



# **WHO DEERS WINS**

**Building relationships in the supply chain**

**By Kris Orange**

**For Kellogg Rural Leaders 2011**

## **Acknowledgements**

I would like to thank my wife Cathie and children Tessa, Caleb and Charlotte for their tolerance while undertaking this project. An understanding family means a lot.

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## **1 EXECUTIVE SUMMARY**

The New Zealand Deer Industry has rather a unique history. Kiwi ingenuity at its best-pioneers seeing a pest in the wild as an opportunity to deliver wealth. That vision continues to this day with deer now being farm raised to create a premium product.

It has been a concern over the past five years that deer numbers are shrinking due to other competing land use options such as dairy, rising sheep and beef values and a perceived lack of profitability in deer by outsiders.

Although the industry has shrugged off the unsustainable high returns from the early 2000's followed by a sharp drop in prices straight after, there appears to be an apprehensiveness to enter or expand in the deer industry. The ability for breeders, unable to finish stock through to slaughter, to have stable profitability by selling weaner deer has been spasmodic. Margins for finishing weaner deer has been far from consistent too. With industry numbers declining, in some cases finisher's supply of weaner deer has vanished, leaving the finisher to find other weaner deer unfamiliar to them as a replacement, or change farming practice.

Processors have struggled firstly with a huge influx of deer peaking at around 780 000 in 2005 with numbers bottoming out at 390 000 in 2010 and increasing to 412 000 in 2011. Over the last few years, processors have had to battle to retain suppliers and not take them for granted.

A relatively young industry, (30-35 years) deer farming has some real opportunities to add more value to the raw product. Being small enables the industry to change quickly when necessary to take advantage of opportunities.

There has been a swing to a more joint approach with farmers, processors and marketers all doing their bit to increase profitability. Contracted supply is becoming more common with many farmers electing to lock in prices, also helping processors in planning marketing and promotional activities.

Venison has positioned itself at the high end of the protein market, through its low fat content and high iron attributes. The future for such a product in developed countries is bright, as the healthy protein.

With the reduction in kill numbers and some farmers exiting the industry, there are some issues which need addressing.

### **Weaner Deer Market**

Weaner deer are sold from breeder to a finisher in much the same way weaned beef calves are traded. There has in the past been a real variance in profitability year to year. Even with the more stable venison prices of the last four years.

I have noticed this through my involvement with my deer transport company which has lost clients to other industries. They have been a mix of breeders and finishers, with some of their reasoning being: The volatility of the market.

In this study I have focussed on venison production and the venison supply chain. I have briefly covered the other revenue streams, but will concentrate on the area of venison and building stronger relationships throughout the supply chain. Relationships of most influence, is the breeder, finisher through to processor, as I believe it is farmers that can bring about the need for stable profitability and possible change.

It has been shown finishing deer is very competitive financially, but issues with sourcing lines of weaner deer at reasonable prices does effect the confidence within the industry.

### **Processing**

It is an important factor of any processing company to have raw material to process, in this case supply of deer. Establishing long term loyal suppliers is key to processor / exporters providing their customers with certainty of product.

Though the deer industry as a whole could be seen as having growing pains of a young industry, there are some aspects that are showing the maturing of an industry. Collaboration among members of the supply chain, once a vision, is now becoming a reality. There is a good story to tell customers about venison and its health attributes along with farm raised, pasture fed origins of New Zealand.

Building transparency and trust provides a mutual sharing of risk which allowed the New Zealand venison industry to escape the savage effect of the Global financial crisis of 2008 and the recession which subsequently followed. By working together striving in the same direction, the future looks bright.

The following is a table of value and volume of deer industry exports over the last five years.

**Table 1.0** Deer Industry Production.

### Value of Total Deer Industry Exports

June Years	2007	2008	2009	2010	2011 <i>Provisional</i>
<b>Venison</b>	\$252,219,372	\$287,543,391	\$293,481,295	\$208,650,578	\$215,007,113
<b>Velvet</b>	\$30,494,757	\$25,367,816	\$28,530,442	\$28,155,013	\$29,530,883
<b>Hides</b>	\$9,632,770	\$8,248,899	\$8,310,931	\$3,628,454	\$3,766,978
<b>Co-Products</b>	\$10,625,453	\$13,735,134	\$13,283,066	\$13,977,273	\$15,777,622
<b>Leather</b>	\$12,855,376	\$9,546,255	\$17,821,195	\$17,155,940	\$21,124,361
<b>Live Exports</b>	\$1,360,046	\$790,391	\$0	\$0	\$0
<b>TOTAL</b>	\$317,187,774	\$345,231,886	\$361,426,929	\$271,567,258	\$285,206,957

### Volume of Total Deer Industry Exports

June Years	2007	2008	2009	2010	2011 <i>Provisional</i>
<b>Venison (Kg)</b>	24,235,623	21,761,416	16,940,546	14,966,332	15,628,393
<b>Velvet (Kg)</b>	246,830	199,477	200,355	171,873	185,432
<b>Hides (Num)</b>	393,030	357,905	254,867	149,145	161,614
<b>Co-Products (Kg)</b>	3,065,853	3,141,406	3,072,279	3,274,242	4,124,156
<b>Leather (Sq Metre)</b>	244,716	182,118	250,691	281,426	333,088
<b>Live Exports (Num)</b>	1,486	115	0	0	0

Source: Statistics New Zealand.

At 62 per cent of 2007 provisional results for 2011 for venison, revenue is back by only 15 per cent as prices have risen. Supply shortage and market differentiation have helped venison become more profitable.

## 2 HISTORY

A desire to establish a feeling of “home” by early settlers, led to the introduction of deer into New Zealand. In 1851 the first deer were sent by Lord Petre from his herd at Thornton Park, Essex to the South Island of New Zealand. Between 1851 and 1926 there were 220 separate liberations of deer involving over 800 deer. Most selected from managed herds in England and wild Scottish herds, they quickly adapted to New Zealand conditions. With a lack of predators deer numbers increased rapidly leading to an ecological challenge in native forests. Due to the increasing numbers herd protection was lifted and in 1927 the New Zealand state forest service introduced a bounty for red deer shot on their land. In 1931 government control operations commenced and between 1927 and 1975 over 1.1 million deer were killed.

- **Red Deer:** arrived 1851, released in the Nelson area, native to Europe, North Africa, Middle East.
- **Fallow Deer:** arrived 1864, released Nelson, native to Europe, Middle East.
- **Sika Deer :** arrived 1905, released in the Kaimanawa Ranges - Taupo, native to Japan, Korea, Taiwan, Russia, Vietnam, China.
- **Wapiti or North American Elk:** arrived 1905, released George Sound - Fiordland.
- **Sambar:** arrived 1875, released close to Rangitikei River - Manawatu, North Island, native to India, Sri Lanka, South-east Asia.
- **Whitetail Deer:** arrived 1905, released on Stewart Island and in the Rees valley - North of Lake Wakatipu, native to North and South America.
- **Rusa Deer:** arrived 1907, released in the Galatea foothills - Bay Of Plenty, native to South-East Asia.

Source: Deerhuntingnz.com

There has been some hybridisation with the closely related wapiti or American elk, introduced to Fiordland in 1921; A gift of 20 elk from the American president Theodore Roosevelt in exchange for some native birds and tuatara.

This culling led to the venison industry, the export of wild deer meat being a booming industry from 1950 on. Turning a pest into an export earner. In the 1960's following the period of government enlisted professional hunters to cull the wild deer population, some entrepreneurs recognised that the large numbers of deer offered an economic opportunity to export venison to Europe where it was a favoured dish.

In the next decade jet boats, fixed wing aircraft and the advent of the helicopter, quickly took over from ground hunting and became so lucrative that the deer population decreased markedly to a point where deer farming became an obvious means of continuing to supply the rapidly growing European market for New Zealand venison. In 1970 the first deer farm license was issued by the Government.

Farming of deer allowed a vast improvement in quality of meat produced. Animals could be bred, fed and selected for better venison production. Around 2003 there were over 4000 deer farmers in New Zealand until a period of low profitability saw the number of deer farmers reduce to the current 2800. (DFA 2011)

### **3 SUPPLY CHAIN**

Definition:

*“Entire network of entities, directly or indirectly interlinked and interdependent in serving the same consumer or customer. It comprises of vendors that supply raw material, producers who convert the material into products, warehouse that store, distribution centre that deliver to the retailers, and the retailers who bring the product to the ultimate user. Supply Chains underlie Value- Chains because, without them, no producer has the ability to give customers what they want, when and where they want, at a price they want. Producers compete with each other only through their supply chains, and no degree of improvement at the producer’s end can make up for the deficiencies in a supply chain, which reduces the producer’s ability to compete.”*

(www.businessdictionary.com)

#### **Venison Supply Chain**

Throughout its short 30 year life the venison supply chain has evolved from providing deer carcasses to local chefs, to offering specialist cuts of venison exported to many countries around the world. Emphasis on pricing revolves around supplying the chill trade beginning in September, premiums are paid to entice suppliers to supply deer at this time. There is a tendency for the industry to try to maximise efficiencies by sometimes processing stock not suited to customer requirements to enable through put to be high. There tends to be a disjointed relationship between suppliers and processors, but in latter years, improvements have been made by supply chain partners and their communication.

**Figure 3.0** The Venison Supply Chain in its simplest form:



There is quite a seasonal aspect to the processing of venison, particularly with the reduction of total numbers since the highs of production in 2007. There is an element of over capacity within the processing link due to numbers falling. In the last two – three years there has been consolidation and collaboration among suppliers and processors to remain economically viable.

### **Value Chain Analysis**

Definition:

*Added to its goods and/or services, and how it can be increased to enhance the product examination of the value chain of an enterprise to ascertain how much and at what stage value is differentiation (competitive advantage).*

([www.businessdictionary.com](http://www.businessdictionary.com))



Pioneers of farming deer in New Zealand derived from the live capture of wild deer in the bush and high country. Their entrepreneurial foresight to make a viable business from a pest, damaging native flora and fauna, is nothing short of incredible. One of only a few success stories of pests introduced into New Zealand, able to be domesticated and now a multi million dollar industry. The breeding hind has brought another dimension to pastoral farming in New Zealand, while normally only raising one fawn per year, her longevity to be able to produce for 15 or even 20 years is unheard of with species such as sheep and beef.

There are many breeders who finish their deer themselves, but there are also those who sell weaners on the store market. With competing land use from Dairy, much of the breeding stock have been pushed further into the foothills. The deer with more scope and natural cover thrive under these conditions and have been found to compete very well against or along side sheep and beef. Productivity has increased with better fawning rates when farmed similar to their natural habitat.

For those breeders without the land to finish weaner deer, the main option is to sell them just after weaning. The store price is gauged on the perceived end venison price, but

unfortunatley prices can change in the time it takes to finish the animal. This creates volatility within the weaner market, which has seen both breeders and finishers exit the industry over recent years due to price fluctuations.

**Table 3.0 Profit Analysis per enterprise as at 23/08/2011**

Enterprise	Cents / kg Dry Matter consumed
<b>Purchase weaner deer finishing</b>	19.7
Hinds finishing their weaners	14.0
<b>Breeding ewe, store lambs 135% lambing</b>	13.4
Dairy heifer grazing	12.8
Hinds selling weaners	11.8
Breeding cow, calve year 2, sell weaners	11.0

Source: Graham Butcher, Country Wide.

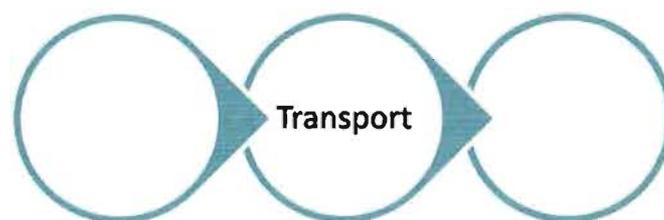
In many cases breeding hinds are being farmed on a category of country unsuitable for dairy heifers. A recent Focus farm field day at Whiterock station showed that a ewe could be replaced with a hind as it suited the growth pattern better.



The finisher takes the weaner deer between March and July. An animal health programme is put in place and the animals are taken through the winter, with the larger animals ready for slaughter in September at 10 months of age. Most farmers' role in the supply chain finishes when the deer have been loaded onto the truck bound for slaughter.

Peak prices revolve around killing early enough for venison to reach consumers for the traditional German game season. Prices reduce as supply increases and the game season comes to an end. Schedule prices can change week on week depending on demand from the market and foreign exchange rates. There are some processor/exporters that offer forward contracts with the ability to forward purchase foreign exchange currency. This is an area that Deer Industry New Zealand wants to see more of.

*“Improving linkages between venison producers and the final customer creates conditions that encourage stable profitability for the New Zealand venison industry.” (Deer Industry New Zealand 2011 p.2)*

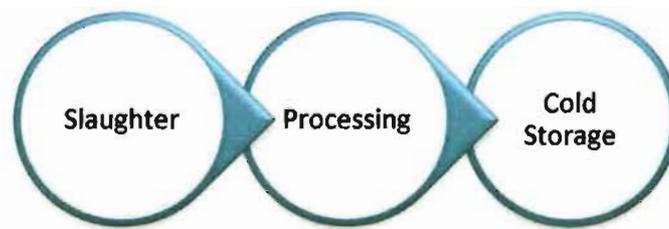


Transportation is in several parts. Primarily transporting of weaner deer from breeder to finisher followed by transportation to slaughter is done by specialist livestock transporters. In most cases the transport firms are accredited to the Deer Industry New Zealand Quality Assurance scheme, which is linked closely to each processor/exporter’s requirements. This was set up in the early 90s to raise animal welfare standards.

Transport to market overseas is generally by sea and air if there are time constraints. Transporting by air adds to costs and also adds to public pressure regarding distance to market. Food miles and Carbon footprints are some of the recent arguments from competitors and consumers.

Transportation of product is a considerable cost due to the distance to export markets. Chilled venison has a shelf life of 6 weeks + so is mostly sea freighted. Some processors/exporters have found lucrative markets supplying frozen product, which eliminates the need for expensive air freight.

A vital and crucial link in the chain, the complexities of global transport cannot be underestimated. Processors/ exporters often use products such as beef and lamb to help fill export containers in order to reduce transport costs.



Innovation is at the forefront of processing at slaughter plants which vary largely between processor as to how much the carcass is broken down depending on the requirement from the market. Carcasses are broken down and boned out according to each customer's (the importer) needs. Different cuts from the carcass may be for different customers.

Bound by regulatory framework under the Animal Products Act policed by New Zealand Food Safety Authority, hygiene standards are high and give exporters an edge over some countries.

Once processed and packaged the product is put into cold storage awaiting export. In peak season product will move quickly to market, whereas in low season product may stay in cold storage in frozen form awaiting an order.

### **Processing Issues**

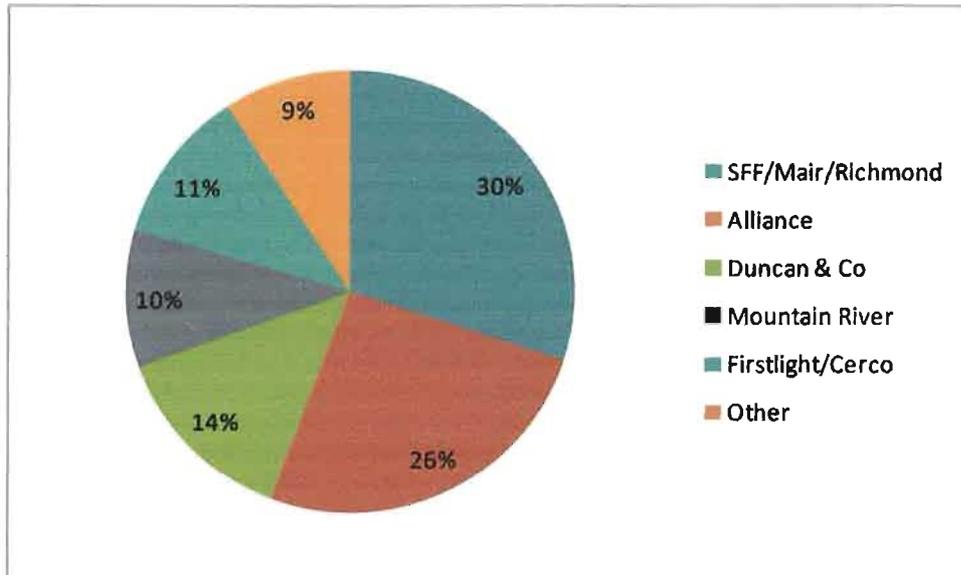
Processor/exporters often do not know exactly how many animals are going to be supplied, what age and at what weights. This uncertainty forms a negative for the processor and creates a reluctance to provide suppliers with contracts for 12 months of the year. Foreign exchange is another factor which puts further reluctance of a forward contract.

Like the lamb industry, processors have also had to share in the declining numbers, in effect an overcapacity is looming. Once again critical mass and efficiencies take a dive, making the ability to supply key customers product in a timely manner more difficult.

### Major Processor / Exporters

There are relatively few NZ companies processing and exporting venison. Although the information isn't publicly available, estimated shares are as follows:

**Figure 3.1** Processing companies share of the deer market.



Source: Firstlight Foods.



Importers have strong links to New Zealand through Processor /exporters. They often have joint promotions with extra funding provided by Deer Industry New Zealand, all three parties funding dollar for dollar, creating good leverage. Much of this promotion assists to educate chefs and customers in large supermarket chains of the benefits such as quality and tenderness of farm raised New Zealand venison.

**Figure 3.2** In market promotion using New Zealand chefs.



Source: Deer Industry New Zealand.

Processor / exporters, who process sheep and cattle as well as deer, create a basket of goods to offer the importer.

In the past there has been game traders involved with importing venison in Europe. Many of these traders have retracted from the market after being caught with overpriced product in 2001. This has resulted in a more stable relationship with processor and exporter.



Customers of venison are split between retail in supermarket chains and the restaurant trade channel. Deer Industry New Zealand spends a lot of time and money on promotion using well known chefs to entice restaurants to place venison dishes on the menu.

With the use of the internet and smart phone devices available, customers are using social media such as Facebook and twitter to make meal decisions. Customers are able to download recipes to their smart phones and will receive a list of ingredients for them to pick up at the supermarket. Customers can also scan barcodes on some products to view the origin of the particular meat cut. There has been a move to provide ready to eat meals which take less than 10 minutes to serve.

The end customer is the ultimate critic of the whole supply chain and the quality, taste, tenderness and price are all taken into account, when considering purchasing again.

**Figure 3.3** Venison packs displayed in supermarket.



Source: Deer Industry New Zealand.

## **4 VALUE CHAIN**

Michael Porter, author of “Competitive advantage” referred to a system of value generating activities as the **value chain**. Porter identified primary and support activities as shown in the following diagram:

**Figure 4.0**

### **Porter’s Generic Value Chain**

Inbound Logistics > Operations > Outbound Logistics > Marketing/ Sales > Service > MARGIN

Firm Infrastructure

HR Management

Technology Development

Procurement

The goal to these activities is to offer the customer a level of value that exceeds the cost of the activities, thereby resulting in profit margin.

The primary value chain activities are:

- **Inbound Logistics:** the receiving and warehousing of raw materials and their distribution to manufacturing as they are required.
- **Operations:** the processes of transforming inputs into finished products and services.
- **Outbound Logistics:** the warehousing and distribution of finished goods.
- **Marketing and Sales:** the identification of customer needs and the generation of sales.
- **Service:** the support of customers after the products and services are sold to them.

These primary activities are supported by:

- **The infrastructure of the firm:** organisational structure, control systems, company culture etc.
- **Human resource management:** employee recruiting, hiring, training, development, and compensation.
- **Technology development:** technologies to support value-creating activities.
- **Procurement:** purchasing inputs such as materials, supplies and equipment.

The firm’s margin or profit then depends on its effectiveness in performing these activities efficiently, so that the amount that the customer is willing to pay for the products exceeds

the cost of the activities in the value chain. It is in these activities that a firm has the opportunity to generate superior value. A competitive advantage may be achieved by reconfiguring the value chain to provide lower cost or better differentiation.

The value chain model is a useful analysis tool for defining a firm's core competencies and the activities in which it can pursue a competitive advantage as follows:

- **Cost advantage:** by better understanding costs and squeezing them out of the value adding activities.
- **Differentiation:** by focusing on those activities associated with core competencies and capabilities in order to perform better than competitors do.

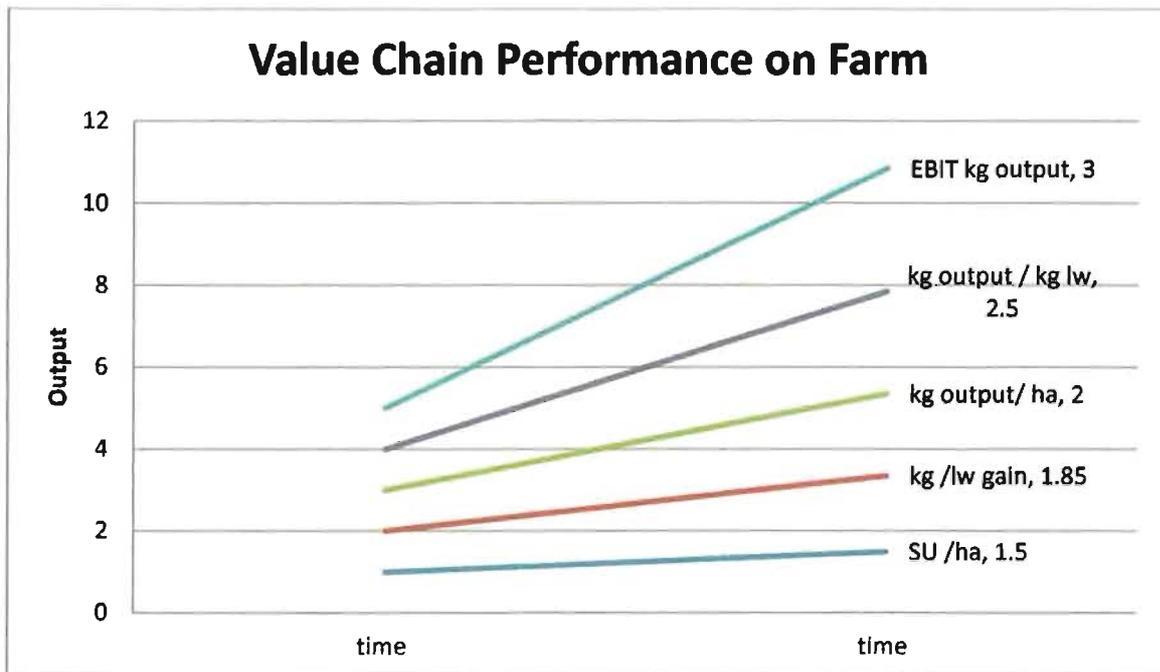
### **Cost Advantage**

Porter identified 10 cost drivers related to value chain activities:

1. Economies of scale
2. Learning
3. Capacity utilisation
4. Linkages among activities
5. Interrelationships among business units
6. Degree of vertical integration
7. Timing of market entry
8. Firm's policy of cost differentiation
9. Geographic location
10. Institutional factors (regulation, union activity, taxes etc.)

A firm develops a cost advantage by controlling these drivers better than the competitors do. A cost advantage can also be pursued by reconfiguring the value chain.

**Figure 4.1 Value Chain Performance.**



Increasing performance on farm can be shown by small increases in production having large effects on overall earnings over time.

By using cost advantage and differentiation the value chain can be enhanced to gain more.

### **Differentiation**

Differentiation stems from uniqueness. A differentiation advantage may be achieved either by changing individual value chain activities to increase uniqueness in the final product or by reconfiguring the value chain.

Porter identified several drivers of uniqueness:

1. Policies and decisions
2. Linkages among activities
3. Timing
4. Location
5. Interrelationships
6. Learning
7. Integration
8. Scale (e.g. better service as a result of large scale)
9. Institutional factors

Many of these also serve as cost drivers. Differentiation often results in greater costs, resulting in trade-offs between cost and differentiation.

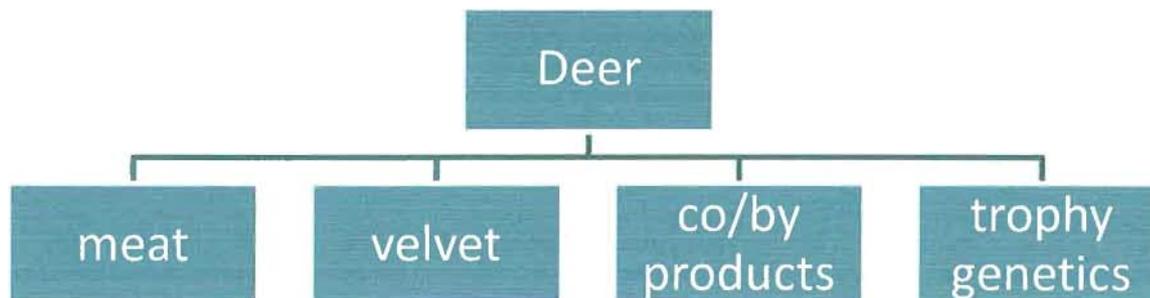
There are several ways in which a firm can reconfigure its value chain in order to create uniqueness. It can forward integrate in order to perform functions that once were performed by its customers. It can backward integrate in order to have more control over its inputs. It may implement new process technologies or utilise new distribution channels. Ultimately, the firm may need to be creative in order to develop a novel value chain configuration that increases product differentiation.

One value chain activity often affects the cost or performance of other ones and is not isolated from each other. An example of this in the deer industry would be fewer animals being killed results in less efficiency at processing and possibly a higher cost of transportation due to lower volumes.

Interrelationships among business units or in the deer industry's case between breeders, finishers and processors, can help reduce costs e.g. better buying power, or can improve margins e.g. premiums paid for consistent supply.

Source: NetMBA.com

## **5 REVENUE STREAMS**



### **Meat (Venison)**

The New Zealand Industry average is 54kg. Paid as a per kilogram of carcass weight upon slaughter. Levies such as NZFSA fees, Johnes Management fees, DINZ levy, AHB levy (and Transport) are deducted. Note; Some processors pay transport. NAIT levy to be introduced 2013.

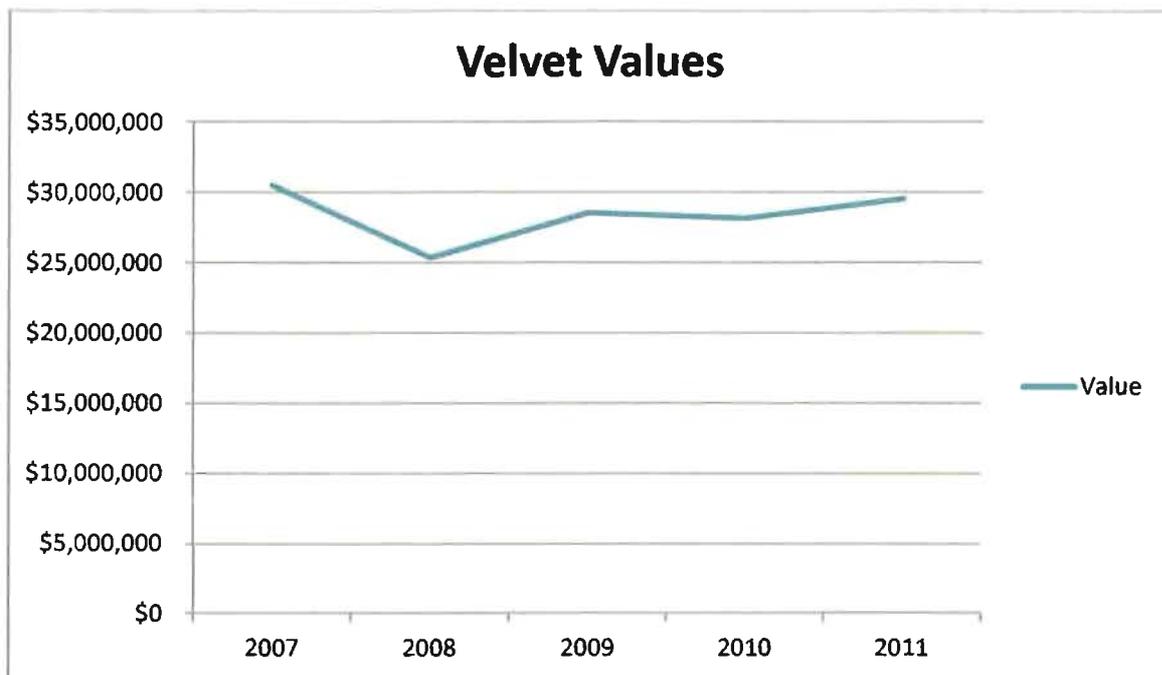
New Zealand venison made up just 0.2 per cent of the European meat trade (Watson 2011)

### **Velvet**

In 2010 435 tonnes of velvet was produced from the national herd. Approximately 300 grams of velvet is grown by a yearling stag prior to slaughter. Velvet is only produced by stags from deer farmed in New Zealand. Older animals produce larger amounts of velvet; exceeding one kilogram per year of age with many stags producing to 10 years of age (sire stags and velvetting herds).

Velvet has tended to be very volatile due to selling techniques and trade and tariff barriers. Returns in 2009 and 2010 velvet season were consistent at \$90-99.

**Figure 5.0** Velvet returns history.



Source: Statistics New Zealand.

### **Co/By Products**

Co products such as hides, tails, sinews, pizzles and blood add revenue to the animal along with the meat. There are huge differences in prices of Co products, tails and pizzles being good examples. A poor or average tail can yield as low as \$12.00 while a large fat tail can yield over \$100.00.

The value of all by products and co products has been lumped together with the meat, to give the producer an average return. As above individual carcass values vary and in some instances the co products can be more valuable than the meat itself. There has been a call from producers for processors to provide “market based returns” specific to each animal. See survey below.

By products such as offal and bones also add revenue. Premium prices are paid for offal over other ruminants for pet food.

There are huge opportunities to increase and add value to Co Products. With New Zealand being one of the largest producers of venison and with the strict requirements from NZFSA, there is good demand for Co Products.

Through the Productivity Improvement Programme launched in May 2011, it is envisaged that using good science and technology, productivity in this area can be lifted greatly.

Opportunities to value add were highlighted as a significant growth area at a recent Productivity Improvement Programme meeting in Wellington 26 October 2011.

### **Trophy Genetics**

Trophy Genetics is a term used in the deer industry for animals bred specifically to grow large antlers for the hunting market (trophy hunting). These animals differ from velvet stags in that the antlers are not cut; the value is in the spread of antlers and the uniformity of shape. The value increases due to the particular animals "score". The antlers are measured from skull to each tip of antler or point. The more points and length to each point increases the value.

It is not uncommon for a top stag (top 1%) to sell for over \$120 000.00. These animals tend to be older animals, possibly sire stags, which are sold to a Game park for a hunter to shoot.

Trophy animals tend to have high velvet growth genetics, but smaller body frames. Heritability for trophy genetics is high.

## **6 SUPPLIER GROUPS AND BRANDING**

### **Use of Supplier Groups**

A supplier group consists of several suppliers collaborating to achieve a better result than if they worked alone.

Managing supply is done through the supplier group. Through better communication with processors the producer group is able to receive premiums for supplying correct specification for the particular market.

The supplier group is able to work with the processor so numbers each week are known in advance, creating production efficiencies through better planning. The processor/exporter is able to guarantee supply to its customers. The added security of supply enables the processor /exporter to lock in the rate of exchange. It also enables a contract to be drawn up with the supplier and possible premiums for surety of supply.

### **Branding**

“The Chernobyl nuclear accident in 1987 was a demonstration that while commodity selling saves on marketing costs, differentiation has its advantages. After the Chernobyl accident, game meat met considerable consumer resistance. With no way of differentiating New Zealand venison from potentially tainted Eastern European game meat, demand for New Zealand venison was equally affected.” (Shadbolt 2008 p. 35)

Without a clear brand to differentiate product, New Zealand venison could not be promoted to show any of its benefits attributed to being farm raised, from New Zealand and of a particular age.

Brands such as Cervena and Zeal are two that have been used by the deer industry on an industry-wide level. The Cervena appellation has been relatively successful and has been around since its inception in 1992 ([www.deernz.co.nz](http://www.deernz.co.nz)). Cervena was set up by the then Game Industry Board (now Deer Industry New Zealand) and The New Zealand Deer Farmers Association in a bid to bring together a number of processing companies to bring quality and consistency to customers. Much like “Luxing” the floor is synonymous and originated from the vacuum cleaner brand Lux, similar logic was applied to Cervena. Rather than ordering venison from the menu, the idea was to order Cervena, a word derived from the Latin, cervidae, meaning deer, venison, the word for deer meat and an A, for an A grade premium product.

Cervena brought to the market something no other venison could, a guarantee of age (under four years old) and other strict guidelines, such as no hormones, antibiotics, steroids or growth promotants. It was also to taste less gamey than feral venison and have the

health benefits of 97% fat free, low cholesterol and high in protein and iron to give a premium taste and flavour. Cervena differentiates itself from other venison, by these factors and quality assurance.

Cervena has only been moderately successful, due to some larger processor/ exporters not endorsing the concept, choosing to alternatively promote their own company brand for example Silver Fern brand from Silver Fern Farms. Never the less, venison sales have increased into the United States of America, since its launch, with volume nearly doubling between 1992 and 1999. In the same period average prices had increased by 35 per cent. Shadbolt (2005) suggests that Cervena has done the job it was intended to do in the US, but does require on-going support to continue capitalising on its brand value.

Zeal on the other hand was introduced in 1991 ([www.deernz.co.nz](http://www.deernz.co.nz)) to differentiate New Zealand farm raised venison from European feral, mainly in Germany. The Zeal quality mark was designed to display all the attributes as with Cervena and show country of origin. At the time, Zeal was rejected by German buyers because they wanted to add value to the product themselves, and often packaged venison from a number of countries into their own branded product (Beverland, 2005). Only now, 20 years later is the market becoming more aware of where their product originates, with 67 per cent aware of New Zealand venison (Moffat, 2011).

**Figure 6.0** Cervena™ logo.



## **Contracted Supply**

Processors often do not know exactly how many animals are going to be supplied by the farmer, what age and at what weights. They are therefore reluctant to provide farmers with contracts for 12 months of the year. The other unknown is the exchange rate which can vary to affect price paid to farmers.

Venison processors have also had to share with other processors the declining kill numbers and in effect an overcapacity is looming. Critical mass and efficiency are compromised, making the ability to supply key customers with product in a timely manner all the more harder.

Finishers have similar issues when sourcing weaner deer to finish. With some breeders exiting the industry, it has proved difficult to maintain numbers for finishers. The majority of breeders and finishers do not have formal relationships between parties.

## **Long Term Supply Commitments**

Long term supply commitments revolve around a formal agreement with two parties. One party (the breeder) commits to selling a certain number of deer, and the other party (the finisher) commits to purchasing the deer at an agreed value. Long term supply commitments or contracts create a win ,win for breeder, finisher and can involve the processor right through to importer, distributor and customer. By having this commitment a supply chain has more certainty for all parties

.

## **Advantages:**

- Breeder/Finisher > Price commitment  
Ability to budget on actuals – not best guess  
Numbers known in advance
  
- Processor/Exporter > Commitment of stock and when  
Knowledge of numbers and age  
Staffing requirements  
Market fulfilment
  
- Importer/Retailer > Certainty of supply  
Aids promotion by supply knowledge  
Build relationships with customer

*“Shortages only highlight the importance of cooperative relationships with suppliers”*  
(Stanton 1985 p.35)

With contracted supply the finisher has a target to meet in terms of stock numbers and carcass specificity, but also has the value set forward (\$/kg), which gives surety of margin. By offering a contract price, the processor/ exporter have surety of supply, so is able to market the product with the knowledge that they are able to fill orders. Foreign exchange can be purchased ahead to further cement prices for product.

With certainty of supply and quality importers have little reason to look for an alternative supplier.

Supply contracts also may have other requirements depending on which market the product goes to, be it physical attributes such as weight limits and age through to animal welfare conditions of which indoor wintering is an example.

For bankability and to ensure the venison industry remains viable and competitive with other land options, the use of supply contracts are a necessity. This issue was one major finding in the Red Meat Strategy report. (Deloitte 2010)

Loyalty to a processor is as important as for breeder and finisher. The relationship between all parties needs to be enhanced by good strong communication, collaboration and an element of trust to achieve better outcome.

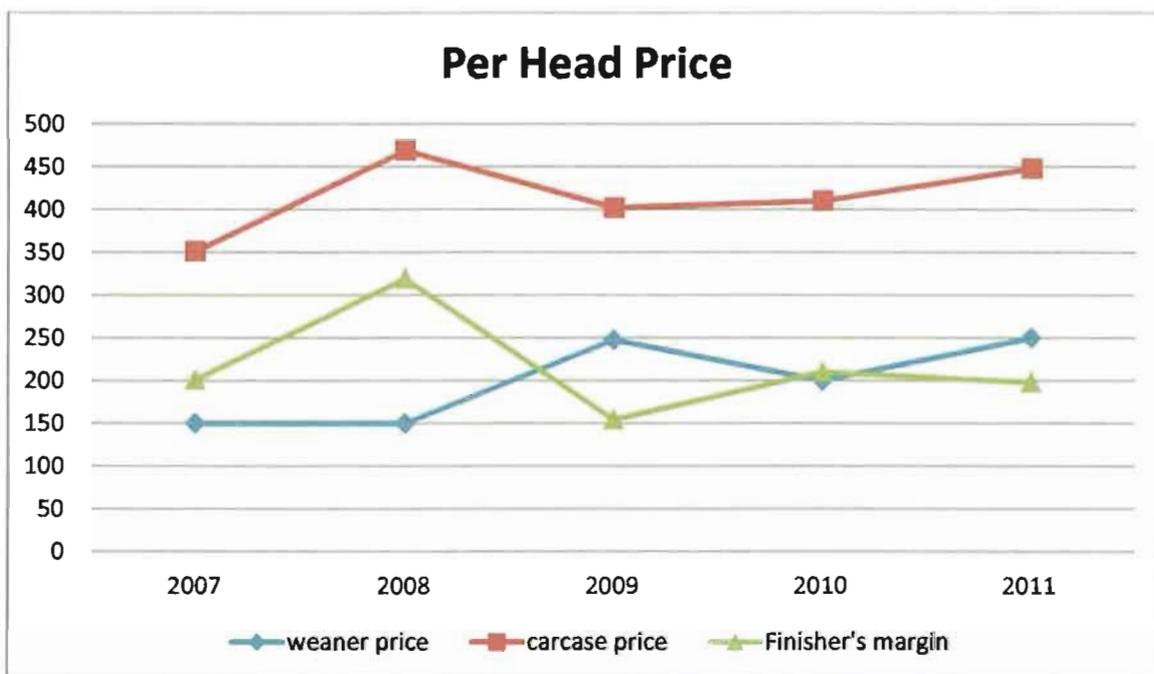
## 7 INDUSTRY ISSUES

Industry prices for venison have varied only 7 per cent over the past four years, despite a sharply higher New Zealand dollar, a global recession and severe competition from cheaper meats. (Watson 2011)

Watson comments that the deer industry is back on sound footing with profitability running ahead of sheep and beef returns.

The positive picture painted it appears the industry is looking good, but there *is* the problem of volatile returns from weaner deer finishing. Breeder and Finisher margins have altered significantly in the same four year period. See figure below. Figures converted from industry average weaning of 50 kg and carcass weight of 54 kg at venison schedule average as per DINZ statistics.

**Figure 7.0** Variance in margin at Downlands (K Orange)



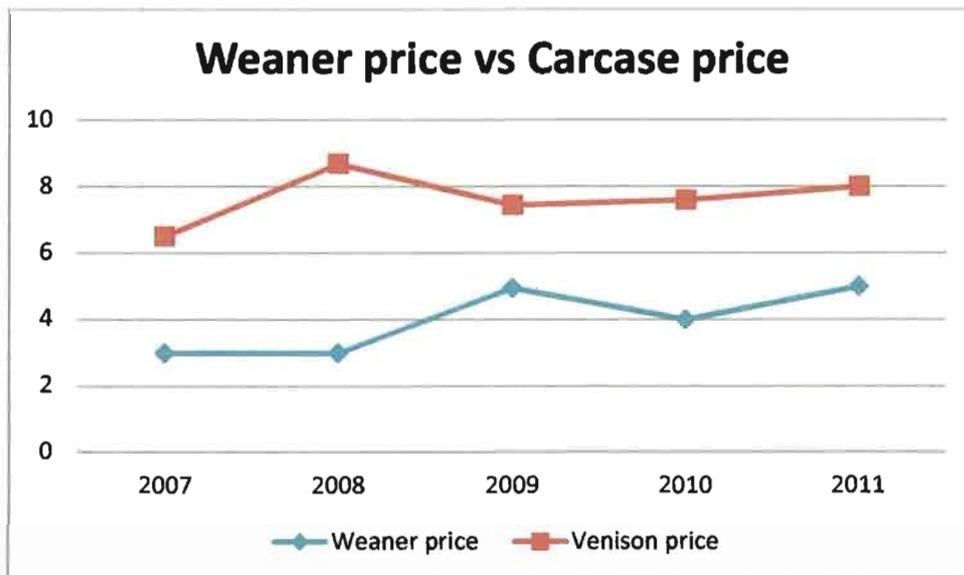
Source: PGGWrightson

### Weaner Deer Sales

Normally a weaner deer is sold from breeder to finisher from March, April and May each year. The majority of animals are sold by private sale, using an agent. The remainder sold by public auction. Market signals from the previous year and predictions for the current season are taken into account when setting the price. However often the market has changed by the time the animals are up to slaughter weight (a minimum of six months).

Too often the changing market means the breeder or the finisher loses out financially. The result is the breeder is not paid a true reflection of the market at time of slaughter, either receiving more than necessary or less than necessary. Margins are squeezed for either the breeder or the finisher. The seesaw effect carries on until finally one party decides to exit the industry due to the volatility

**Figure 7.1** Weaner price vs. kill price in \$ / kg.



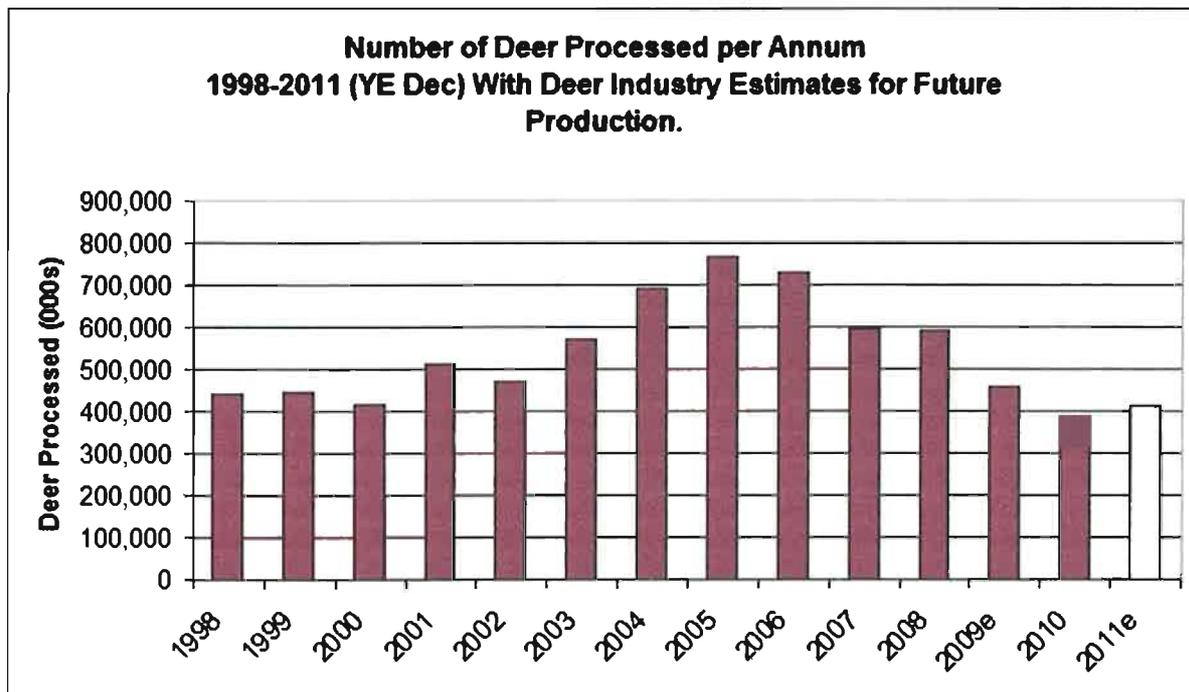
The weaner market reacts to the previous years pricing and the venison schedule forecast. As can be seen from the graph above, it has tended to over react. The difference in margins for both breeder and finisher has varied markedly from 2007 to 2011.

Once one party ceases operation, it leaves a hole for the other to fill;

- Breeder exits                      Finisher needs new source of weaners
- Finisher exits                      Breeder needs to find new buyer

When profitability is low, it creates a downward spiral with production eventually falling (after capital stock are killed), which also leads to loss in critical mass.

Figure 7.2 Kill statistics over last ten years.



Source: Deer Industry New Zealand

In recent years with land use competition the deer industry has shrunk and has lost some of its most productive land to other ventures. This puts added pressure on the whole industry to be able to supply some markets.

From the highs of \$10.00 per kilogram in 2001, venison prices fell dramatically in the following years of 2002-2004. Subsequently the kill increased due to two factors:

1. Large expansion by farmers in late 1990's early 2000's.
2. Farmers exiting the industry killing capital stock.

These factors exacerbated the problem initially and by 2005 venison kill had peaked at over 750 000 deer.

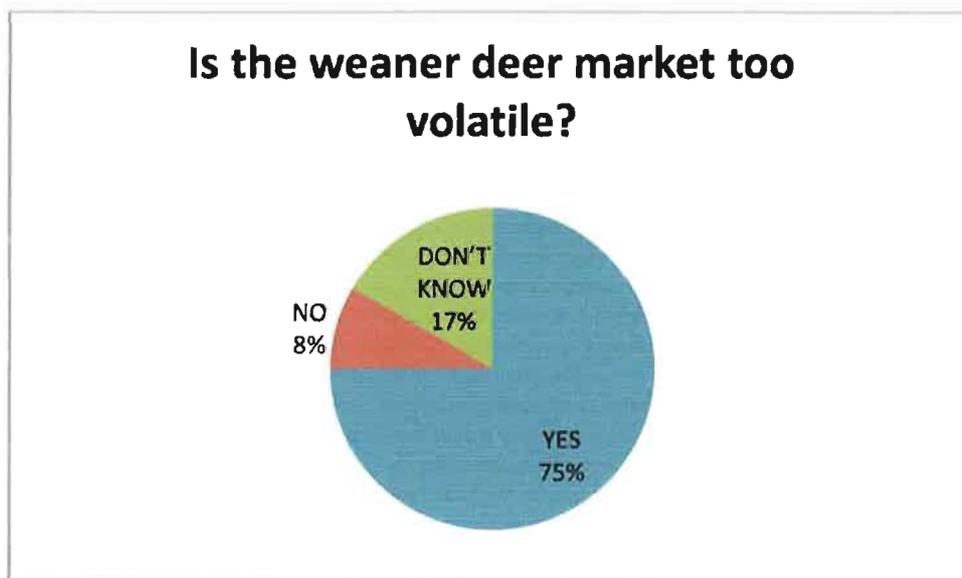
*"Farmers had the perception that venison was bullet proof following Foot and Mouth disease and BSE outbreaks in Europe. What is clear is that \$10/kg for venison was never a market price and that the consumers never paid anything near that price. This message was not transmitted to farmers, and this was a key factor that caused the large swings in deer numbers and slaughter levels in the late 1990's and early 2000's."* (Shadbolt 2008 p.40)

## **8 SURVEY**

A survey was conducted asking past and present deer farmers some simple questions pertaining to volatility of the weaner market and strengthening supply chain through contracts with breeder, finisher and processor/exporter right through to importer wholesaler and consumer. Twenty (20) deer farmers known to either sell or buy weaner deer were surveyed. Questions were formulated around supply contracts between breeder and finisher and then with processor/ exporter.

- Firstly was the weaner deer market volatile?
- If so would the added certainty of supply contracts be enough to instil more optimism and confidence?

**Figure 8.0** Survey -Is the weaner deer market too volatile?



A very strong response from those surveyed, with most (75 per cent) agreeing that the weaner deer market is too volatile.

Not surprisingly all surveyed (100 per cent) supported the idea of a business model, in effect a sales agreement, which would insulate both breeder and finisher from the spikes of the market.

The idea that everyone owns the supply chain is not new, but is evolving in the deer industry and meat sector and is likely to progress.

*"Supply chains are only as strong as the weakest link in the chain"* (Handfield 2002, p.77)

The New Zealand Venison Industry Strategic Intent 2009-2014 states that "improving linkages between venison producers and the final customer creates conditions that encourage stable profitability for the New Zealand venison industry."

The five key industry strategies are:

1. Achieve demand led premium positioning of New Zealand venison underpinned by a differentiation strategy.
2. Fully support long term commitment to product and market development.
3. Encourage farmers, processors and customers towards long-term supply commitments.
4. Improve on farm productivity: via integration of R&D, farm management and people into profitable farming systems.
5. Ensure the industry has freedom to operate.

Source: Deer Industry New Zealand 2011

As stated from the venison industry strategic intent; “An important factor inhibiting stable marketing of New Zealand venison is uncertainty of supply.” So too is the uncertainty of weaner deer supply for the finisher, as is certainty of purchasers at the right time for the breeder. Certainty of quality supply is crucial for every link in any supply chain.

While increased demand for deer that results from competition benefits breeders on a rising market, it exacerbates the downward trend as finishers decide to leave the industry if margins are not realised and business becomes tougher. This can be said for supply to the processor / exporter too.

As part of the survey farmers were asked about volatility (see figure 8.0). Questions were also asked about building stronger relationships with breeder, finisher and processor. An overwhelming response, 20 out of 20 respondents replied they thought stronger relationships throughout the supply chain were crucial to the deer industry. A successful business model could achieve this and would flatten out the peaks and troughs.

Interestingly similar sentiments about volatility and certainty were released the New Zealand venison industry strategic intent revised in January 2011.

*A key issue which the venison industry must continue to work toward is supply commitment:*

- *Potential new deer farmers are wary of entering venison production because they are not certain the current good schedule prices can be maintained, based on past industry performance.*
- *Deer farmers are sometimes uncertain of what their deer will be worth, and are reluctant to make commitments to venison processors.*

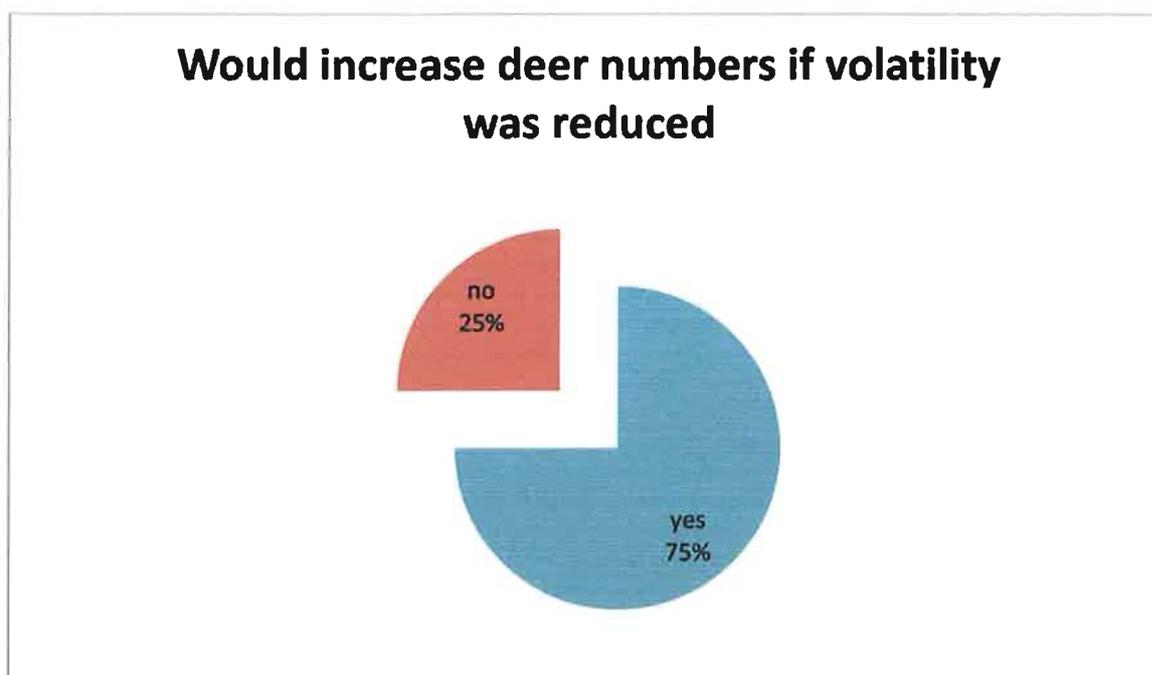
- *Venison processing and marketing companies need confidence that they will get the livestock they need, in the condition they require in order to invest in market development.*

*Commitment to supply all the way up the supply chain can assist New Zealand venison move away from the uncertain conditions which have sometimes characterised the industry's past, and position the industry for a positive future. Improving linkages between venison producers and final customer creates conditions that encourage stable profitability for the New Zealand venison industry.*

Source: Deer Industry New Zealand

Survey results showed that if volatility was reduced 75 per cent would increase deer numbers on their farms. That said – If a concept could be designed to accommodate both breeder and finisher that realised an acceptable margin for each, the deer industry would not necessarily need new entrants as the existing deer farmers would have the confidence to reinvest in deer farming. See appendix 4 for survey form.

**Figure 8.1** Survey – Would increase deer numbers if volatility was reduced.



Stable pricing and sustainability are key objectives of any industry and has been reiterated by Deloitte in the Red Meat Sector Strategy report. As the New Zealand venison industry strategic intent (page 12) suggests, long term signals need to be provided up and down the supply chain to attempt to encourage more long term thinking from producers to reward long term commitment to the deer industry.

Once again the survey would confirm the sentiment of the New Zealand venison industry strategic intent. In 2009 (p. 12) it states venison finishing was found to be among the most

profitable means of converting grass into dollars. Again in 2011 venison finishing was among the top contenders. (Butcher 2011 p.43)

So why has the deer industry been shrinking?

### **Stability**

The last four years of stable pricing at modest levels has seen a real decline in the number of farmers exiting the industry. This can be shown in national kill statistics in figure where kill figure for the past 12 months has a slight incline. See figure 7.2.

Of those surveyed, some have left the industry, but noted they may return if there was stable profitability.

### **Other survey results**

The survey also revealed that 100 per cent of those surveyed wanted to see Market Based Returns. Market Based Returns is a return provided from each individual carcass, it's by products and co products in the market. The producer's payment is based on the meat yield and the individual value of by products and co products. The reward would be for quality of the useable items from each carcass.

At present producers are paid on carcass weight alone, regardless of any true value of anything else. The by-products and co products payments are an average of everything slaughtered and added to the meat price. There is no linking to meat to bone yield, pelts pizzle size or fatness of tails. This is an area where producers would like to be paid for what they produce. That transparency would ultimately mean farmers would have a financial incentive to improve in areas they were previously unable to measure.

A strong relationship between breeder and finisher receiving Market Based Returns from a processor / exporter would benefit both as they are able to work together to improve the value of the final product. Improving productivity and profitability.

There was a very strong feeling from the survey that the deer industry is still too volatile, despite having four years of stable profitability. Sentiments were from both breeders and finishers and all of those surveyed were interested in a model that could put a halt to the "roller coaster ride" of the past.

Stronger relationships between breeder, finisher and processor were also needed according to the survey, meaning there is definite room for improvement on the status quo. Only a quarter of the survey group would not increase their deer herd, if stable profitability was able to be achieved and removing volatility.

How this might work: At the time of writing there are two known contracts/ sales agreements that are being used.

## **9 REMOVING VOLATILITY**

### **Firstlight Venison™**

Firstlight Venison has a formula to value weaners moving from breeder to finisher from within their supplier group. The group are shareholders of the company in which they supply and are paid on actual market return from the customer. There are other strict controls on supplying Firstlight, such as no velvetting of any stags on the property, to protect access to certain markets. See appendix 3.

“First Light Venison’s payment system operates as a market pool. This provides for full and transparent market returns to be returned to the suppliers. Payments recognise the suppliers’ cost of production ensuring year round supply and rewarding each supplier appropriately for their contribution. In addition to this there will be gains related to having increased carcass yields and meat to bone ratios for processing better finished and heavier stock. This will enable suppliers to better optimise their farming systems.

A breeding programme is also taking shape in order to build on the skills and strengths of the group. This breeding programme works with a multiplier herd and is open to using the best objective venison genetics available. The breeding programme is funded by stag sales to the group.”

(Firstlight Venison™ Information memorandum 2009 p.6)

#### **Weaner sales contract.**

A contract between breeder and finisher is drawn up initially setting the base price for weaners on 50 per cent of the current venison schedule at the time of selling (March) multiplied by the weaner live weight. This is the first part payment and would consist of around 85 per cent payment. It is agreed as to when the deer will be killed (say November and December). The average of the venison schedule is taken for November and December (when known) and multiplied by 54% (the average carcass yield) and multiplied by the original average live weight of the weaner. This figure is now the total price paid per weaner. The original payment is then subtracted from the final value to give the second, or top up payment.

**Figure 9.0** Weaner contract example.

Weaner deer weighs 52kg March 10.

Venison schedule for March 10 is \$7.50.

Animals to be killed in November.

Average venison schedule for November is \$8.20.

So  $52\text{kg} \times \$7.50 \times 50\% = \$195.00$  –First Payment.

Then  $\$8.20 \times 54\% \times 52\text{kg} = \$230.25$

Finally  $\$230.25 - \$195.00 = \$35.25$  –Second Payment.

See appendix 1 for other examples of venison price variances.

The finisher has the added confidence to purchase weaners knowing that if there is a huge change in the market, each party shares in the win or loss. The breeder will receive a true market price for his weaners. The second payment is not able to be made until the kill price is known, which often is not until just before they are actually killed, however it is anticipated through forward contracting the second payment could be made earlier. The calculation for the payments does not require the animals to be grown to a certain weight, only using some agreed weights as per formula. See appendix 1 for weaner deer matrix and appendix 5 for weaner deer contract.

Whilst the breeder and finisher requires the certainty of longer term contracts, so too does the processor/exporter. Results from a survey conducted recently showed that while not all participants thought the weaner market was too volatile (75% did), everyone surveyed was in favour of building stronger relationships along the supply chain.

### **Improvements to be made**

At the risk of overpricing venison, there is a need to streamline the value chain and make sure there is a good margin for every link.

Increased production on farm through growth rates, feeding and genetics are pivotal to the deer industry's success. Product differentiation and market development are on-going, which requires constant monitoring.

New Zealand's animal welfare reputation and Deer Industry Quality Assurance Programme are the envy of many meat industries, particularly globally. Being aware of consumer demands is essential and there is a need to anticipate possible issues, offering solutions for any contingency. Most processing companies have their own Quality Assurance Programmes requiring suppliers to comply with particular standards. Transport companies and staff must comply with stringent standards and are scrutinized on every load. New Zealand Food Safety Authority polices the slaughter and processing, maintaining a very high standard, which provides further assurance to consumers over quality and integrity of product.

## **10 CONCLUSION**

Upon doing this research and by analysing past profitability margins and the variance (see figure 7.0) there is clearly room for improvement within the supply chain. Those surveyed were unanimous that building stronger relationships was crucial to the deer industry.

There appears to be significant gains to be made through stability of the weaner deer market, while not all of this is tangible, there would be a definite gain in terms of reinvestment. Reinvestment such as genetics, feed and infrastructure like deer fencing all adding to stability. If relationships were strengthened so that rather than a supply chain, it could be looked at as a value chain, all collaborating to achieve the best result. There will need to be a change in mind set through the realisation that each supply chain partner's function lies right through to the end customer.

**Table 9.0** Lessons Learned.

<b>Issue</b>	<b>Then</b>	<b>Now</b>	<b>Result</b>
<b>Chernobyl disaster 1987</b>	Product sold as feral, no differentiation, no country of origin	Product sold as farm raised from New Zealand	Product differentiation and country of origin
<b>BSE Foot &amp; Mouth disease outbreak 2002 in UK</b>	Market signals incorrect resulting in product being over priced	Marketers talking amongst each other. Traceability scheme in place	Industry collaboration is happening, Traceability a key driver
<b>Dependence on German market</b>	Majority of venison sold in Germany	Market is diversified to other countries	Diversified markets creating demand
<b>Somerkampayne</b>	Encouragement to consume venison out of traditional season in Germany	Consumption promoted on the fringe of traditional season	Realisation traditions take a long time to alter
<b>Deer numbers reduce 2007-2010</b>	Profitability low compared to other land options. Over supply.	Competitive profitability even with Beef and Lamb values increasing	Market consolidation. Supply meeting demand.

The added certainty a forward contract could bring, gives farmers the ability to budget with some actual numbers, rather than best guess. This will improve the relationship with farmers' bankers as there should be no surprises as to the profitability from deer, be it breeding or finishing. This can be seen as a form of balance sheet protection by all parties.

*"It is a brave call to say that volatility is behind us, and I'm not that brave – factors beyond our control will affect the amount of money you receive for your deer – but it just might be that we are doing more to control the things we can control – and that the deer industry's days with the reputation as the roller coaster industry may be behind it." (Moffat 2011)*

## **References**

Beverland M. (2005) Creating value for the channel partners: the Cervena case. *Journal of Business & Industrial Marketing* Vol.20 No.3, pp127-135.

Butcher G. (2011) *Heartland Sheep*, *Country Wide magazine* pp 43.

Deer Farmers Association. (2011) FGM Timaru.

Deer Industry News. (2011) Three new faces at Deer Industry New Zealand Board table. Issue 49, pp6.

Deloitte. (2010) Red Meat Sector Strategy Report. Retrieved from the world wide web: [www.mia.org.nz](http://www.mia.org.nz)

DINZ. Deer Industry New Zealand (2009) Venison Industry Strategic Intent 2009-2014.

DINZ. Deer Industry New Zealand. (2011). *Annual report 2010-2011*. Retrieved from the world wide web: [www.deernz.org](http://www.deernz.org).

Emmerson A. (2011) Red meat gets first report card. *New Zealand Farmers Weekly* October 10 pp29

Firstlight™ Venison. (2009) Information memorandum pp6.

Hanfield RB. EL(2002) Supply chain redesign. *Financial Times*.

Moffat I. (2011) Deer Industry conference Timaru

Porter M. (1985) Competitive advantage. Retrieved from the world wide web: [www.netmba.com](http://www.netmba.com).

Shadbolt NM, McDermott A, Williams C, Payne T, Walters D, Xu Y. (2008) The key elements of success and failure in the NZ venison industry.

Watson P. (2011) Deer industry in good shape and expecting prices to increase. *The Dominion Post* September 15 pp4.

[www.businessdirectory.com](http://www.businessdirectory.com)

[www.deernz.org](http://www.deernz.org)

Appendix 1

# Weaner deer price matrix.

v price march	v price kill	weight	initial weaner price	top up	total weaner price	carcase weight	estimated carcase price	Finisher's margin
\$	\$	kg	\$	\$	\$	kg	\$	\$
7.5	8.2	52.5	196.875	35.6	232.47	54	442.8	210.33

v price march	v price kill	weight	initial weaner price	top up	total weaner price	carcase weight	estimated carcase price	Finisher's margin
\$	\$	kg	\$	\$	\$	kg	\$	\$
7.5	7.75	52.5	196.875	22.8	219.7125	54	418.5	198.7875

v price march	v price kill	weight	initial weaner price	top up	total weaner price	carcase weight	estimated carcase price	Finisher's margin
\$	\$	kg	\$	\$	\$	kg	\$	\$
7.5	9	52.5	196.875	58.3	255.15	54	486	230.85

Enter values in shaded area to find weaner price and Finishers expected margin.

## Appendix 2

### Deer Finishing Model

#### At weaning

schedule price	Kg's LWT				Top up payment to breeder		
					total	\$/Kg	
\$7.10	50	50%	\$177.50	\$45.25	\$222.75	\$4.46	
	55		\$195.25	\$49.78	\$245.03	\$4.46	
	60		\$213.00	\$54.30	\$267.30	\$4.46	

#### At Processing

Backbone Fixed Price	Kg's CWT	Dressing out%	
\$8.25	50	54%	\$222.75
	55		\$245.03
	60		\$267.30

Finishing model shows different values at different purchase and processing weights.

### Appendix 3

#### Firstlight™ Venison

The current group of suppliers is a select group of deer farmers with the common vision of providing our customers with year round supply of exceptional quality product in a safe and sustainable manner. They have been selected on the basis of being specialist deer farmers and have as their hallmark a loyalty and belief in the deer industry and in the long-term supply chain model. FLV consists of breeders who finish their own stock, finishing farmers with breeder linkages and farmers who supply breeding stock. This group are at the top end of deer farmers in terms of integrity and quality of product, and a desire to be part of a small, flexible and innovative export company. They each currently supply or have the potential of supplying at least 500 head per annum.

Appendix 4

Weaner Deer Survey

Please circle

Do you breed and finish weaner deer?

Yes/No

Do you buy or sell weaner deer?

Buy/Sell

Is there too much volatility in the weaner deer market?

Yes/No

Would you be interested in an agreement between breeder and finisher which reduced the volatility?

Yes/No

If a business model could insulate you from volatility and maintain your margin, would this interest you? (This includes the breeder's margin)

Yes/No

Do you believe building stronger relationships between breeder, finisher, processor and end consumer is crucial to the deer industry?

Yes/No

Assuming the business model worked and could be applied to your farming system, would you increase deer numbers?

Yes/No

Would you support market based returns where payment is based on the individual carcass yields? (Including co products)

Yes/No

Thank you for your time.

## Appendix 5

### Weaner deer sales contract example

#### AGREEMENT FOR SALE AND PURCHASE OF WEANER DEER

Between

Vendor:

And Purchaser:

Schedule of Stock

Number: Approx 650 head

Type: Mixed sex Wapiti X Deer

Minimum Weight: 40kg

Delivery:

The said stock will be available for the Purchaser to take delivery of, during the week of the 20<sup>th</sup> March 2012, subject to weather conditions. Transport is to be paid by the purchaser. The truck is to be weighed on a Government certified weigh bridge.

Risk:

The stock are at the Vendor's risk for the first 72 hours of delivery on to the Purchaser's property. The Vendor will cover any deaths in this time which are attributable to the weaning process.

TB Status:

The Vendor's property must carry a current C10 status.

Purchase Price:

1. The Purchaser agrees to pay the Vendor the Silver Fern Farms venison 45-85 kg stag schedule <5c/kg on the day of delivery x 50% x Average liveweight.  
\$...../kg x 50% x .....kg (av liveweight) +GST.
2. The Purchaser and Vendor will then agree on a kill period – Dec2012 , Jan 2013.
3. The Purchaser will then pay the Vendor an average of agreed schedule (above) over agreed kill period x 54 % yield on original liveweight. The difference between the two is the adjusted payment + GST. Final payment is at the end of the kill period.
4. These payments will be credited and debited by the agents for the Vendor and Purchasers, PGG Wrightson Ltd.
5. The deer are the property of the Purchaser from delivery date plus 72 hours.