74	\$ 4.59	
10-Dec	50	\$5.13	\$ 7.29	\$ 8.28	\$ 4.49	
17-Dec	51	\$5.11	\$ 7.27	\$ 7.72	\$ 4.43	
24-Dec	52	\$5.11	\$ 7.27	\$ 7.59	\$ 4.43	
Average		\$4.90	\$6.58	\$8.56	\$5.86	\$4.39

DEER RECONCILIATION & INCOME**OPENING**

	No
Breeding Hinds	114
Wnr Hinds	14
Br.Stags	2

CLOSING

	No
Breeding Hinds	114
Wnr Hinds	14
Br.Stags	2

TOTAL	130	234 DSU's	TOTAL	130	234 DSU's
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PURCHASES

	No	\$/Hd	\$
Master Stags	0.5	2500.00	

SALES

	No	\$/Hd	\$
Wnr Stags	50	\$193	9601
Wnr Hinds	36	\$144	5166
Cull hinds	11	\$220	2517
Cull Stags	0.5	\$300	150

TOTAL PURCHASES		\$1,250	TOTAL INCOME	\$17,434
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BIRTHS

87.5 % Fawning

Stag Fawns	50
Hind Fawns	50

CHECK TOTAL	230
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DEATHS & MISSING

Hinds	2%	3
Weaners		
Others		

CHECK TOTAL	230
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GROSS MARGIN BREEDING HIND - Achieving Mod Sheep Performance

<u>COMMENTS</u>	<u>PRODUCTION</u>			
Fawning %	87.5 STS.	Wnr.Hind Wt.	48 Kgs	
		\$/Kg.LWt.	\$3.00 nett commision	
Deaths %	2% Hinds	Wnr.Stag Wt.	55 Kgs	
	Weaners	\$/Kg.LWt.	\$3.50 nett commision	

STOCK Nos. & VALUE

	<u>No.</u>	<u>SU's</u>	<u>\$/Hd</u>	<u>\$</u>
Breeding Hinds	114	1.8	\$350	\$39,900
Wnr Hinds	14	1.6	\$200	\$2,800
Br.Stags	2	3	\$2,000	\$4,000
	<u>130</u>	<u>234 su</u>		<u>\$46,700</u>
				\$200/su

REVENUE

		<u>No</u>	<u>\$/hd</u>	<u>\$</u>	
SALES	Wnr Stags	50	\$193	9601	
	Wnr Hinds	36	\$144	5166	
	Cull hinds	11	\$220	2517	
	Cull Stags	0.5	\$300	150	
					\$17,434
VELVET	2 Stags @		3.50 Kgs/Stag		
	7 Kgs @		\$120/kg		\$840
PURCHASES	Master Stags	0.5	\$2,500	1250	
					(\$1,250)
			<u>GROSS INCOME</u>		<u>\$17,024</u> \$72.88/su

EXPENDITURE

Animal Health	\$5.00/head				\$650
Velveting	2 Head @		\$20/hd		\$40
Freight	Head @		/hd		
Feed	Maize		Tonne @	/tonne	
	Hay		Bales @	/bale	
Other					
			<u>TOTAL EXPENSES</u>		<u>\$690</u>

GROSS MARGIN (before Interest) \$16,334 **GROSS MARGIN (after Interest)** \$11,664 10 %Interest

GROSS MARGIN per HIND \$143.28 * **GROSS MARGIN per HIND** \$102.31 *

GROSS MARGIN per SU \$69.92 * **GROSS MARGIN per SU** \$49.93 *

GROSS MARGIN per KgDM \$0.124 Before Interest **RETURN on CAPITAL =** 35 %
\$0.088 After Interest

Prepared by: R.R.FRASER
Agriculture NZ Ltd

BREEDING HIND - Achieving Mod Sheep Performance

No. Hinds 100
 No. Wnrs Retained 12

Average Weaner Sale Price (\$/hd)

		\$150	\$170	\$190	\$210	\$230
Fawning %	80.0%	\$76	\$90	\$103	\$117	\$130
	82.5%	\$80	\$94	\$122	\$164	\$221
	85.0%	\$84	\$98	\$113	\$127	\$142
	87.5%	\$87	\$102	\$117	\$133	\$148
	90.0%	\$91	\$107	\$122	\$138	\$153
	92.5%	\$95	\$111	\$127	\$143	\$159
	95.0%	\$99	\$115	\$132	\$148	\$165

Gross Margin/Hind
 After Interest

At 87.5% fawning
 Each \$20.00 change in Average Weaner Sale Price \$/hd equates to \$15.10/hind Gross Margin

At \$190 /weaner sold
 Each 2.5% change in Average Weaner Sale Price \$/hd equates to \$18.85/hind Gross Margin

BREEDING HIND - Achieving Mod Sheep Performance

No. Hinds 100
 No. Wnrs Retained 12
 Stock Units/hind 2.24 (includes retained Wnr.Hinds)

Average Weaner Sale Price (\$/hd)

		\$150	\$170	\$190	\$210	\$230
Fawning %	80.0%	\$34	\$40	\$46	\$52	\$58
	82.5%	\$36	\$42	\$54	\$73	\$99
	85.0%	\$37	\$44	\$50	\$57	\$63
	87.5%	\$39	\$46	\$52	\$59	\$66
	90.0%	\$41	\$48	\$55	\$62	\$68
	92.5%	\$42	\$49	\$57	\$64	\$71
	95.0%	\$44	\$51	\$59	\$66	\$74

Gross Margin/su
 after Interest

At 87.5% Fawning
 Each \$20.00 Change in Average Weaner Sale Price \$/hd equates to \$6.74/su Gross Margin

At \$190 /weaner sold
 Each 2.5% Change in Average Weaner Sale Price \$/hd equates to \$8.42/su Gross Margin

WEANER STAGS (purchased 55 kg in March, sold at 55kgCW in late Jan)

	R.1.Stag	R.1.Stag	R.1.Stag	R.1.Stag
Buy L.Wt.	55.0	55.0	55.0	55.0
Buy \$/kg L.Wt	\$3.50	\$3.50	\$3.50	\$3.50
Spiker Velvet (kg)	0.13	0.13	0.13	0.13
Value \$/kg	\$55.00	\$55.00	\$55.00	\$55.00
Sell L.Wt or C.Wt	55	55	55	55
Sell \$/kg L.Wt or C.Wt	\$5.50	\$5.75	\$6.00	\$6.25
Deaths %	2.0%	2.0%	2.0%	2.0%
Months Farmed	11	11	11	11
Buy/Opening Value	(\$193)	(\$193)	(\$193)	(\$193)
Sell/Closing Value	\$303	\$316	\$330	\$344
Velvet	\$7	\$7	\$7	\$7
Costs				
Freight	\$0.00	\$0.00	\$0.00	\$0.00
Animal Health	(\$10.00)	(\$10.00)	(\$10.00)	(\$10.00)
Sundry Costs	\$0.00	\$0.00	\$0.00	\$0.00
Deaths	(\$6.05)	(\$6.33)	(\$6.60)	(\$6.88)
Interest @ 10%	(\$17.65)	(\$17.65)	(\$17.65)	(\$17.65)
Profit \$/hd before Interest	\$100.83	\$114.30	\$127.78	\$141.25
Profit \$/hd after Interest	\$83.18	\$96.65	\$110.13	\$123.60
KgDM Consumed	799	799	799	799
Profit \$/kg DM Consumed before Inte	12.62 c	14.31 c	15.99 c	17.68 c
Profit \$/kg DM Consumed after Intere	10.41 c	12.10 c	13.78 c	15.47 c

GROSS MARGIN - Velvet Stag

	Velvet Stag	Velvet Stag	Velvet Stag	Velvet Stag
Velvet Weight 1st Cut	2.80	3.00	3.20	3.40
Velvet Weight Regrowth	0.80	0.90	1.00	1.10
Velvet Price	\$90.00	\$100.00	\$120.00	\$130.00
Velvet Income	\$324.00	\$390.00	\$504.00	\$585.00
Deaths %	1.0%	1.0%	1.0%	1.0%
Months Farmed	12	12	12	12
Buy/Opening Value	(\$600)	(\$700)	(\$800)	(\$900)
Replacement Rate	15%	15%	15%	15%
Replacement Cost				
Costs				
Velvet Fees	(\$10.00)	(\$10.00)	(\$10.00)	(\$10.00)
Animal Health	(\$5.00)	(\$5.00)	(\$5.00)	(\$5.00)
Replacement Cost - Margin	\$400.00	(\$60.00)	(\$60.00)	(\$60.00)
Deaths	(\$0.00)	(\$0.00)	(\$0.00)	(\$0.00)
Interest @ 10%	(\$60.00)	(\$70.00)	(\$80.00)	(\$90.00)
Profit \$/hd before Interest	\$249.15	\$315.15	\$429.15	\$510.15
Profit \$/hd after Interest	\$189.15	\$245.15	\$349.15	\$420.15
KgDM Consumed	1445	1445	1445	1445
Profit \$/kg DM Consumed before Interest	17.24 c	21.81 c	29.70 c	35.30 c
Profit \$/kg DM Consumed after Interest	13.09 c	16.97 c	24.16 c	29.08 c

SHEEP RECONCILIATION & INCOME

OPENING

	No
Breeding Ewes	75
2th Ewes	25
Ewe Hoggets	28
Rams	2

CLOSING

	No
Breeding Ewes	75
2th Ewes	25
Ewe Hoggets	28
Rams	2

TOTAL 130

TOTAL 130

PURCHASES

	<u>No</u>	<u>\$/Hd</u>	<u>\$</u>
Rams	0.5	\$600.00	\$300.00

SALES

	<u>No</u>	<u>\$/Hd</u>	<u>\$</u>	<u>Wt. Kg</u>	<u>\$/kg</u>
Ram Lambs	68	\$55.10	\$3,719	29.0	\$ 1.90
Ewe Lambs	40	\$49.95	\$1,973	27.0	\$ 1.85
Hogget Lambs	14	\$45.60	\$638	24.0	\$ 1.90
Cull Ewes	20	\$45.00	\$900		
Ewe Hgts/2ths	1	\$75.00	\$106		

TOTAL SHEEP PURCHASES

\$300

TOTAL SHEEP INCOME

\$7,336

BIRTHS

	135% Ewe Lambing
	50% Ewe Hogget Lambing
Ram lambs	68
Ewe Lambs	68
Hogget Lambs	14

DEATHS & MISSING

Ewes	5%	5
Hoggets	3%	1.6
Others		0.50

CHECK TOTAL 280

CHECK TOTAL 280

WOOL PRODUCTION & INCOME

	<u>No SHORN</u>	<u>Kg/hd</u>	<u>\$/KG</u>	<u>TOTAL KG's</u>	<u>TOTAL \$</u>
Lambs	149	1.00	\$3.00	149	\$447
Hoggets	28	2.75	\$3.00	77	\$231
Ewes (Main Shear)	100	2.75	\$3.00	275	\$825
Ewes (2nd Shear)	75	2.75	\$3.00	206	\$619
Two Tooths	25	2.50	\$3.00	63	\$188
Rams	2	7.00	\$3.00	14	\$42
Crutchings					
	<u>379</u>			<u>784</u>	<u>\$2,351</u>

WOOL/SSU = 6.32 Kgs

Av.PRICE = \$3.00/Kg

COMMENTS

PRODUCTION

Lambing %	135% STS. Ewes
	50% STS. Hoggets
Wool	6.32 Kgs/su
Deaths %	5% Ewes
	3% Hgts

STOCK Nos. & VALUE

	No.	SU's	\$/Hd	\$
Breeding Ewes	75	1	\$80.00	\$6,000
2th Ewes	25	1	\$95.00	\$2,375
Ewe Hoggets	28	0.8	\$75.00	\$2,100
Rams	2	0.8	\$600.00	\$1,200
	130	124 sus		\$11,675
				\$94.15 /su

REVENUE

	No	\$/Hd	\$
SALES			
Ram Lambs	68	\$55.10	\$3,719
Ewe Lambs	40	\$49.95	\$1,973
Hogget Lambs	14	\$45.60	\$638
Cull Ewes	20	\$45.00	\$900
Ewe Hgts/2ths	1	\$75.00	\$106
			\$7,336
WOOL	124 SUs @	6.32 Kgs/su	
	784 Kgs @	\$3.00 /kg	\$2,351
PURCHASES	Rams	0.5 \$600.00	\$300
			(\$300)
		GROSS INCOME	\$9,388 \$75.71 /su

EXPENDITURE

Animal Health	\$2.50 /ssu		\$310
Shearing	379 head @	\$2.25 /hd	\$853
Crutching	head @	\$0.50 /hd	
Freight	Wool	4.4 bales @	\$8.00 /bale
	Stock	head @	\$0.50 /hd
		TOTAL EXPENSES	\$1,198

GROSS MARGIN (before Interest) \$8,190 **GROSS MARGIN (after Interest) \$7,023 10 % Interest**

GROSS MARGIN per EWE \$81.90 * **GROSS MARGIN per EWE \$70.23 ***

GROSS MARGIN per SU \$66.05 * **GROSS MARGIN per SU \$56.63 ***

GROSS MARGIN per Kg Dry Matter \$0.104 **GROSS MARGIN per Kg Dry Matter \$0.089**

RETURN on CAPITAL = 70 %

Feed Consumption

	KgDM/hd/yr	No	Total
Ewe	633	100	63255
Rams	730	2	1460
Lmbg Hogget	267	25	6663
Ewe Lambs	265	28	7410
			78788 KgDM
			788 KgDM/ewe
			635 KgDM/su

**Venison Imports into Germany
(Tonnes)**

	1984	1985	1986	1987	1988	1989	1990	1991
EU -GB	1,760.20	1,416.40	992.1	912.00	1,112.20	1,062.80	701.10	572.10
EU - F	603.2	458.8	267.9	266.1	425.4	601.1	330.7	301.1
EU - E	1,001.80	1,092.80	616.8	811.7	1,090.20	821.70	693.10	721.00
EU -Other	396.30	212.80	169.3	213.5	408.4	278.6	216	206.9
Total	3,761.50	3,180.80	2,046.10	2,203.30	3,036.20	2,764.20	1,940.90	1,801.10
Austria	623.90	608.60	173.4	309.9	364.90	385.90	152.70	119.00
Yugoslavia	659.10	886.90	401.3	391.7	558.6	381	165.5	38.2
Sweden	141.20	9.50	0.2	0	0.00	0.00	0.00	0.00
Poland	1,979.00	2,029.00	1,994.40	3,021.80	2,145.10	2,475.90	3,654.40	4,363.10
CSSR	1,230.40	1,049.70	1,003.30	1,199.60	1,281.10	1,466.70	1,082.40	1,425.20
Hungary	1,212.80	1,242.00	1,075.10	1,417.50	1,139.70	783.90	677.70	900.00
Rumania	280.10	78.20	22.20	0.00	11.70	0.00	0.00	0.00
South Africa	505.50	870.20	450.50	485.30	726.00	249.60	46.70	108.80
Argentina	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
New Zealand	691.70	1,096.70	1,109.90	1,127.50	1,128.10	1,368.10	1,494.00	3,199.20
Australia	59.30	29.10	24.10	29.10	46.10	0.00	0.00	0.00
Others	513.70	722.60	512.30	584.80	369.60	590.30	510.20	458.30
Total Tonnes	11,716.80	11,803.30	8,812.80	10,770.50	10,807.10	10,465.60	9,724.50	12,413.80

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
EU	0	0	1265	2147	1,618	1,247	1,823	1,749	3,884	5,784	2,280
Hungary	723.6	871.4	708	639	952	824	977	923	1,078	1,175	945
Poland	4,382.80	4,366.90	3,847	3,678	3,017	2,894	3,051	2,700	2,794	1,929	2,124
Czechoslovakia	1,161.80	1,215.20	987	859	640	719	809	885	1,024	909	526
Rumanian	0	0	0	49	26	11	0	4	13	19	0
Slovakia	0	0	259	159	160	94	72	73	52	28	66
Slovenian	0	0	38	0	12	16	0	0	0	0	0
Lettland	0	0	122	63	67	45	28	71	95	68	14
New Zealand	4,983.80	5,385.50	5551	5674	5,063	6,332	8,351	7,449	7,106	8,685	7,227
Australian	61.5	133.6	117	326	420	213	457	723	799	1,638	972
South Africa	119.8	165.2	78	310	288	281	337	505	720	1,286	795
China	0	0	0	0	0	0	0	0	7	4	0
Other	961.6	966.9	836	996	985	285	266	492	170	251	183
Total Tonnes	12,394.90	13,104.70	13,808	14,900	13,248	12,941	16,171	15,575	17,742	21,767	15,132

Source: German Statistics Department year ended 30th March

**Wild Boar Imports into Germany
(Tonnes)**

	1984	1985	1986	1987	1988	1989	1990	1991			
EU						302.8	280.5	66.8			
Yugoslavia	180.4	246.3	139.5	111.9	194.5	143.3	99.2	28.4			
Poland	713.2	859.2	1,021.60	1,046.30	945.8	1,158.60	1,838.50	1,874.90			
Hungary	323.2	310.1	205.7	229	348.1	353.1	203.9	177.7			
Romania	191	158.3	19.7	0	9.1	87.5	18.6	12.2			
Bulgarian	96	134.7	32.9	12.9	0	0	0	0			
USSR	228.5	268.1	280.8	345.7	393.5	472.8	432.9	322.2			
Australia	1,117.40	1,314.90	825.8	942.9	1,027.90	1,367.80	1,080.10	920.80			
Other	117.4	9.9	10.4	76.4	56.6	43.6	11.2	2.1			
Total	2,967.10	3,301.50	2,536.40	2,765.10	2,975.20	3,939.30	3,964.90	3,404.20			
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
EU	0	0	1,484	171	1,378	527	290	308	438	602	251
Hungary	282.5	471.6	271	324	467	503	641	679	784	691	692
Poland	1,437.90	368.1	0	0	0	0	0	0	0	0	0
CSR	177.3	19.6	0	0	2	143	112	244	320	278	190
Australian	1,517.80	2,209.30	1,239	1,194	1,290	1,053	981	1,780	1,552	2,132	1,742
Other	271.3	77.9	90	35	42	68	79	167	43	71	0
Total	3,686.80	3,146.50	3,084	1,723	3,179	2,294	2,103	3,178	3,137	3,775	3,071

Source: German Statistics Department year ended 30th March

Exported Venison Chilled Value (\$NZ)

June Years	1995	1996	1997	1998	1999	2000	2001	2002	2003
AUSTRALIA	\$223,457	\$162,046	\$92,485	\$117,563	\$123,384	\$276,832	\$459,033	\$389,173	\$304,896
AUSTRIA	\$0	\$0	\$0	\$126,051	\$0	\$1,057,494	\$657,311	\$0	\$0
BELGIUM	\$600,751	\$2,928,725	\$1,578,142	\$8,766,279	\$8,111,502	\$8,639,390	\$11,236,265	\$13,877,384	\$8,580,410
BRAZIL	\$0	\$0	\$0	\$74,280	\$88,408	\$0	\$0	\$0	\$0
CANADA	\$451,378	\$275,893	\$189,829	\$683,758	\$621,619	\$703,209	\$1,194,795	\$1,537,818	\$1,311,404
DENMARK	\$0	\$0	\$13,016	\$0	\$43,759	\$238,966	\$0	\$0	\$0
Faeroe Islands	\$0	\$0	\$0	\$0	\$0	\$2,227	\$2,166	\$4,391	\$0
FIJI	\$4,423	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
FINLAND	\$0	\$0	\$98,503	\$0	\$43,942	\$0	\$0	\$68,263	\$0
FRANCE	\$1,472,872	\$1,795,876	\$1,980,889	\$1,396,187	\$1,133,089	\$2,703,061	\$3,801,994	\$3,844,898	\$1,007,077
FRENCH POLYNESIA	\$38,304	\$42,536	\$57,030	\$30,222	\$54,973	\$67,220	\$44,546	\$48,492	\$81,822
GERMANY	\$4,585,716	\$8,649,750	\$8,079,018	\$7,145,045	\$9,013,237	\$14,766,630	\$14,388,440	\$12,135,795	\$11,295,504
GREECE	\$0	\$0	\$0	\$0	\$6,188	\$0	\$0	\$0	\$0
GUAM	\$0	\$455	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HONG KONG	\$10,924	\$16,352	\$21,024	\$201,944	\$107,555	\$0	\$48,090	\$63,936	\$29,597
INDONESIA	\$971	\$0	\$0	\$0	\$100	\$0	\$0	\$0	\$2,314
IRELAND	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$41,093
ITALY	\$557,568	\$261,342	\$84,266	\$166,803	\$398,401	\$891,810	\$1,987,710	\$1,003,810	\$552,173
JAPAN	\$1,032,470	\$1,312,743	\$947,603	\$745,281	\$647,716	\$705,820	\$1,040,339	\$1,721,537	\$951,946
KOREA, REPUBLIC	\$87,151	\$69,442	\$52,171	\$39,959	\$0	\$67,056	\$2,000	\$0	\$8,248
MEXICO	\$0	\$0	\$0	\$0	\$0	\$0	\$29,645	\$0	\$0
NETHERLANDS	\$636,478	\$1,083,932	\$1,000,160	\$1,408,578	\$1,198,435	\$3,234,536	\$2,598,787	\$4,191,242	\$1,060,545
NORFOLK ISLAND	\$0	\$0	\$0	\$0	\$1,923	\$0	\$0	\$0	\$0
NORWAY	\$0	\$0	\$0	\$0	\$24,294	\$0	\$0	\$0	\$0
PAPUA NEW GUINEA	\$0	\$0	\$0	\$2,018	\$0	\$0	\$0	\$0	\$0
PHILIPPINES	\$0	\$413	\$0	\$0	\$0	\$0	\$0	\$0	\$0
REUNION	\$0	\$15,012	\$30,000	\$5,558	\$2,749	\$0	\$0	\$0	\$1,967
SINGAPORE	\$94,452	\$45,398	\$149,099	\$188,846	\$2,536	\$169,800	\$307,614	\$160,614	\$403,718
SWEDEN	\$200,596	\$0	\$0	\$0	\$0	\$0	\$0	\$42,010	\$0
SWITZERLAND	\$483,530	\$1,883,565	\$1,727,786	\$1,592,588	\$2,070,859	\$2,518,144	\$3,448,192	\$4,510,840	\$2,672,444
TAIWAN	\$0	\$28,065	\$0	\$0	\$0	\$3,797	\$0	\$31,641	\$0
THAILAND	\$0	\$0	\$19,171	\$5,688	\$7,881	\$0	\$0	\$0	\$0
UNITED ARAB Emirate	\$0	\$0	\$0	\$7,447	\$0	\$0	\$0	\$0	\$0
UNITED KINGDOM	\$797,795	\$1,142,339	\$1,396,015	\$1,080,624	\$446,415	\$323,867	\$752,695	\$539,708	\$912,416
USA	\$5,664,881	\$11,813,732	\$11,467,229	\$14,394,633	\$12,148,623	\$13,872,576	\$19,881,086	\$18,093,405	\$14,038,257
VENEZUELA	\$0	\$0	\$0	\$0	\$0	\$0	\$16,400	\$66,127	\$0
Chilled (NZ)	16,943,717	31,527,616	28,983,436	38,179,352	36,297,588	50,242,435	61,897,108	62,331,084	43,255,829

Source, DINZ for all Frozen and Chilled Exports, June Years

Exported Venison Chilled Volume kg

June Years	1995	1996	1997	1998	1999	2000	2001	2002	2003
AUSTRALIA	8,514	8,149	4,179	4,430	5,697	12,342	19,448	12,092	11,695
AUSTRIA	0	0	0	12,617	0	69,708	57,084	0	0
BELGIUM	33,135	132,378	48,522	587,479	547,768	543,622	544,112	604,496	468,309
BRAZIL	0	0	0	2,012	3,142	0	0	0	0
CANADA	23,431	15,168	8,327	28,650	31,264	29,813	42,873	46,772	48,159
DENMARK	0	0	601	0	2,712	13,044	0	0	0
Faeroe Islands	0	0	0	0	0	403	405	670	0
FIJI	257	0	0	0	0	0	0	0	0
FINLAND	0	0	5,716	0	5,300	0	0	16,188	0
FRANCE	142,369	136,179	128,501	137,224	145,496	208,776	242,876	192,634	95,354
FRENCH POLYNESIA	1,732	2,131	2,154	978	2,713	2,898	1,660	1,711	4,208
GERMANY	308,217	454,212	354,666	411,829	729,250	1,034,563	748,451	619,024	828,565
GREECE	0	0	0	0	654	0	0	0	0
HONG KONG	731	706	1,292	7,553	1,889	0	1,110	943	945
INDONESIA	49	0	0	0	10	0	0	0	50
IRELAND	0	0	0	0	0	0	0	0	2,239
ITALY	82,366	14,321	4,315	12,652	33,322	68,250	187,035	68,203	32,527
JAPAN	42,335	55,462	34,420	31,654	23,132	25,796	29,344	48,943	32,151
KOREA, REPUBLIC	20,466	9,248	6,605	3,831	0	2,169	50	0	564
MEXICO	0	0	0	0	0	0	1,214	0	0
NETHERLANDS	29,347	45,967	40,725	83,197	72,245	152,276	93,114	139,021	48,221
NORFOLK ISLAND	0	0	0	0	60	0	0	0	0
NORWAY	0	0	0	0	1,012	0	0	0	0
PAPUA NEW GUINEA	0	0	0	125	0	0	0	0	0
PHILIPPINES	0	17	0	0	0	0	0	0	0
REUNION	0	2,487	2,000	632	491	0	0	0	172
SINGAPORE	6,402	3,691	9,016	13,978	203	10,365	16,402	10,451	34,607
SWEDEN	22,468	0	0	0	0	0	0	1,241	0
SWITZERLAND	20,875	84,792	45,089	77,436	112,577	131,079	148,359	146,062	112,565
TAIWAN,	0	714	0	0	0	1,232	0	21,094	0
THAILAND	0	0	504	150	207	0	0	0	0
UNITED KINGDOM	61,538	99,090	105,225	84,281	31,155	27,901	38,256	14,944	57,370
USA	289,890	537,397	453,697	596,622	514,555	534,700	628,839	549,952	519,608
Venezuela	0	0	0	0	0	0	700	3,521	0
Venison Chilled (Kg)	1,094,122	1,602,130	1,255,554	2,097,711	2,264,854	2,868,937	2,801,332	2,497,962	2,297,309

Source, DINZ for all Frozen and Chilled Exports, June Years

Export Venison Frozen Value (\$NZ)

June Years	1995	1996	1997	1998	1999	2000	2001	2002	2003
AUSTRALIA	\$462,909	\$104,005	\$2,181	\$219,923	\$957,004	\$432,728	\$560,761	\$276,657	\$396,535
AUSTRIA	\$3,049,249	\$2,473,249	\$1,540,872	\$129,138	\$313,989	\$900,939	\$6,096,602	\$5,543,551	\$4,772,406
BAHRAIN	\$0	\$0	\$0	\$0	\$0	\$0	\$3,695	\$0	\$0
BELGIUM	\$4,640,024	\$7,043,171	\$6,464,244	\$10,436,277	\$12,641,975	\$7,632,611	\$7,361,600	\$15,116,704	\$9,131,351
BERMUDA	\$0	\$0	\$0	\$0	\$0	\$0	\$5,167	\$5,233	\$0
BRAZIL	\$0	\$0	\$0	\$0	\$1,512	\$0	\$0	\$0	\$0
CANADA	\$220,264	\$171,238	\$254,958	\$221,256	\$252,920	\$131,656	\$278,956	\$234,908	\$50,486
CHINA	\$63,048	\$64,369	\$0	\$0	\$0	\$3,190	\$12,972	\$0	\$1,658
COOK ISLANDS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$36,120
CROATIA	\$105,332	\$0	\$95,149	\$8,482	\$0	\$0	\$0	\$0	\$0
CYPRUS	\$0	\$0	\$0	\$0	\$0	\$0	\$9,716	\$20,186	\$0
DENMARK	\$2,277,586	\$4,372,711	\$2,416,219	\$2,211,895	\$2,016,090	\$1,718,771	\$3,720,409	\$3,367,991	\$1,061,942
Faeroe Islands	\$0	\$0	\$0	\$0	\$1,239	\$0	\$0	\$0	\$18,847
FIJI	\$2,844	\$1,654	\$3,940	\$0	\$0	\$0	\$0	\$1,152	\$2,980
FINLAND	\$117,987	\$413,698	\$155,237	\$417,697	\$172,213	\$1,210,133	\$1,292,559	\$960,999	\$768,424
FRANCE	\$7,331,309	\$9,466,608	\$9,301,562	\$6,839,724	\$6,191,668	\$11,151,917	\$17,440,680	\$7,652,580	\$9,739,928
FRENCH POLYNESIA	\$19,279	\$16,097	\$26,255	\$37,506	\$28,590	\$22,913	\$34,833	\$31,334	\$55,942
GERMANY	\$29,236,511	\$54,737,688	\$55,221,943	\$55,225,410	\$56,147,460	\$54,883,010	\$89,511,786	\$84,196,858	\$52,673,335
GUADELOUPE	\$973	\$2,485	\$546	\$0	\$0	\$0	\$0	\$0	\$0
HONG KONG	\$308,893	\$576,678	\$1,214,953	\$2,247,431	\$612,908	\$346,870	\$247,938	\$466,089	\$506,801
HUNGARY	\$0	\$0	\$0	\$0	\$0	\$154,317	\$0	\$0	\$0
ITALY	\$1,736,181	\$2,148,714	\$3,739,457	\$2,821,985	\$1,385,133	\$1,592,180	\$5,465,327	\$5,354,213	\$3,993,126
Jamaica	\$0	\$0	\$0	\$0	\$200	\$0	\$0	\$0	\$0
JAPAN	\$1,874,797	\$1,776,900	\$2,337,078	\$2,068,689	\$2,083,905	\$2,613,455	\$1,833,519	\$1,979,327	\$1,816,676
KOREA, REPUBLIC	\$51,362	\$219,606	\$129,564	\$51,059	\$3,549	\$61,118	\$65,169	\$24,932	\$3,340
MALAYSIA	\$0	\$8,990	\$0	\$0	\$0	\$0	\$0	\$0	\$0
MALTA	\$281	\$0	\$0	\$0	\$15,858	\$55,861	\$17,485	\$1,648	\$9,880
MARTINIQUE	\$0	\$0	\$235	\$0	\$0	\$0	\$0	\$0	\$0
MEXICO	\$58,241	\$0	\$0	\$74,433	\$174,768	\$101,311	\$222,107	\$230,892	\$176,475
NETHERLANDS	\$1,543,422	\$3,943,252	\$5,142,802	\$9,206,173	\$2,578,402	\$5,110,257	\$5,646,400	\$6,031,023	\$7,368,610
NEW CALEDONIA	\$0	\$0	\$0	\$0	\$59,721	\$21,386	\$0	\$0	\$0
NORWAY	\$648,689	\$556,501	\$749,687	\$408,740	\$435,449	\$568,683	\$337,722	\$389,769	\$356,046
PAPUA NEW GUINEA	\$0	\$0	\$0	\$697	\$0	\$3,278	\$0	\$807	\$0
PHILIPPINES	\$0	\$0	\$29,369	\$0	\$0	\$0	\$394	\$0	\$0
REUNION	\$41,239	\$62,816	\$163,795	\$16,314	\$84,694	\$252,564	\$327,440	\$405,141	\$433,977
RUSSIA	\$0	\$0	\$0	\$221,966	\$0	\$0	\$0	\$0	\$0
SAMOA	\$0	\$2,666	\$1,022	\$3,779	\$0	\$0	\$0	\$0	\$0
SAUDI ARABIA	\$0	\$0	\$0	\$2,768	\$0	\$0	\$0	\$0	\$0
SINGAPORE	\$371,773	\$1,024,033	\$1,141,677	\$2,362,599	\$691,682	\$936,678	\$1,456,193	\$1,309,312	\$1,153,690
SWEDEN	\$7,756,842	\$9,461,386	\$6,295,057	\$4,996,513	\$6,464,137	\$5,765,320	\$8,480,230	\$6,317,729	\$7,941,580
SWITZERLAND	\$6,676,195	\$9,187,320	\$7,240,033	\$4,050,143	\$1,380,973	\$6,141,612	\$10,843,217	\$6,052,867	\$6,059,619
TAIWAN	\$105,718	\$63,912	\$35,083	\$42,183	\$51,733	\$27,899	\$12,445	\$66,315	\$113,171
THAILAND	\$0	\$0	\$15,705	\$13,201	\$6,153	\$2,751	\$0	\$7,198	\$14,068
TONGA	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$34,261
UK	\$475,936	\$957,675	\$940,773	\$2,254,007	\$1,418,635	\$912,700	\$798,720	\$1,172,028	\$1,444,594
USA	\$2,776,980	\$4,314,936	\$3,683,978	\$4,057,673	\$5,566,057	\$4,382,556	\$6,118,154	\$5,253,073	\$4,719,209
VANUATU	\$213	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Venezuela	\$0	\$0	\$0	\$0	\$0	\$2,643	\$14,230	\$0	\$0
Wallis and Futuna	\$	\$0	\$0	\$0	\$0	\$1,012	\$2,121	\$0	\$0

Export Venison Frozen Volume kg

June Years	1995	1996	1997	1998	1999	2000	2001	2002	2003
AUSTRALIA	142,440	32,409	90	39,993	213,925	169,275	166,908	56,898	103,293
AUSTRIA	348,633	226,460	131,801	13,026	75,753	145,101	518,190	574,466	753,809
BELGIUM	396,973	477,756	455,833	1,095,868	1,327,641	752,843	551,177	1,220,623	690,719
BERMUDA	0	0	0	0	0	0	174	125	0
BRAZIL	0	0	0	0	50	0	0	0	0
CANADA	13,351	8,252	18,895	14,766	10,349	6,146	78,276	8,107	4,468
CHINA,	2,559	1,615	0	0	0	163	5,032	0	408
COOK ISLANDS	0	0	0	0	0	0	0	0	18,523
CROATIA	13,086	0	14,768	1,719	0	0	0	0	0
CYPRUS	0	0	0	0	0	0	1,003	1,999	0
DENMARK	175,700	312,582	145,852	172,053	167,493	105,244	178,388	207,121	61,604
Faeroe Islands	0	0	0	0	1,009	0	0	0	823
FIJI	198	73	101	0	0	0	0	389	184
FINLAND	8,829	36,302	15,460	62,682	77,044	298,281	357,475	216,059	179,409
FRANCE	847,892	998,928	1,010,324	863,132	1,051,844	1,336,087	1,510,843	540,656	1,333,456
FRENCH POLYNESIA	905	464	916	2,648	1,583	1,645	1,930	1,066	2,987
GERMANY	3,514,573	5,409,023	5,599,584	7,514,296	8,087,913	6,814,929	7,967,223	7,717,877	6,882,998
GUADELOUPE	155	202	101	0	0	0	0	0	0
HONG KONG	19,692	25,133	50,493	83,785	32,566	25,295	23,867	50,681	25,309
HUNGARY	0	0	0	0	0	20,434	0	0	0
ITALY	240,763	202,935	300,100	294,465	186,184	236,792	518,875	458,142	512,929
Jamaica	0	0	0	0	48	0	0	0	0
JAPAN	80,797	91,444	99,760	134,085	89,108	97,615	68,061	62,809	64,653
KOREA, REPUBLIC	3,011	22,277	20,652	11,316	96	7,144	18,539	272	3,021
MALAYSIA	0	894	0	0	0	0	0	0	0
MALTA	25	0	0	0	625	1,824	1,223	46	314
MARTINIQUE	0	0	26	0	0	0	0	0	0
MEXICO	2,829	0	0	3,642	8,005	5,820	8,922	9,354	9,146
NETHERLANDS	180,836	312,228	413,256	1,073,070	367,490	516,297	382,258	483,123	513,980
NEW CALEDONIA	0	0	0	0	18,161	6,541	0	0	0
NORFOLK ISLAND	0	0	24	0	0	0	0	0	0
NORWAY	43,965	27,521	39,461	50,393	28,331	28,875	11,635	15,084	14,163
PAPUA NEW GUINEA	0	0	0	125	0	2,000	0	96	0
PHILIPPINES	0	0	1,194	0	0	0	13	0	0
REUNION	10,026	5,868	14,998	3,509	28,706	64,129	60,984	57,544	77,036
RUSSIA	0	0	0	30,234	0	0	0	0	0
SAMOA	0	74	25	99	0	0	0	0	0
SAUDI ARABIA	0	0	0	1,538	0	0	0	0	0
SINGAPORE	25,229	62,764	70,943	243,695	52,438	73,357	84,749	79,370	78,810
SWEDEN	1,290,039	1,321,005	709,692	786,891	876,761	1,006,402	912,429	765,421	1,276,058
SWITZERLAND	684,155	804,429	660,146	391,685	129,902	533,737	711,909	401,089	600,912
TAIWAN	32,147	9,867	12,462	4,278	14,340	12,589	14,657	37,875	35,326
THAILAND	0	0	412	346	206	106	0	205	2,208
TONGA	0	0	0	0	0	0	0	0	18,224
UNITED ARAB Emirate	0	0	0	0	0	0	15,000	0	0
UNITED KINGDOM	84,556	222,222	122,374	326,602	299,995	122,119	111,941	166,212	227,183
USA	272,677	357,815	296,313	365,894	437,657	433,158	649,261	411,682	432,538
Venezuela	0	0	0	0	0	128	1,008	0	0
Wallis and Futuna Islands	0	0	0	0	0	88	163	0	0
Frozen (Kg)	8,436,050	10,970,542	10,206,056	13,585,835	13,585,223	12,824,164	14,932,518	13,544,391	13,924,491

Source, DINZ for all Frozen and Chilled Exports, June Years

NEW ZEALAND DEER INDUSTRY STATISTICS AND FORECASTS (June Years)

Source: Actual numbers & exports - Statistics NZ

Kill numbers & actual velvet production- GIB

(E No) Estimated Numbers -

MAF Policy estimated deer numbers using a Biological Model, other information actual historical information

(E) Estimates – MAF Policy estimates

SNZ = Statistics New Zealand

DEER NUMBERS

YEAR ENDING 30 JUNE	Source of info SNZ FARMS	SNZ	MAF	SNZ	MAF	SNZ	MAF
		Actual	Estimated	ACTUAL	ESTIMATED	ACTUAL	ESTIMATED
		NO'S (000'S) TOTAL	NO'S (000'S) TOTAL	NO'S (000'S) FEMALE	NO'S (000'S) FEMALE	NO'S (000'S) MALE	NO'S (000'S) MALE
1980		104.359	104.359	64.70258	64.703	39.65642	39.656
1981		109.158	109.158	67.67796	67.678	41.48004	41.48
1982	1654	151.02	151.02	93.6324	93.632	57.3876	57.388
1983	2102	195.653	195.653	121.272	121.272	74.381	74.381
1984	2539	258.707	258.707	162.895	162.895	95.812	95.812
1985	3041	319.908	319.908	212.054	212.054	107.854	119.76228
1986	3995	392.154	407.8129	264.066	264.066	128.088	143.7468537
1987	4316	500.397	500.6657	337.657	337.657	162.65	163.0087173
1988	4625	606.042	646.9879	411.927	465.1414789	194.115	181.8464571
1989	4833	780.066	830.7661	521.15	584.53828	258.913	246.2277866
1990	-	976.29	1031.099	636.454	691.361189	339.836	339.7379996
1991	5340	1129.503	1220.368	0	795.5510326	0	424.8166537
1992	5123	1135.242	1335.652	678.199	826.8023013	457.043	508.8493456
1993	5095	1078.685	1235.104	649.239	770.1968122	429.24	464.9068545
1994(E No)	5306	1231.109	1276.023	751.375	810.1918179	473.274	465.8308501
1995(E No)	5019	1164.554	1222.884	710.155	750.6945229	454.399	472.1894029
1996(E No)	4377	1192.138	1206.218	707.428	750.9416545	484.71	455.2768169
1997(E No)			1327.435		852.4484488		474.9862601
1998(E No)			1385.719		937.6310428		448.0877421
1999(E No.)	4427	1676.788	1412.656	1160.6	993.5519175	516.188	419.1045351
2000(E)			1493.163		1049.225467		443.937809
2001(E)			1551.25		1096.404753		454.8456111
2002(E)		1659.326	1659.32	1174.641	1174.697357	484.685	484.6227816
2003(E)			1729.172		1226.777359		502.3949498
2004(E)			1796.795		1294.690516		502.1041386
2005(E)			1886.664		1365.097711		521.5665224
2006(E)			1962.225		1425.595346		536.6293154

PRODUCTION: Venison

YEAR ENDING 30 JUNE	GIB	GIB	GIB	GIB	VENISON (FARMED) TONNES	FERAL TONNES	TOTAL TONNES	VENISON	SCHEDULE
	NO. KILLED MALE	NO. KILLED FEMALE	NO. KILLED TOTAL	VENISON				AP2 STAG \$/KG (NET GIB LEVY)	45/kg HIND \$/KG (NET GIB LEVY)
1980	0	0	0					2.50	1.70
1981	12540	0	12540	689.7				3.00	2.04
1982	13498	0	13498	742.39				5.00	3.40
1983	18209	0	18209	1001.49				6.00	4.08
1984	22314	0	22314	1227.27				6.50	4.42
1985	28714	0	28714	1579.27	828	2407.27		5.50	3.74
1986	37000	74	37074	2075.472	594	2669.472		5.40	3.67
1987	56904	347	57251	3200	681	3881		5.50	3.74
1988	80764	1274	82038	4497	760	5257		5.44	3.70
1989	75940	7073	83013	4211.36	1005.489	5216.849		5.96	4.00
1990	70236	30481	100717	4959	1230	6189		6.29	4.29
1991	107527	70196	177723	8975	832	9807		4.71	3.19
1992	124188	157179	281367	14085	569	14654		4.23	2.69
1993	224967	220740	445707	22249.84	936	23185.84		5.56	4.56
1994(E No)	195592	143101	338693	17841.74	723	18564.74		4.64	4.10
1995(E No)	191476	237883	429359	21335.89	780	22115.89		5.04	4.47
1996(E No)	176428	146787	323215	16744.78	1297	18041.78		6.78	6.18
1997(E No)	192695	88859	281554	16078.8	1515	17593.8		6.98	6.65
1998(E No)	259682	126566	386248	22580.97	930.2537	23511.23		5.37	4.73
1999(E No.)	285081	168765	453846	25685.72	698	26383.72		4.85	4.29
2000(E)	236284	177564	413848	22306.53	797	23103.53		6.08	5.98
2001(E)	280816	203002	483818	26430.99	1109	27539.99		7.42	6.92
2002(E)	266034	175791	441825	24390.31	996	25386.31		8.06	7.25
2003(E)	297182	230574	527756	27717.89	600	28317.89		4.59	4.29
2004(E)	320791.3	224380.9	545172.1	29824.94	700	30524.94		6.03	5.64
2005(E)	322686.7	241022.7	563709.4	30766.96	750	31516.96		6.31	5.90
2006(E)	344763.9	266708.7	611472.6	33331.74	700	34031.74		6.89	6.44

PRODUCTION:Velvet					
YEAR ENDING 30 JUNE	ESTIMATED QUANTITY VELVET KG	GIB ACTUAL PRODUCTION VELVET KG	GIB VELVET PRICE A GRADE \$/KG	GIB VELVET PRICE WEIGHTED \$/KG	SNZ VELVET TOTAL FOB \$ MILL
1980	18985.15478		260	129	2.641
1981	38714.27962		120	50	3.997
1982	37801.36565	37795	115	38	3.82
1983	34600.13241	40901	115	59	6.778
1984	44446.38683	52248	115	68	4.659
1985	48627.98804	57056	116	73	9.76
1986	43999.81075	52795	116	67	8.084
1987	76926.91962	76906	117	67	10.506
1988	108738.8081	110329	168	153	11.728
1989	144422.4255	144060	228	200	24.702699
1990	274515.4598	274000	255	160	42.943364
1991	305929.1129	305000	160	92	49.237605
1992	416682.7771	416000	180	130	60.035929
1993	450056.3949	450000	135	95	44.530151
1994(E No)	496433.3682	496000	140	100	58.990998
1995(E No)	558328.7244	558000	160.05	124.13	51.929349
1996(E No)	597444.046	597000	134.87	107.77	59.907164
1997(E No)	592617.9955	592000	98.1	77.71	48.139644
1998(E No)	550094.0423	550000	59.51	41.4	25.969965
1999(E No.)	455133.3011	455000	80	45.59	25.935345
2000(E)	450492.8195	450000	155	114	33.407999
2001(E)	495613.9145		110.768	79.12	34.444376
2002(E)	522536.0576		116.4	96	37.707684
2003(E)	522700.8158		110	95	37.7539343
2004(E)	541625.0569		104.2105263	90	37.0671103
2005(E)	505896.3404		101.8947368	88	35.2647299
2006(E)	485055.9824		98.42105263	85	32.6582625

EXPORTS & LOCAL MARKET SALES

YEAR ENDING 30 JUNE	VENISON (12) Estimated LOCAL MARKET tonnes	VENISON *** Boned out Yeild %	VENISON SNZ ACTUAL VENISON TONNES	VENISON SNZ FOB \$/MILL	VENISON SNZ Total fob Real 1991 \$	VENISON SNZ Schedule as a % fob	VENISON (10) SNZ AVERAGE \$/KG
1980	200		1063	5.85	0		5.503293
1981	200		2142	11.2	0		5.228758
1982	200		1307	6.73	0		5.149197
1983	200		1590	8.58	0		5.396226
1984	200		1378	9.72	0		7.053701
1985	200		1876	18.18	0		9.690832
1986	350		2238	20.93	0		9.3521
1987	350		2809	24.67	0		8.782485
1988	350		4011	32.31	0		8.055348
1989	350		3789.342	38.1306	0		10.06259
1990	500		3600	39.53021	0		10.98061
1991	500		5859.516	53.22548	0		9.083596
1992	500		10111.12	81.26846	0		8.03753
1993	300		13506.62	129.7784	0		9.60851
1994(E No)	300		14797.11	123.526	0		8.347981
1995(E No)	350		14900	138.1286	0		9.270377
1996(E No)	375		12501.39	143.2362	0		11.45763
1997(E No)	375		11436.33	136.7764	0		11.95981
1998(E No)	500		14573.32	137.6679	0		9.446567
1999(E No.)	520		15846.3	137.9677	0		8.706619
2000(E)	530		15701.47	157.4979	0		10.03077
2001(E)	540		17733.3	230.1641	0		12.9792
2002(E)	567		16058.68	214.608	0		13.36399
2003(E)	595.35		19138.29	181.8138	0		9.5
2004(E)	625.1175		21380.27	237.321	0		11.1
2005(E)	656.3734		22021.22	242.4537	0		11.01
2006(E)	689.192		23014.7	275.9462	0		11.99

YEAR ENDING 30 JUNE	TOTAL SKINS/ HIDES F.O.B \$ mill	LIVE EXPORTS \$ MILL	Co-PROD (other than Skins/hides) \$ MILL	TOTAL SKINS/ HIDES F.O.B \$ mill
1980	0.333	0	0	0.333
1981	0.379	0	0	0.379
1982	0.5843	0	0	0.5843
1983	0.5523	0	0	0.5523
1984	0.6579	0	0	0.6579
1985	0.5494	0	0	0.5494
1986	1.2217	0	0	1.2217
1987	1.4118	0	0	1.4118
1988	1.339	0	0	1.339
1989	1.575771	3.772261	0	1.575771
1990	2.237552	21.61766	0	2.237552
1991	3.145745	6.008417	0	3.145745
1992	5.193373	3.744199	0	5.193373
1993	10.545	1.525	0	10.545
1994(E No)	11.04112	0.1701	0	11.04112
1995(E No)	12.9231	0.5775	8.70334	12.9231
1996(E No)	14.88448	0.01816	10.27077	14.88448
1997(E No)	13.14774	0	8.034806	13.14774
1998(E No)	13.13263	0.190377	7.796555	13.13263
1999(E No.)	11.02601	0.015527	12.50805	11.02601
2000(E)	10.93099	0.060114	12.98015	10.93099
2001(E)	15.8897	0.081765	13.58772	15.8897
2002(E)	16.21848	0	9.318467	16.21848
2003(E)	17.24867	0.02955	10.97543	17.24867
2004(E)	18.14801	0.030141	11.04063	18.14801
2005(E)	19.14039	0.030744	12.89714	19.14039
2006(E)	21.1774	0.031359	14.98001	21.1774

Sources:

Actual Numbers & Exports; Statistics NZ

Estimated Numbers; MAFPolicy

Actual Kill; Game Industry Board from 1991/92

Estimated Kill; MAFPolicy

Compiled by MAFPolicy

1999 number of deer farmers MWBES

Acknowledgements

Deer Industry New Zealand (DINZ)

New Zealand Game Industry Boards (GIB) Annual Reports 1992 to 2002

Tim Wallis, Michael Pattison, Tom Williams, Games Guilds speech's to the World Deer Congress 1993

Richmond Ltd

Duncan and Co Ltd

**Maf "Dynamics of supply and demand for New Zealand venison and velvet"
Elaine Pearse**

Klaus HaBforther

R R Fraser, Agriculture NZ Ltd