



RURAL INDUSTRIES RESEARCH
& DEVELOPMENT CORPORATION

Deer Farming in Australia

Production and markets for venison,
velvet antler and co-products in 2001–02

**A report for the Rural Industries Research
and Development Corporation**

by Chris Tuckwell

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Foreword

The research and development emphasis of the RIRDC Deer Industry Research and Development Advisory committee since 1997 has been the development and expansion of the Australian Deer industry. Projects focussed on consolidating industry infrastructure, strengthening supply systems and the development and implementation of an industry Quality Assurance program.

Major goals of the 2000/2002 research and development program were the amendment and improvement of the Deer Industry Quality Assurance program and the development of computer software to assist recording and analysis of information necessary for the maintenance of individual property quality assurance accreditation.

This project's primary foci were to: (i) produce and disseminate new Quality Assurance manuals to all registered manual holders; (ii) produce and disseminate the new quality assurance software program (Deer QAMA); (iii) retrain existing industry quality assurance facilitators and; (iv) continue collection and analysis of industry statistics. All project goals have been achieved and are reported here.

Venison prices followed the 2000/2001 trend and continued to rise during the first six months of this project, but declined from January to June. The number of animals processed and the industry's total venison production has fallen significantly this year. Although disappointing, this result supports concerns reported during the 1999/2000 to 2000/2001 seasons that, based on the then existing estimates of the number of deer farmed in Australia, current venison production levels were unsustainable from the existing (estimated) breeding herd.

Revised industry population estimates based on actual knowledge of venison and velvet production for the past five years are provided in this report.

The industry must continue to promote its commitment to quality assurance both domestically and internationally to strengthen consumer confidence in its products and attempt to minimise price and demand risks associated with its products.

This project was funded from industry revenue which is matched by funds provided by the Federal Government.

This report is an addition to RIRDC's diverse range of over 900 research publications, forms part of our Deer R&D program, which aims to foster an Australian deer industry as a profitable and efficient mainstream agricultural enterprise

Most of our publications are available for viewing, downloading or purchasing online through our website:

- downloads at www.rirdc.gov.au/reports/Index.htm
- purchases at www.rirdc.gov.au/eshop

Simon Hearn
Managing Director
Rural Industry Research and Development Corporation

Contents

Foreword	iii
Acknowledgments.....	vi
Executive Summary	vii
1. Introduction	1
2. Objectives	3
3. Methodology	4
4. Results	5
5. Discussion	21
6. Implications	32
7. Recommendations	33
8. Bibliography/References	34

List of Tables

Table 1: Total Farm Gate Value of Venison	25
Table 2: Farm Gate Value of Red Deer Venison	25
Table 3: Farm Gate Value of Fallow Deer Venison.....	25
Table 4: Farm Gate Value of Rusa Deer Venison.....	25
Table 6: Total Volume of Venison Processed	26
Table 7: Red Deer Processed	26
Table 8: Fallow Deer Processed	26
Table 9: Rusa Deer Processed	26
Table 10: Value of Red Deer Processed 2001/2002.....	27
Table 11: Value of Fallow Deer Processed (2001/2002)	27

List of Graphs

Graph 1 – Average HCW of Red Deer	6
Graph 2 – Average HCW of Fallow Deer	6
Graph 3 – Total Value and Volume of Industry Venison Production	7
Graph 4 – Total Number of Processed.....	8
Graph 5 – Number of Red Deer Processed	8
Graph 6 – Number of Fallow Deer Processed	8
Graph 7 – Average Number and Weight of Fallow Deer Processed.....	9
Graph 8 – Average Number and Weight of Red Deer Processed.....	9
Graph 9 – Average Venison Price (\$/kg HCW)	10
Graph 10 – Average Venison Price [Between Years Comparison] (\$/kg HCW)	10
Graph 11 – Range in Average Venison Price Paid for Red Deer (\$/kg HCW).....	11
Graph 12 – Range in Average Venison Price Paid for Fallow Deer (\$/kg HCW)	12
Graph 13 – Annual Pattern of Venison Price Variation	13
Graph 14 – Annual Pattern of Red Deer Venison and HCW Variation	14
Graph 15 – Annual Pattern of Fallow Deer Venison and HCW Variation.....	14
Graph 16 – Effect of Exchange Rate on Average Value of Venison	15
Graph 17 – Difference in the average price paid for fallow deer venison processed in domestic abattoirs and that processed in export abattoirs.	16
Graph 18 – Volume of Velvet Sold by ADH.....	17
Graph 19 – Volume of Velvet Sold by ADH by Species	17
Graph 20 – Value of Velvet Sold by ADH.....	18
Graph 21 – Value of Velvet Sold by ADH by Species	19
Graph 22 – Average Carcase Distribution and Price for Red Deer	22
Graph 23 – Average Carcase Distribution and Price for Fallow Deer	22
Graph 24 – Average Carcase Distribution and Price for Red Deer	23
Graph 25 – Average Carcase Distribution and Price for Fallow Deer	23
Graph 26 Percentage of Velvet within grades.....	28
Graph 27 Average value of velvet within grades.....	29
Graph 28 Weighted average value (AUD) of Australian and New Zealand Red Deer Velvet.	31

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This project could not have been undertaken without the continued support and assistance of the directors of the Deer Industry Company, processors who contributed vital processing data and many other industry people.

In particular, I acknowledge the ongoing support of the chairman of the Deer Industry Company (Mr Terry Mahoney) and the President of the Deer Industry Association of Australia during the term of this project, Mr Jim Moir.

Recognition of the considerable commitment of the project's research officer, Solange Shapiro is again appropriate. The project could not have been undertaken without Solange's indefatigable commitment and her general preparedness to do what was necessary far exceeded her contractual obligations. The Australian Deer Industry generally, and me as the project's Principal Researcher, continue to be in her debt.

Executive Summary

General

During the two years from July 1999 to June 2001 the Australian deer industry arguably experienced its most profitable and commercially successful period since the speculative days of the 1980's. However, the most significant contributors to that commercial success were factors over which the industry had little or no control. In particular, the devaluation of the Australian currency and the general lack of European confidence in other red meats during 2000 and 2001 significantly increased demand for alternative red meats like venison.

The relatively high prices, for venison in particular, meant a significant increase in the number of animals processed.

Implications of the high kill numbers from July 1999 to June 2001 are already being felt by processors who are increasingly unable to source stock required to meet the existing relatively low demand for venison.

Industry Statistics

Slaughter statistics collected from 1999 coupled with velvet production statistics have allowed some amendment of industry population estimates provided in the report of RIRDC project DIP-1A (The Development of the Deer Industry as a major Australian livestock industry).

Best estimates suggest the Industry's current population has fallen and venison production is unlikely to increase significantly during the next two or three seasons unless a temporary increase occurs from the sale of breeding stock.

Quality Assurance

RIRDC project DIP-3A part B (Venison Quality Assurance) reviewed and updated all industry QA manuals, including the addition of HACCP sections in each manual and developed a computer database program that will allow those who participate in the industry farm QA program to easily record, store and report on all information required by the program.

Amended manuals and a copy of the new computer database program (Deer QAMA) have been provided to all registered manual holders during the period of the project.

Deer industry Quality Assurance Facilitators have been made aware of amendments to the manuals and have been trained in the use of Deer QAMA.

The ACC and the Trade Marks Office have finally accepted and registered the distinctive industry quality assurance accreditation marks for venison, velvet antler (one for processed antler and another for unprocessed antler) deer farms and deer transports.

Documentation for the use of each mark exists (prepared as part of previous projects) and now the Deer Industry Company must determine how to make these marks available for those who wish to use them and how the use of each mark will be audited.

Venison

The average price farmers received for venison during the first half of the 2001/2002 financial year was higher than average prices received at any time since the end of the speculative period of the Industry's development.

In the second half of the 2001/2002 season the price for venison fell dramatically (from an average of \$4.78 to \$3.27 per kg hot carcase weight) due again to factors over which the industry had no control and despite a decreasing availability of stock to process. The major contributor to lowered prices was the sudden availability of relatively cheap, high quality beef throughout Europe.

The immediate prognosis for future venison prices is unclear, but initial estimates suggest that both demand and average price for the coming season are likely to be lower than those experienced during the 2001/2002 season despite the anticipated shortage (relative to production during 1999/2000 and 2000/2001) of animals available for processing.

The percentage of deer processed that have carcase weights outside the ideal hot carcase weight range, particularly those less than ideal weight, is a continuing cause for concern and should be reflected in Industry extension programs aimed at improving average returns to farmers.

Velvet Antler

Velvet antler production in the 2001/2002 season was less than that recorded for the previous season although the general production trend since the 1993/94 season is still an increasing one.

The Australian Deer Horn and Co-Products Company (ADH) collected, graded and sold almost 16 tonnes of fresh velvet in the 2001/2002 season out of an estimated total of 27 tonnes produced by the industry. ADH continues to be a major player in the Australian velvet industry, managing the collection grading and sale of approximately 60% of the Industry's velvet.

More than 90% of velvet produced by the Australian Deer Industry is produced by red deer and the quality of red deer velvet produced in Australia is similar to the quality of red deer velvet produced by the New Zealand Deer Industry (relative percentage of velvet in each grade classification).

The weighted average value (\$/kilogram) of each grade of red deer velvet produced by the Australian Deer Industry is about AUD\$15.00 less than that obtained by the New Zealand Deer Industry.

The Future

The future of the Australian Deer industry is still uncertain. What is certain is that the future of the industry will be inextricably linked to its ability to produce and market quality assured products. This is particularly so for the Australian Deer industry, as in excess of 90% of its total commercial production is sold into international markets over which it has little control.

Compared to other red meat industries the venison industry is small and therefore must ensure that clients have no quality based reasons to reject its products but are in fact encouraged to favourably consider Australian venison on the basis of its credibility and acceptability guaranteed by quality assurance systems that accredit its production.

1. Introduction

Origin

Commercial deer farming in Australia commenced in Victoria in 1971. Currently (2002) five species of deer, three from temperate climates (red, fallow, wapiti [elk]) and two tropical species (rusa, chital) are commercially farmed in Australia. Until the late 1980's, while returns from breeding stock sales were very high, the industry expanded rapidly. That rate of growth declined from the early 1990's due to droughts forcing sales of stock at low prices, increases in live animal exports and the slaughter of breeding females

Increased demand during late 1996 and early 1997 was difficult to meet because of the Industry's relatively small production base. The supply difficulties were exacerbated when the supply of products, particularly venison was maintained by the slaughter of young breeding females. The net result was depletion in the industry's female breeding herds.

Low market prices between 1997 and 1999 saw the number of animals processed remain low (estimated to be 20,000 to 25,000 animals per year). However estimates suggest that the national herd slowly increased again during this period.

Significant increases in farmer returns for venison during 1999/2000 and 2000/2001 saw record numbers of deer processed during those years (approximately 60,000 and 50,000 respectively). These high processing rates were achieved by: (i) Sale of stock held on farms because of previously low prices; (ii) Sale of breeding stock through herd dispersals by those leaving the industry and; (iii) Sale of stock normally ready for market

The net effect of two seasons of high processing rates could not be maintained and processing figures for the 2001/2002 season reflect the decreased availability of stock. Stock numbers are likely to remain low for at least the next two seasons.

Industry Structures

The Deer Industry Association of Australia (DIAA) was created to represent all sectors of the Australian Industry as necessary. Members subscribe directly or through state organizations. The DIAA controls two product development and marketing companies.

Australian Deer Horn and Co Products Pty Ltd (ADH)

ADH & Co-Products collects and markets Australian deer horn on behalf of all deer farmers. It promotes the harvest of velvet antler according to the strict quality assurance (QA) program promoted by the industry. The Company only accepts velvet that has been harvested by Veterinarians and farmers who have successfully completed the National Velvet Accreditation Course.

Deer Industry Projects and Development Pty Ltd

Deer industry Projects and Developments Pty Ltd trades as the Deer Industry Company (DIC). It undertakes project work to assist the industry achieve its goals as described in the Industry five year plan, or otherwise as required by the DIAA.

Quality Assurance

The future of the Australian Deer industry is inextricably linked to its quality assurance program and will increasingly contribute to either positive or negative perceptions and images of the industry in all markets.

The Australian Deer Industry Quality Assurance program provides industry with an ability to manage, proactively and responsibly, expectations of governments and assist in the management of industry animal health and welfare issues.

The Australian Deer Industry Quality Assurance program, in particular the Deer QAMA computer database program, is being considered by Deer industry organisations in the UK, Europe, Canada and New Zealand.

However the program is only growing slowly. Many members of the industry do not accept the increasing requirement for quality assurance because consumer clients have not yet demanded it of them. Industry leaders have an ongoing responsibility to encourage and assist the development of this program to give confidence for the industry's future.

Herd Size

Actual and estimated statistics related to the Australian deer herd continue to expand and provide increasingly more informed data. However most population based statistics are still largely estimates based on information related to industry surveys, processing information and velvet antler production.

Revised industry estimates suggest that in June 2002 the population of deer in Australia remains constant at approximately 200,000 deer. Fallow deer make up about 34% of the total population and Red deer, Rusa, Chital and Elk are estimated to make up about 39%, 15%, 4% and 7% respectively.

Expansion of Australia's deer industry production base is still the major factor that will influence the long-term future of the industry.

2. Objectives

Project objectives reflect general industry priorities and in particular the number 1 General R&D priority in the Deer Industry R&D 5-year plan 2000-2005.

Objectives were to encourage the expansion of new interest in the Australian deer industry supported by promulgation of positive market information and development of marketing and production strategies based on accurate records.

The project is a logical and necessary extension of the 1997-1999 RIRDC-funded project 'The Development of the Deer Industry as a Major Australian Livestock Industry', the 1999-2001 RIRDC-funded project 'Quality Assurance, Strategic Alliances and Industry Development' and the 2000-2001 RIRDC-funded project 'Venison Quality Assurance'.

Specific objectives were to continue the improvement of deer farmer profitability and increase new interest in the industry by:

1. Ongoing collection, interpretation and reporting of deer industry statistics and data bases,
2. Regular reporting of project outcomes and industry activities to media and industry stakeholders,
3. Producing new industry QA manuals developed as part of the RIRDC funded project 'Venison Quality Assurance' for dissemination to industry,
4. Producing computer CD's that holds an electronic format of the new manual,
5. Retraining and updating the accreditation status of existing facilitators and
6. Encouraging and training new industry QA facilitators as required.

3. Methodology

The project had six major objectives (described in section 2). The project methodology is described for each objective.

Objective 1 - Maintenance of deer industry databases, including those related to industry QA, service provider lists, technical resources, venison statistics and velvet statistics.

Data bases initiated during 1997-1999 project, 'The Development of the Deer Industry as a Major Australian Livestock Industry' and maintained during the 199-2001 project 'Quality Assurance, Strategic Alliances and Industry Development', particularly those related to venison production will be maintained and expanded.

Objective 2 - Regularly and open reporting of market and other information to industry.

Project details will reported an annual industry conferences, industry newsletters and directly to farmer meetings and field days.

Objective 3 - Reproduction and dissemination of new manuals developed by RIRDC project 'Venison Quality Assurance'.

There are already in excess of 100 registered Deer Industry QA manuals in use throughout the industry and all manual holders are eligible for manual updates as part of their ongoing fee payments.

During this project new manuals will be produced and disseminated to all eligible manual holders.

Objective 4 - Production of the new Deer QAMA program on computer CD ROM.

Similarly, during this project all eligible manual holders will be provided with a Deer QAMA CD as part of their ongoing fee payments and manual update.

Objective 5 - Retraining and updating the accreditation of existing facilitators.

All properties, accredited by the Australian Deer Industry Program, are required to be inspected within two years of receiving their accreditation. To maintain transparency and integrity of the program, the Deer QA Board will not allow facilitators to assess or reassess each other. This project's Principal researcher is required to visit all facilitators to: (i) reaccredit their properties; (ii) reaccredit them as facilitators and; train them in the use of the new database program.

Facilitators will be encourage to attend a two day workshop to familiarise them with amended manuals, train them in the use of Deer QAMA and discuss and plan a proactive approach to increasing the number of deer farmers accredited by the Deer Industry Quality Assurance program.

Objective 6 - The encouragement of more industry members to take a QA facilitator role to assist the adoption of the program by the industry at large.

Other rural industries have and are rapidly embracing Quality Assurance. Programs to guarantee continued market access for products are being developed and implemented as an essential requirement for international market access.

Deer industry participants will be encouraged to take on a QA Facilitator role to assist in the development and maintenance of the Australian Deer Industry Quality Assurance program.

4. Results

Results described are broadly presented according to the objectives described in (2) and (3) above.

Objective 1 - Maintenance of databases

The 'The Development of the Deer Industry as a Major Australian Livestock Industry' project developed a comprehensive database of industry contacts that was updated by the 'Quality Assurance, Strategic Alliances and Industry Development' project. That database maintains contact lists for industry groups and specialists and is continually revised and amended. Updated lists are disseminated to industry leaders, appropriate government representatives and industry partners as appropriate.

The Deer Industry Research Reference Database has been maintained and expanded as other project commitments allowed. It can be accessed from the DIAA (www.diaa.org) web site or the RIRDC website (www.rirdc.gov.au). This database provides a summary of much of the deer research undertaken in Australia and New Zealand as well as selected references from other areas.

The reference database provides brief details about the nature of research, its author(s) and the scientific journals in which it was published.

Objective 2 – Regularly and open reporting of market and other information to industry.

Since January 1998 the majority of venison processors/marketers in Australia regularly contribute data on price and weight of animals processed to an industry database.

Although not all processors agreed to provide data for the database, project researchers are confident that the greatest majority of venison processed in Australia is accounted for (more than 90% up to 2000/2001 and 80% for 2001/2002). Kill numbers and total venison production data included in this report for 2001/2002 are determined from adjustments to figures available which reflect our understanding that available information only accounts for 80% of actual data.

The development of the VenStat program as part of the 2000/2001 RIRDC project Quality Assurance, Strategic Alliances and Industry Development, has assisted in collection and analysis of data collected. The VenStat program has been offered free to all Australian venison processors with a proviso that they regularly contribute their data to the industry database.

Summary statistics and extended information made available in previous reports, are provided below.

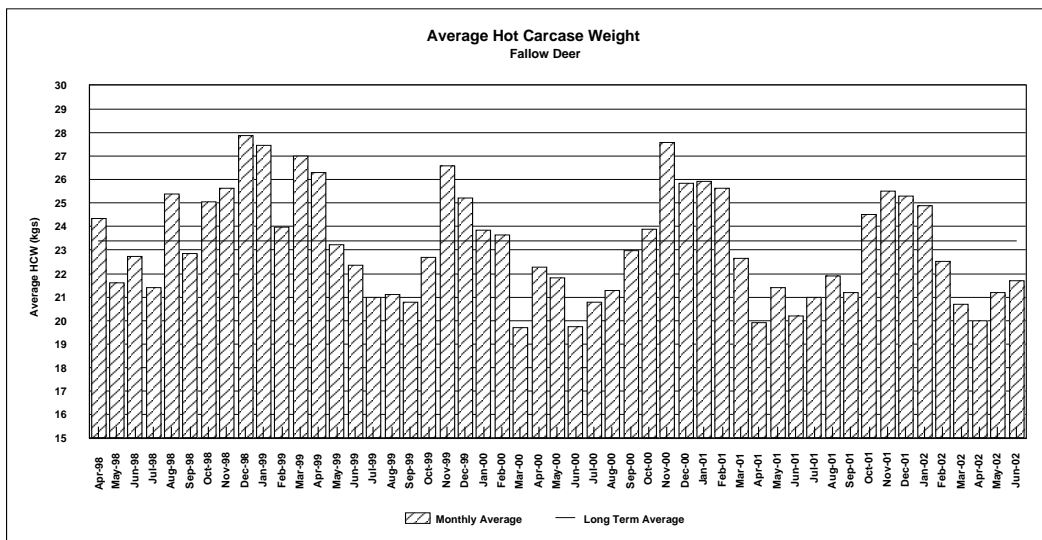
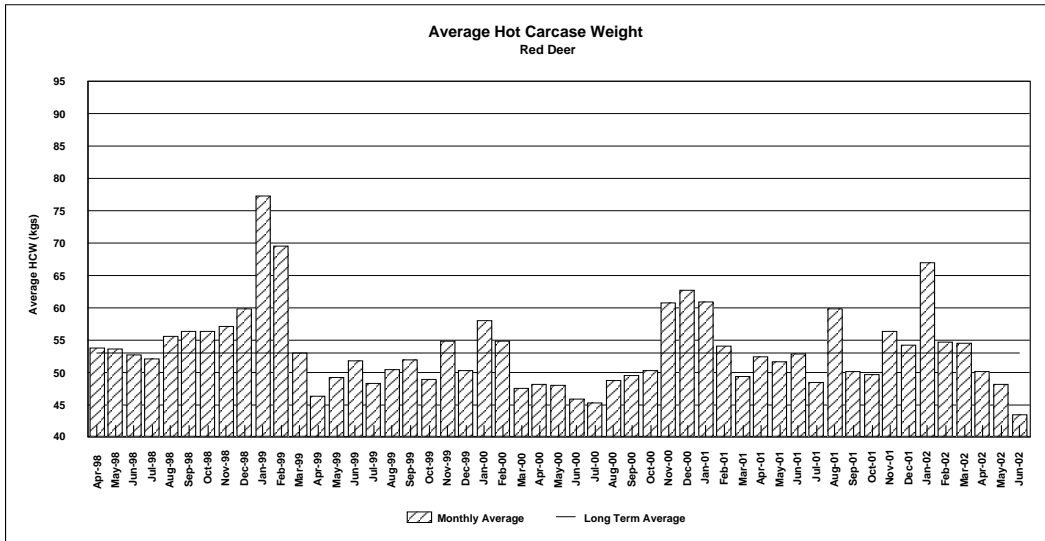
Venison Production

Venison Production and Carcase Weight

Data collected shows monthly live weight trends of animals processed. Of concern is the continuing percentage of processed animals with a hot carcase weight (HCW) that is less than a weight that could be regarded as 'ideal' (55 to 65 kilograms for red deer and 25 to 35 kilograms for fallow deer).

Graph 1 shows the average HCW of red and red hybrid deer since April 1998 and the average HCW for all red and red hybrid deer carcasses during that period. Graph 2 shows the average HCW of fallow deer processed since April 1998 and the average HCW for all fallow deer carcasses during that period.

Graph 1 – Average HCW of Red Deer

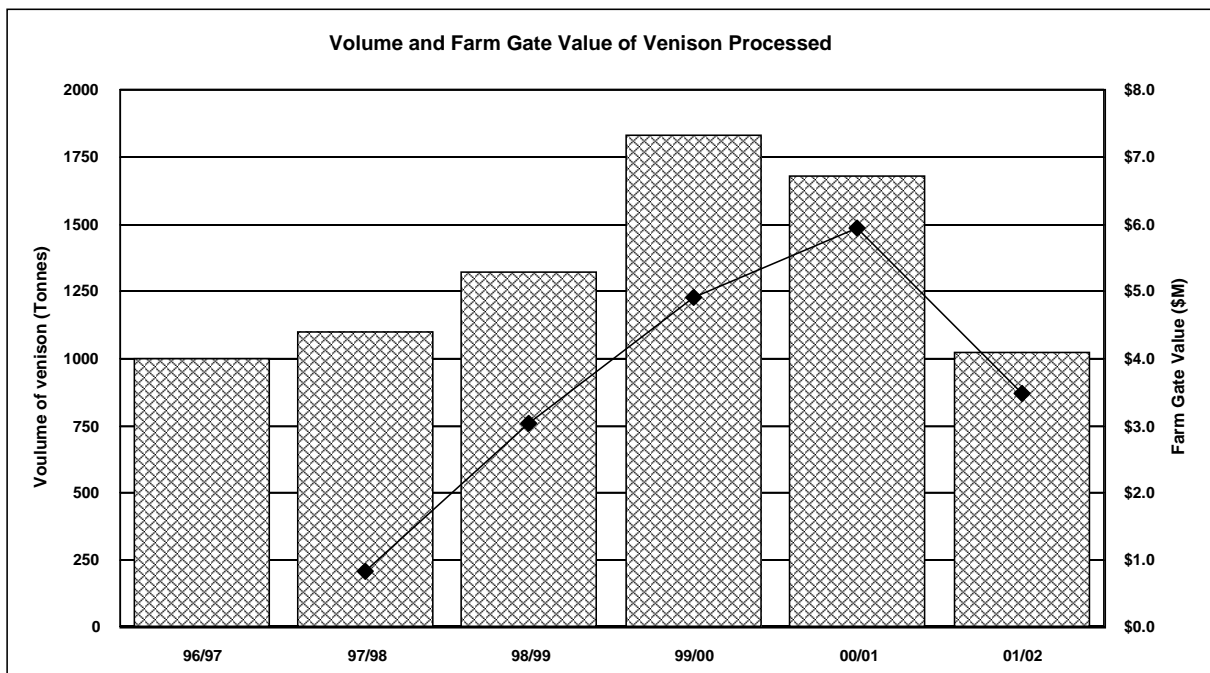


Graph 2
–
Average HCW of Fallow Deer

The average hot carcase weight from April 1998 to June 2002 is 23.4 kg for fallow deer and 53.0 kg for red (including hybrid) deer. The average HCW for red deer in 1998/99 was 56, in 1999/00 it was 50.7, in 2000/01 it was 53.4 and in 2001/2002 it was 53. The average HCW for fallow deer in 1998/99 was 24.5, in 1999/00 it was 22.6, in 2000/01 it was 23.6 and in 2001/2002 it was 23.2.

Graph 3 shows the volume of venison processed by processors since 1997 and its Farm Gate Value with no deductions for the statutory industry levy, processing and transport costs.

Graph 3 – Total Value and Volume of Industry Venison Production



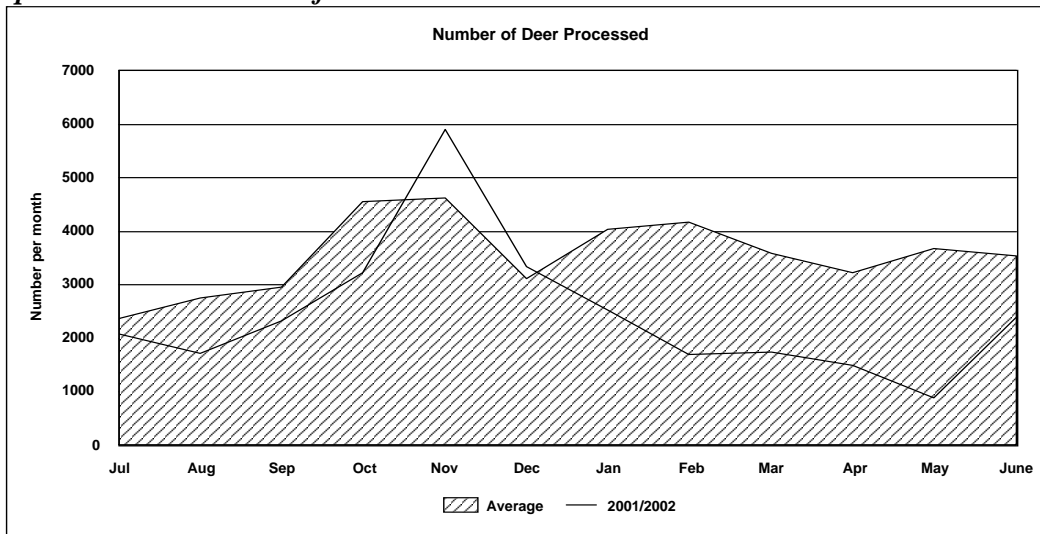
The total volume of venison processed by processors during the year July 1999 to June 2000 was 1,832 tonnes, for the year July 2000 to June 2001 the volume was 1,679 tonnes and for the year July 2001 to June 2002 the volume was 1,023 tonnes

Number of deer processed

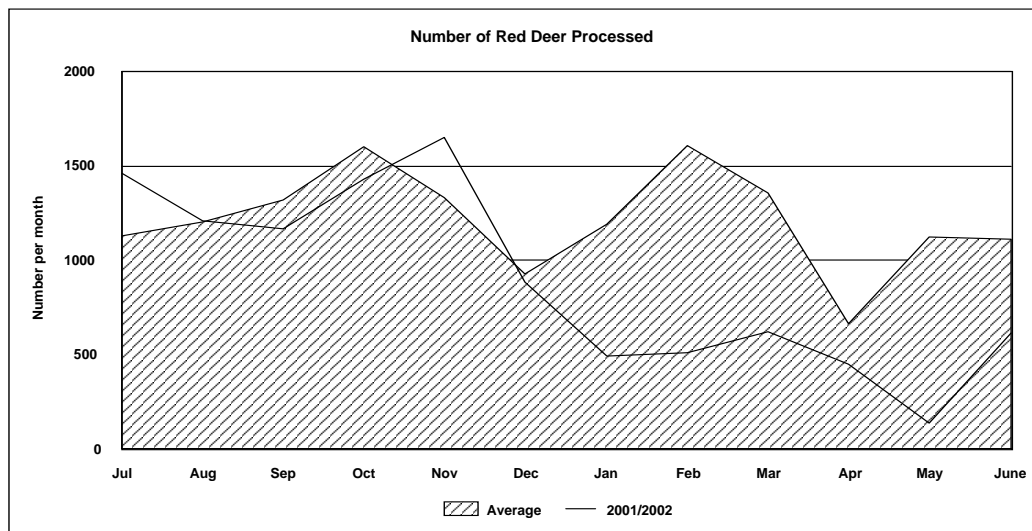
Information on the number of animals processed was not collected in previous years so an estimate of the number of animals that have been processed was made. The actual number of animals processed was recorded during 2001/2002.

Graphs 4, 5 and 6 show the estimated total number deer, the number of red (including hybrids) and fallow deer processed each month for 2001/2002 compared with the average number processed each month for the period April 1998 to June 2002.

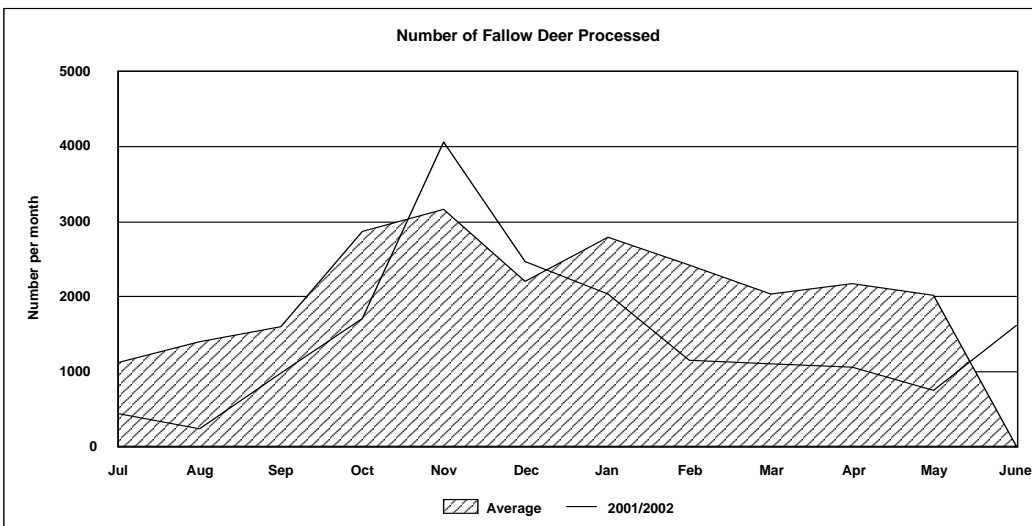
Graph 4 – Total Number of Processed



Graph 5 – Number of Red Deer Processed

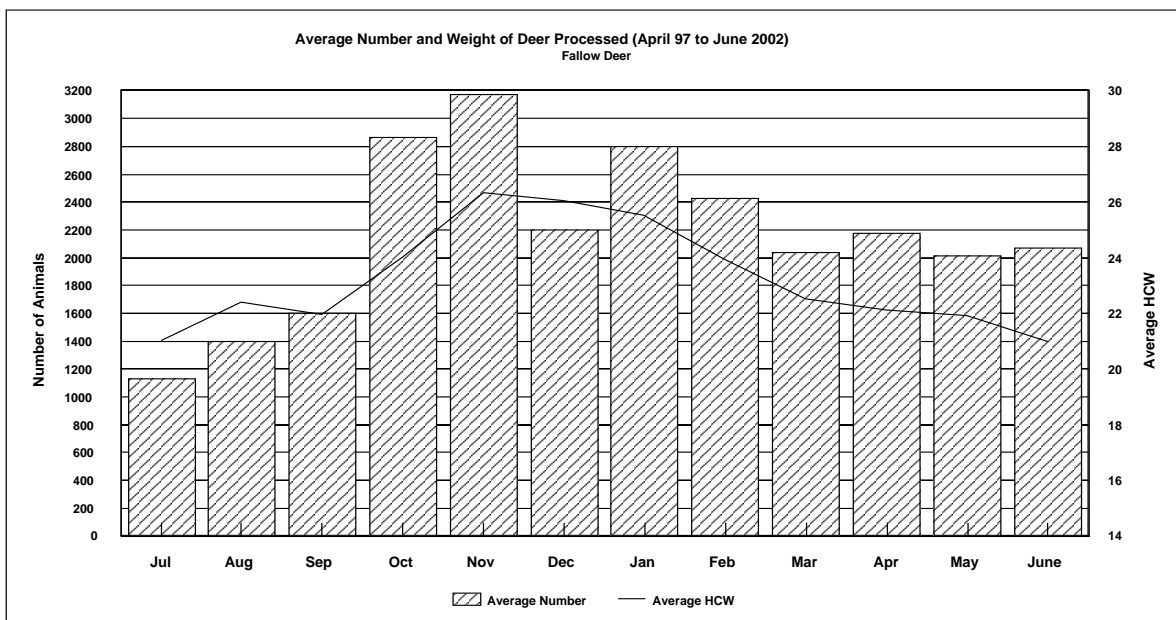


Graph 6 – Number of Fallow Deer Processed

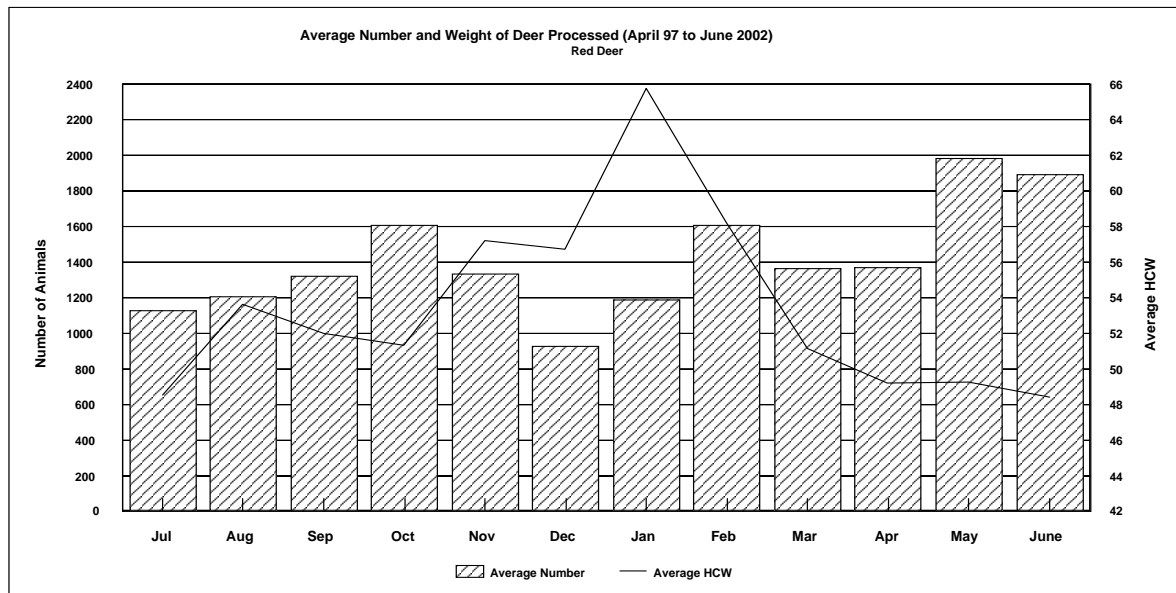


The total number of deer processed by cooperating processors during the year July 1999 to June 2000 was 56,105 animals and was 47,624 for the year July 2000 to June 2001. The estimated total number of deer processed for the year July 2001 to June 2002 was 29,383.

Graph 7 – Average Number and Weight of Fallow Deer Processed



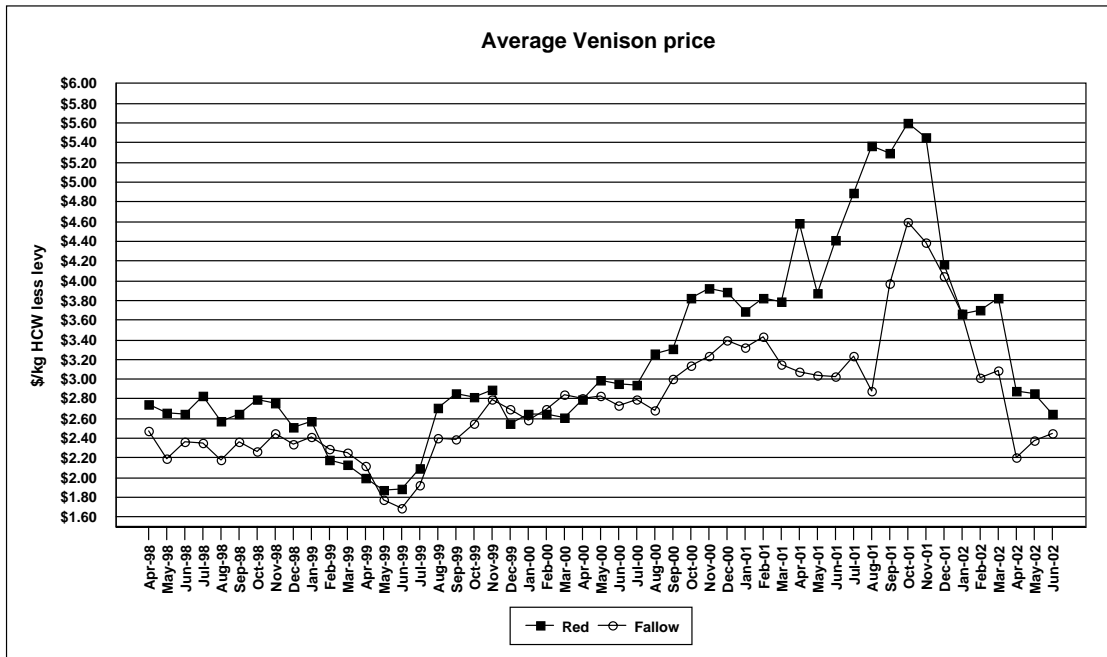
Graph 8 – Average Number and Weight of Red Deer Processed



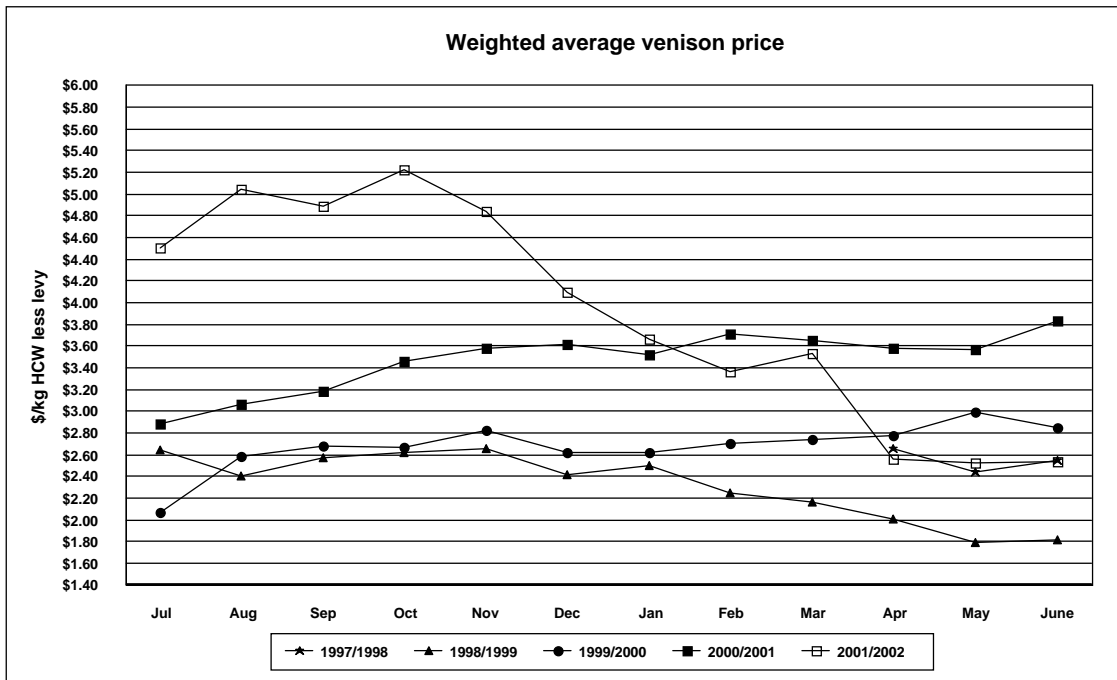
Average Venison Price to Farmers

Graphs 9 and 10 show the average venison price (HCW delivered to the abattoir) for all red and fallow deer carcasses. Although data was also collected for rusa deer, the volume of venison produced by these deer is a relatively minor contribution to the total volume (about 6%) so the data is not shown. **These data do not include deductions for the statutory industry levy, processing and transport costs.** Graph 9 shows the average venison price over the period shown while graph 10 compares the average venison price between years.

Graph 9 – Average Venison Price (\$/kg HCW)



Graph 10 – Average Venison Price [Between Years Comparison] (\$/kg HCW)

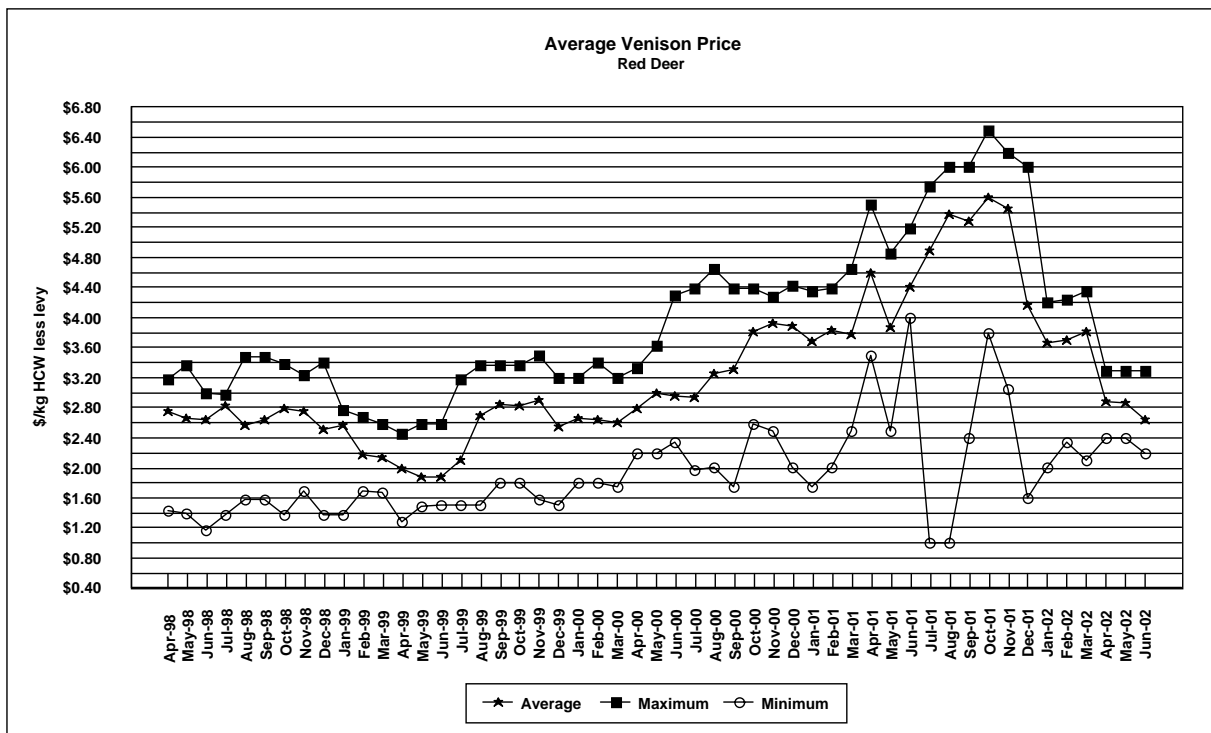


It is interesting to note that the average price paid to farmers for venison in the months of April, May and June in 1998 is almost identical to average price paid to farmers for venison in the same months of 2002.

Variation in Average Venison Value

Graph 11 shows the average venison price and maximum and minimum price paid (HCW delivered to the abattoir) for all red deer carcasses processed between 1998/99 and 2001/02. *These data do not include deductions for the statutory industry levy, processing and transport costs.*

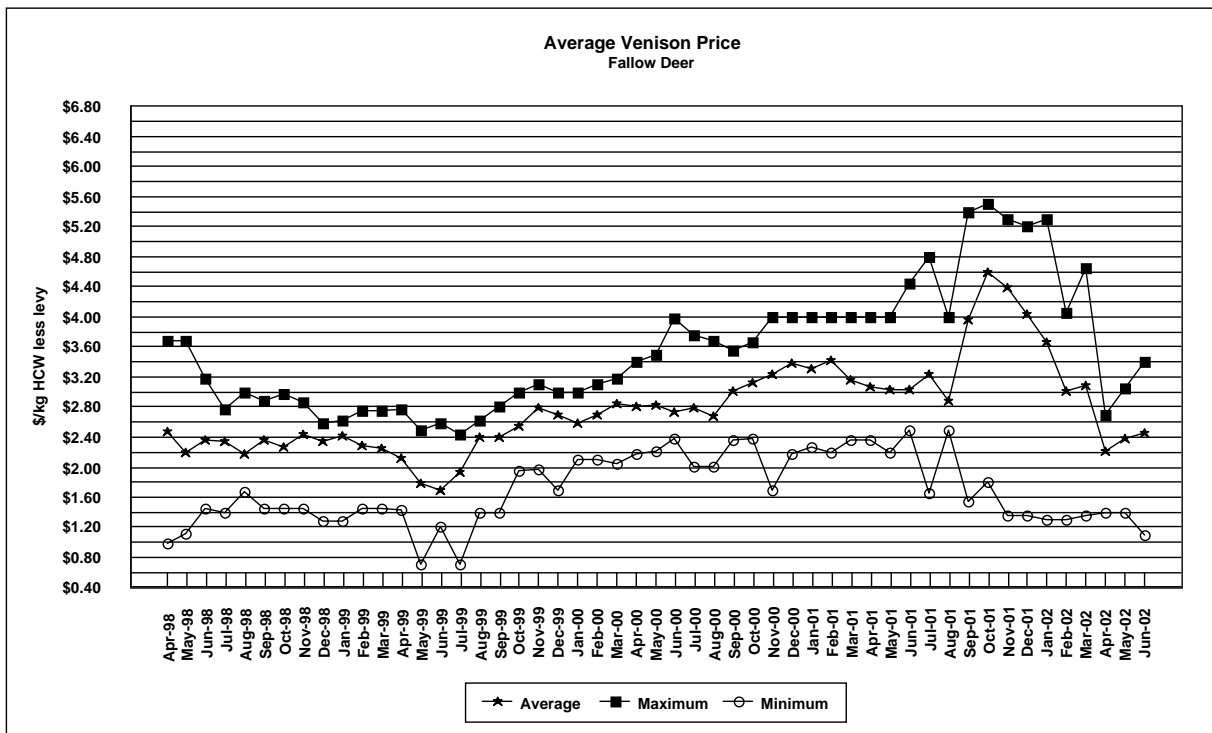
Graph 11 – Range in Average Venison Price Paid for Red Deer (\$/kg HCW)



Over the period represented on the graph, the mean difference between the average price and the maximum price was \$0.69 while the mean difference between the average price and the minimum price was \$1.07 so the mean range from maximum to minimum price for red deer venison during the period described was \$1.76. These average difference values are almost identical to values calculated for the April 1998 to June 2001 period.

Graph 12 shows the average venison price and maximum and minimum price paid (HCW delivered to the abattoir) for all fallow deer carcasses processed between 1998/99 and 2001/02. ***These data do not include deductions for the statutory industry levy, processing and transport costs.***

Graph 12 – Range in Average Venison Price Paid for Fallow Deer (\$/kg HCW)

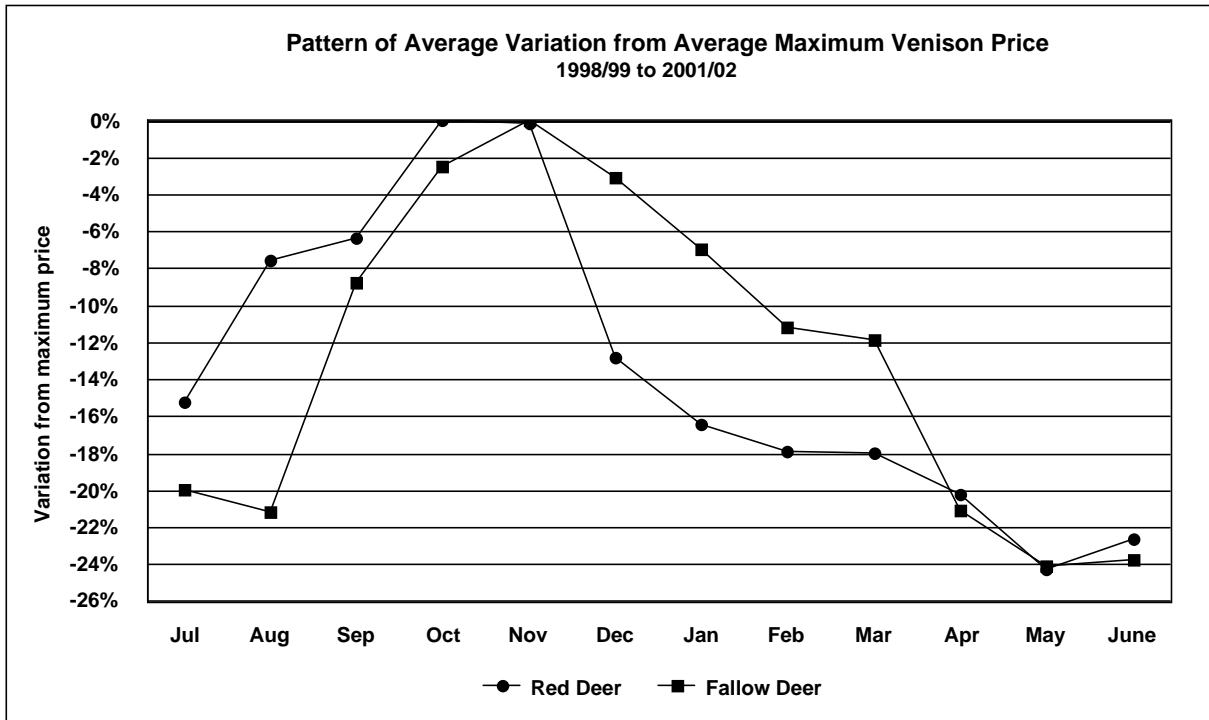


During the period described, the mean difference between the average price and the maximum price was \$0.66 while the mean difference between the average price and the minimum price was \$0.86 so the mean range from maximum to minimum price for red deer venison during the period described was \$1.52. The data for the 2001/2002 season have not changed these average difference values calculated for the April 1998 to June 2001 period.

Annual Pattern of Average Venison Prices

The pattern of changes in the relative prices paid for red and fallow deer venison during the years 1998/99 to 2001/02 is shown in graph 13. The data clearly reflects the pattern of European demand for venison and shows how closely linked the price for Australian venison is to European seasonal demand.

Graph 13 – Annual Pattern of Venison Price Variation



Graph 13 also indicates a narrower period of months in which higher prices per kilogram are paid for fallow venison. In particular, on average the peak price paid for fallow venison occurs in November and the price paid for fallow venison sold in October and December is about 2% and 13% less respectively.

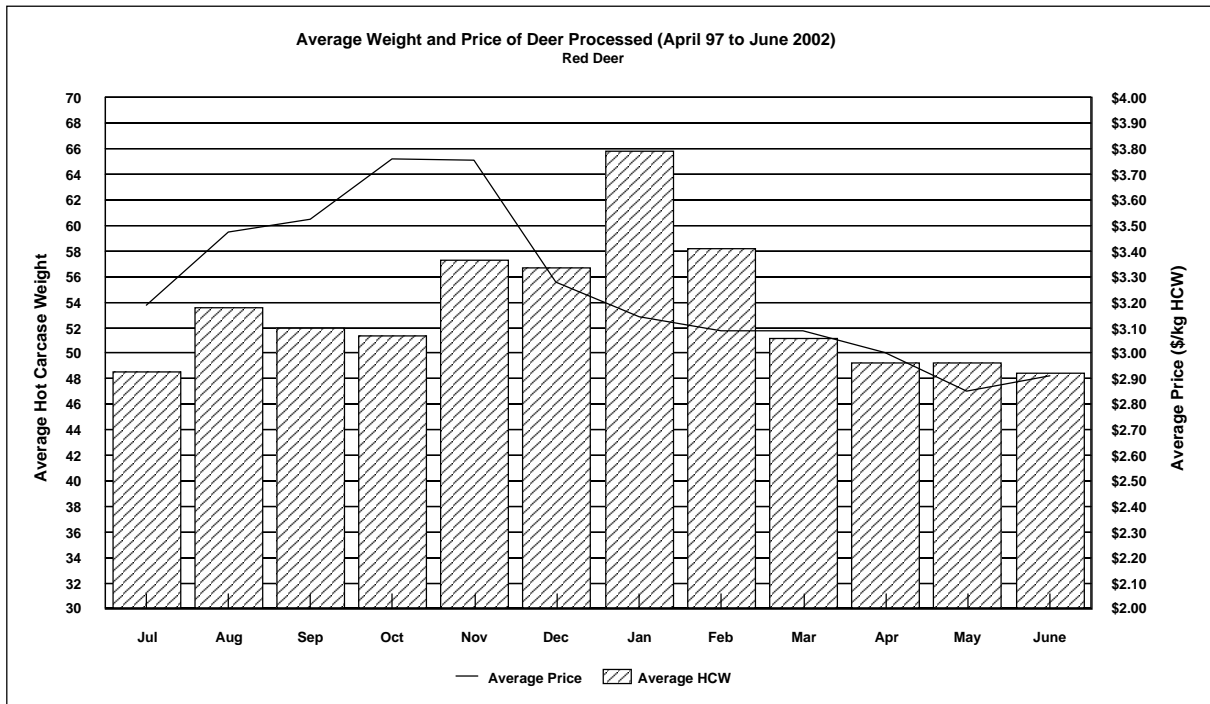
The graph also shows that: (i) the average price per kilogram paid for fallow deer venison in the months September, October and November is greater than the price paid for all other months and (ii) if fallow deer are not ready for processing by March, they should be held over until at least September.

The pattern of prices for red deer venison shows that the peak average price for venison lasts for about two months (October and November) and that the variation in price per kilogram paid for animals sold between September and January is only about 5%.

Similar to fallow deer, if red deer are not ready for processing by March, they should be held over until at least August.

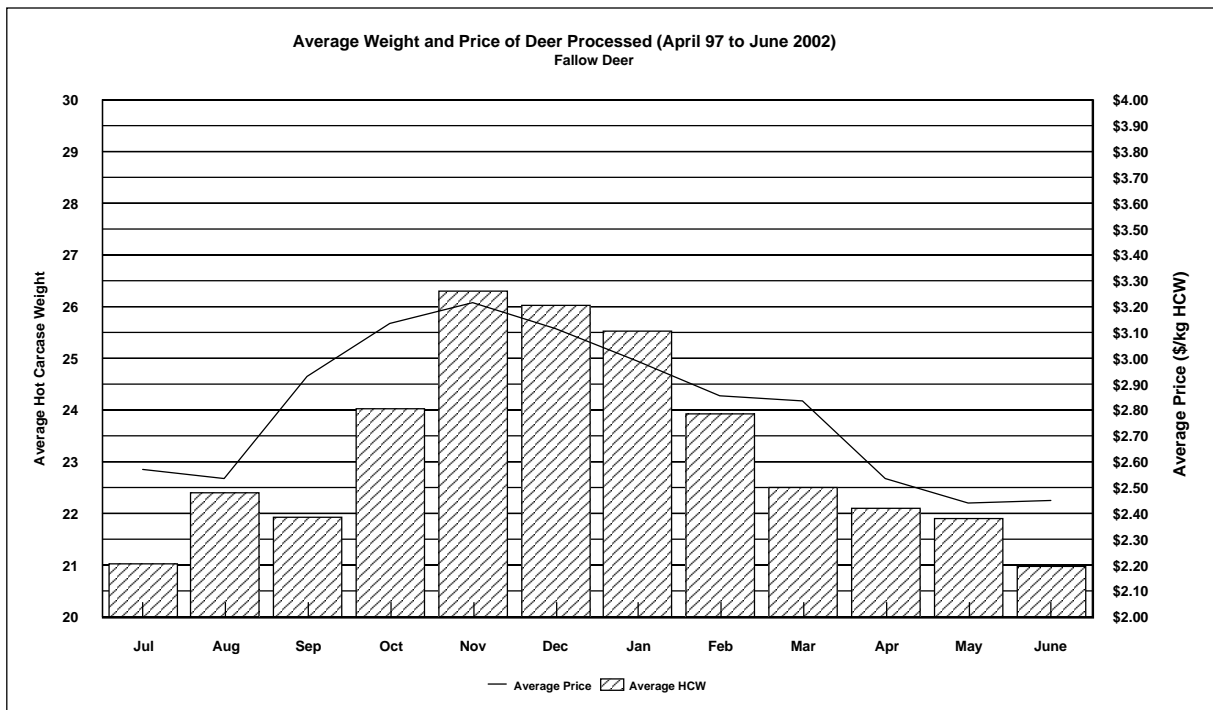
Graphs 14 and 15 show that the relationship between average venison price, \$ per kg HCW weight, and average hot carcass weight for each month.

Graph 14 – Annual Pattern of Red Deer Venison and HCW Variation



Graph 14 shows that red and red deer hybrid carcase weight is not maximised when average venison price peaks. It also clearly demonstrates that for red deer and red deer hybrids, carcase weights above ideal weight ranges do not attract more \$ per kg HCW weight than those within ideal weight ranges. The increased average weight of animals sold in January and February reflects the sale of cull velvetting male animals after their second velvet cut for the season.

Graph 15 – Annual Pattern of Fallow Deer Venison and HCW Variation

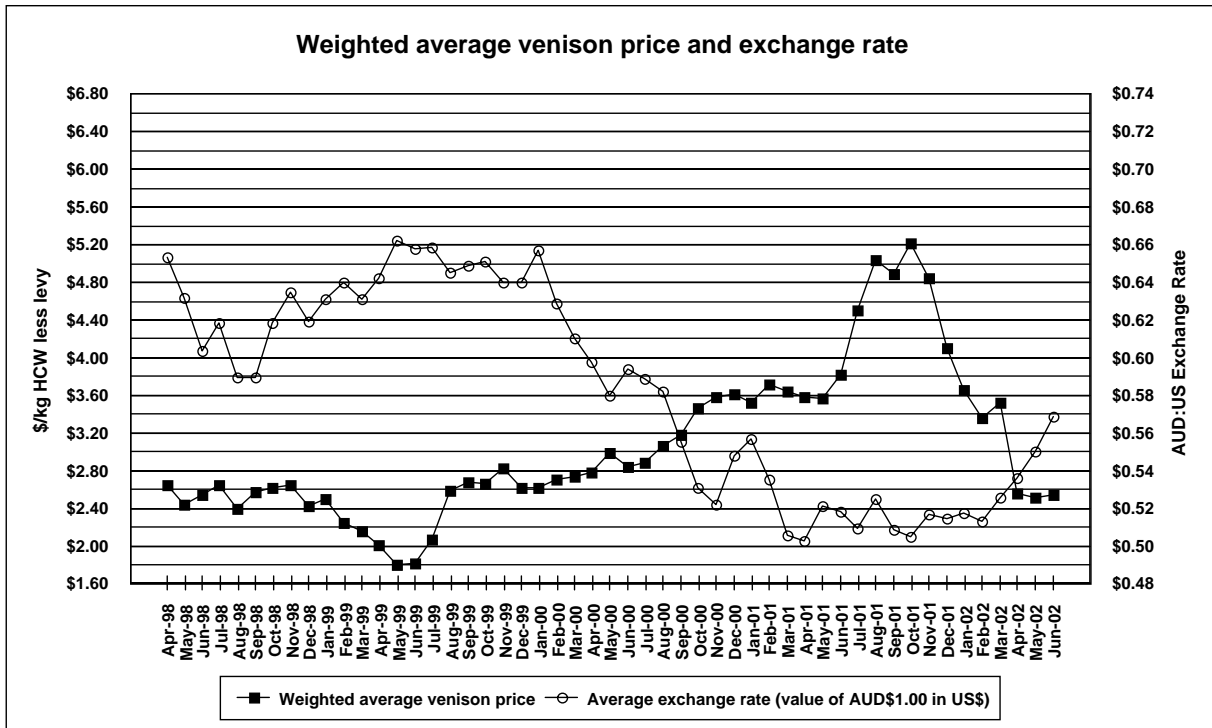


Graph 15 shows that fallow deer hot carcase weight generally reflects the average venison price although there appears to an obvious opportunity to improve grower returns by improving average carcase weight in September, October and March.

Effect of the Exchange Rate on Average Venison Value

The relative value of the Australian dollar, as reflected by its rate of exchange with the US dollar, appears to have an effect on venison returns to farmers. Graph 16 demonstrates how the average price received by Australian deer farmers for venison is to some degree linked to the relative value of the Australian dollar. The effect of depressed demand and prices created by the early 1999 Asian crisis on venison values is clearly evident from the graph as is the exaggerated demand and venison price effect created by the BSE and Foot and Mouth disease outbreaks in Europe in 2001.

Graph 16 – Effect of Exchange Rate on Average Value of Venison



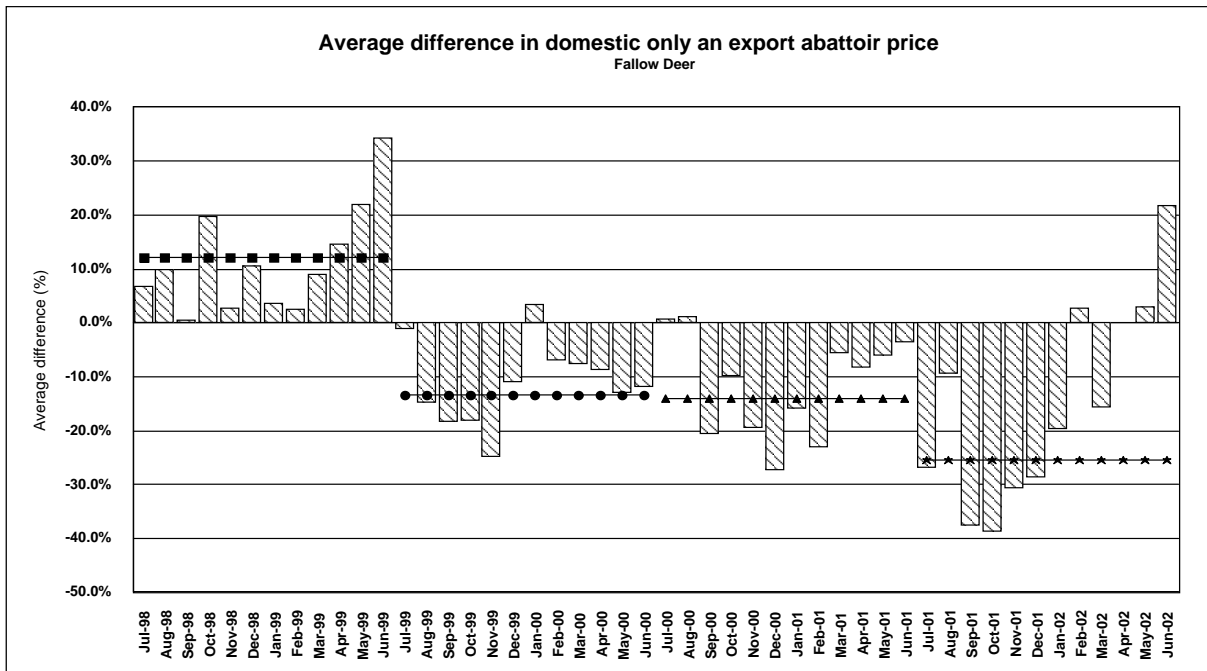
Effect of Likely Market for Venison

Graph 17 clearly shows the average difference in price paid for fallow deer venison by those who process in domestic abattoirs (domestic markets only) and those who process in export-accredited abattoirs (principally for export markets).

A graph for the effect of likely market for red deer venison is not shown as data is not available for any red deer venison processed in domestic abattoirs since July 2000.

Graph 17 not only shows that fallow deer venison is regularly processed in domestic works (all months have a value) but in the financial years 1999/2000, 2000/2001 and 2001/2002, returns to farmers for fallow deer venison processed in domestic abattoirs were about 14%, 15% and 25.5% less respectively than the return achieved for fallow deer venison processed in export abattoirs.

Graph 17 – Difference in the average price paid for fallow deer venison processed in domestic abattoirs and that processed in export abattoirs.



Velvet Antler Production

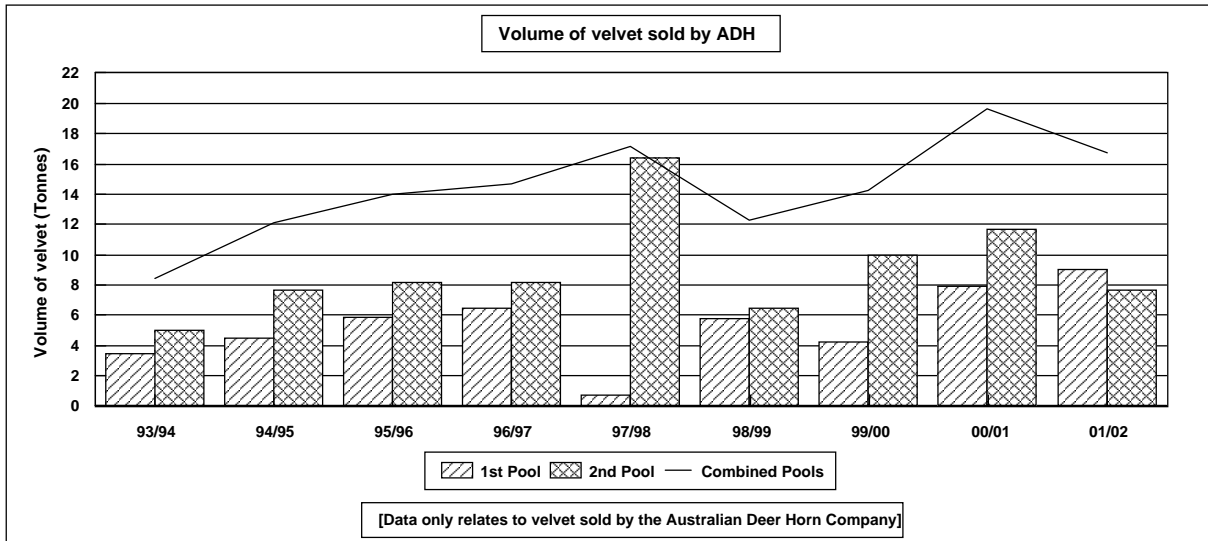
Velvet Production

Industry estimates still suggest that the majority (60%) of velvet antler (deer horn) produced by the Australian deer industry is collected, graded and sold through the velvet pools managed by the Australian Deer Horn and Co Products Company (ADH).

Unprocessed velvet antler is traditionally sold to international buyers, generally velvet processors from New Zealand, Korea and China). A small but increasing volume of velvet is sold to Australian processors who market processed product with in Australia and Internationally.

Prices paid for velvet antler produced by the Australian industry are strongly influenced by, and closely linked, to prices paid to New Zealand deer farmers. Although velvet is sold to New Zealand based buyers, ADH continues to foster direct relationships with Korean and Chinese buyers of deer antler.

Graph 18 – Volume of Velvet Sold by ADH

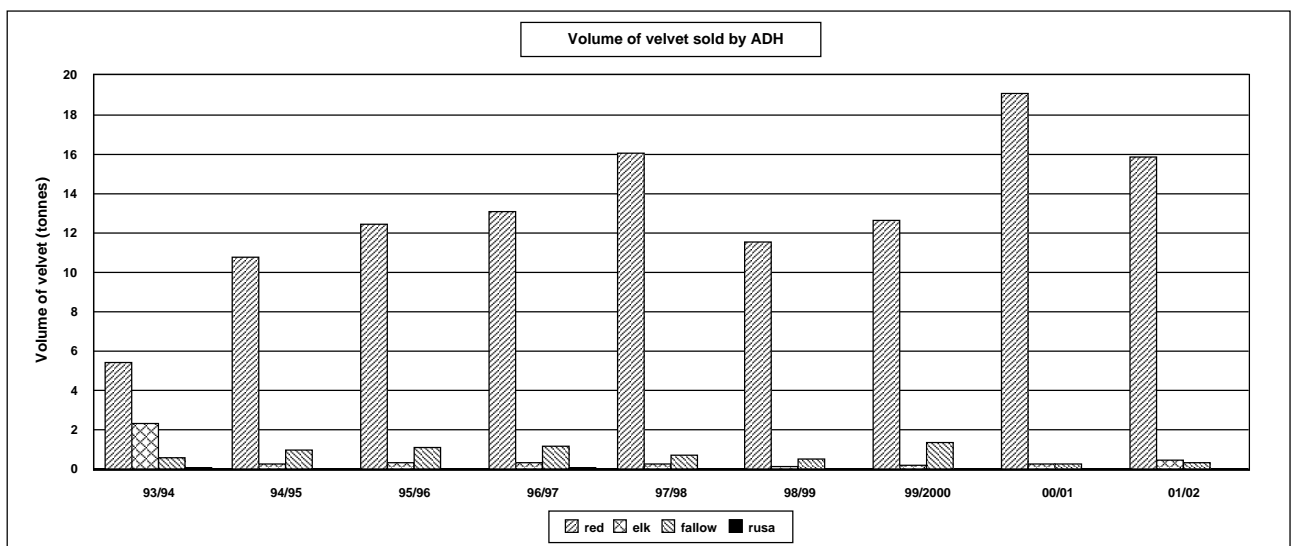


Graph 18 shows the trend of ADH velvet sales continues to increase. In a similar manner to venison sales the Australian industry has little control over demand and price of unprocessed products in the international market. These data do not include information about velvet sold by companies other than ADH, that information is currently unavailable. There is no formal mechanism to determine how much velvet Australian deer farmers have sold other than the statistics obtained from the Levies & Management Unit. At the close of the last financial year, only ADH and two private farmer groups had paid levies due, yet evidence clearly points to more velvet being sold overseas.

There is a general belief that prices for the 2002/2003 season will be greater than those achieved for the 2001/2002 season.

Graph 19 shows that the contribution of each species to the volume of velvet antler sold by ADH has grown since the 1993/94 season.

Graph 19 – Volume of Velvet Sold by ADH by Species

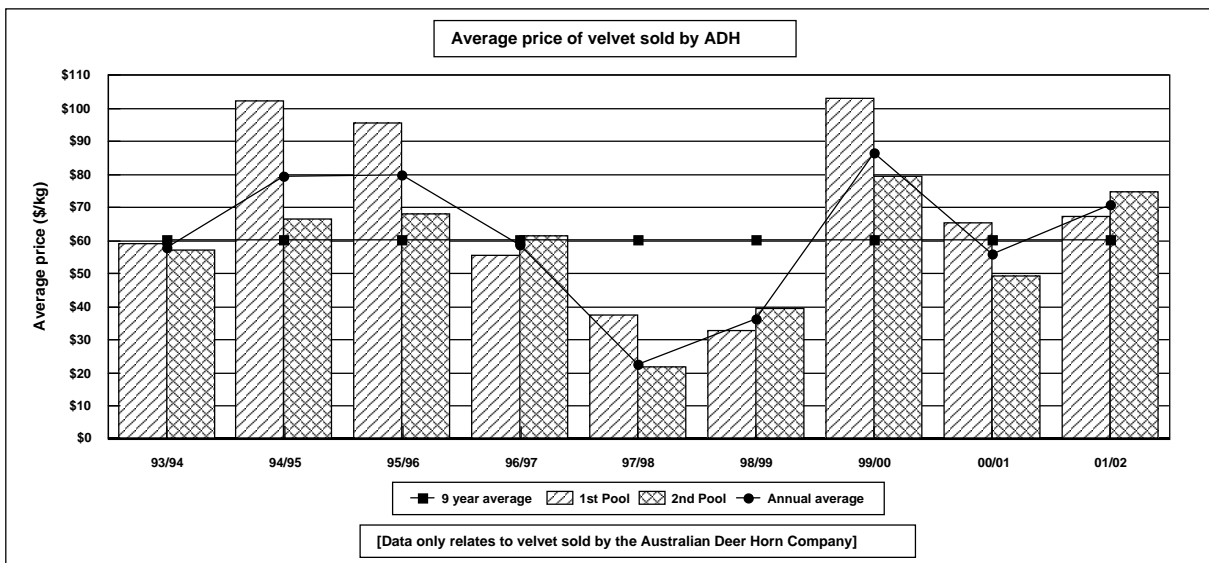


About 91% of all velvet antler sold by ADH has been produced by red deer and red deer hybrids. During the same period Elk/Wapiti have produced about 4.0%, Fallow deer 6.0% and Rusa deer negligible quantities annually.

Velvet Antler Prices

Graph 20 shows how the value of velvet antler sold by ADH has grown since the 1993/94 season.

Graph 20 – Value of Velvet Sold by ADH



The average value of velvet sold at the first ADH pool in most years is greater than the average value of velvet sold at the second pool each year.

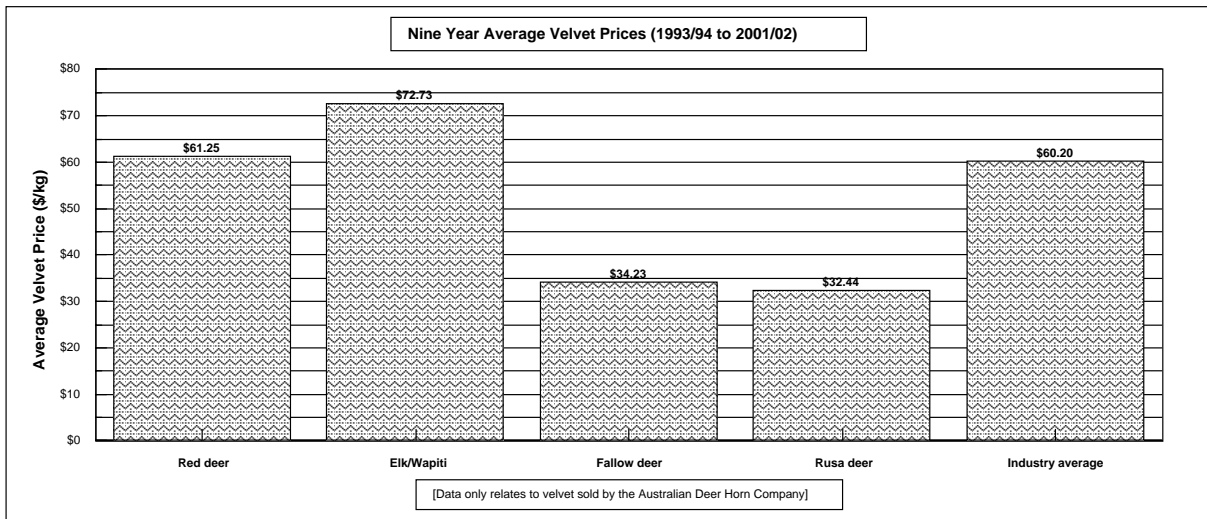
The graph shows that the nine season average price for velvet antler sold by ADH is about \$60.20 per kilogram fresh (unprocessed frozen) weight.

Graph 21 shows the variation in average prices between pools in each year and the average price for all velvet in each year relative to the eight-year (beginning with the 1993/94 season) average price for all velvet sold by ADH.

The average price of red deer antler over the nine-year record period was \$61.25 per kilogram and \$72.73 per kilogram for elk/wapiti.

These eight-year averages for each species are reasonable averages for use in planning budgets by those considering investment in the deer industry. However, if an average (omitting the poor performance in 1997/98) is calculated, the average price for red deer, Elk/Wapiti and Fallow velvet is \$67.43, \$75.56 and \$36.05 per kilogram respectively. For development of industry investment budgets, some say that these are more reasonable average velvet value figures to use.

Graph 21 – Value of Velvet Sold by ADH by Species



Objective 3 – Reproduction and dissemination of new manuals developed by RIRDC project ‘Venison Quality Assurance’.

Like most industry Quality Assurance programs, the Deer Industry Quality Assurance program is open to continuous amendment and improvement. The 2000-2001 RIRDC-funded project ‘Venison Quality Assurance’ amended all deer industry QA manuals (Deer Farm Best Practice Manual, Deer Transport Best Practice Manual, Venison Processors Best Practice Manual) to take account of improvements in known technologies and management practices, errors in previous manuals and to include appropriate HACCP sections within each manual.

There are in excess of 100 registered Deer Industry QA manuals in use throughout the industry. All registered manual owners are eligible for ongoing manual updates as part of their accreditation maintenance fee payments.

One hundred and fifty of each of the three new manuals were printed and all eligible manual holders have been sent a copy of the appropriate manuals.

Objective 4 - Production of the new Deer QAMA program on computer CD ROM.

A computer database program called ‘Deer Quality Assurance Management and Analysis’ (Deer QAMA) was produced as part of the 2000-2001 RIRDC-funded project ‘Venison Quality Assurance’ project.

The Deer QAMA provides Australian deer farmers with a computer software program that will easily record, store and report on all information required by businesses accredited by the Deer Industry QA program.

The Deer QAMA program CD ROM (including an operating manual) has been reproduced and all eligible Deer Farm Best Practice Manual holders were provided with a copy of the CD ROM as part of their ongoing and manual update.

In future all people who purchase a Manual will be provided with a copy of the Deer QAMA CD ROM for no extra cost, as an incentive to seek level two accreditation by the Deer Industry Quality Assurance Board.

Objective 5 - Retraining and updating the accreditation of existing facilitators.

Separate workshops were organised in Queensland, Victoria and Western Australia to discuss and review updated quality assurance manuals and to provide facilitators with training in the use of the Deer QAMA program.

Workshops were not conducted in other states because there are no registered Deer Industry Quality Assurance facilitators in other states despite ongoing attempts to encourage people to consider the role.

Objective 6 - The encouragement of more industry members to take a QA facilitator role to assist the adoption of the program by the industry at large.

Industry members in each state have been encouraged to take a QA facilitator role and encourage and assist deer farmer adoption of the Industry quality assurance program.

Encouragement has been undertaken, by direct contact with people thought to have the skills and personality suitable for the role, by advertising and explaining the role in the industry association bi-monthly magazine and in discussion with farmer groups.

There is little interest from the deer industry community in working as a quality assurance facilitator. Only one new facilitator (from Western Australia) has begun training that will lead to accreditation as a Deer Industry Quality Assurance facilitator.

It is concerning that several facilitators in Victoria and South Australia have decided not to continue as facilitators either because of lost interest or a lack of confidence in providing Deer QAMA support to those farmers seeking accreditation.

None of the people who began training as facilitators in New South Wales remains in the deer industry and no new people from that state have volunteered to train as industry facilitators.

In consideration of the loss of trained facilitators, members of the deer industry in Queensland have proposed that a single specialist in each State is given detailed training in the use of Deer QAMA and that person acts as the resource person for Deer QAMA in that state. The Deer QAMA resource person may necessarily be a trained facilitator.

If this option is accepted, some of the facilitators in South Australia and Victoria may be prepared to continue as facilitators. The Deer Industry Quality Assurance Board is to consider this option.

5. Discussion

Quality Assurance

The benefits of industry QA programs have been well documented. Quality Assurance accreditation is an increasingly necessary minimum standard for access to international markets rather than simply an opportunity to gain price premiums above those offered for non-quality assured products.

Like other red meat industries, the legacy left to European deer industries by the recent animal/human health concerns created by BSE and Foot and Mouth Disease and the North American industries by CWD management programs, is increased community animal/human health concerns about the safety of red meat.

These concerns have increased industry emphasis on well-managed Quality Assurance programs, particularly in Europe, in an effort to guarantee to consumers that commodities produced by the deer industry meet consumer expectations of quality, food safety and animal welfare.

Canadian and European representatives (particularly those from Britain) attending the recent (February 2002) third World Deer Farming Congress in Europe were impressed with the quality assurance computer software program developed by RIRDC and the Australian Deer Industry. Negotiations have begun to amend software to meet international requirements and provide a source of income for the Australian deer industry.

As quality assurance programs adopted by international deer industries gain momentum, particularly the European industry, the ability of the Australian industry to supply product to international markets is increasingly likely to be dependent on the ability of suppliers of Australian product to provide a reasonable guarantee of food safety and commitments to animal welfare.

The only way to provide those guarantees is through the Australian Deer Industry QA program that is open to regular audit by both program administrators and the market place. If the industry does not meet requirements of importing countries, its access to markets is likely to be restricted.

All Australian Deer industry members are encouraged to adopt the industry QA program and in turn help guarantee market access for those sectors of industry concerned with marketing their products that in turn will help guarantee the industry's sustainable and profitable future.

Venison

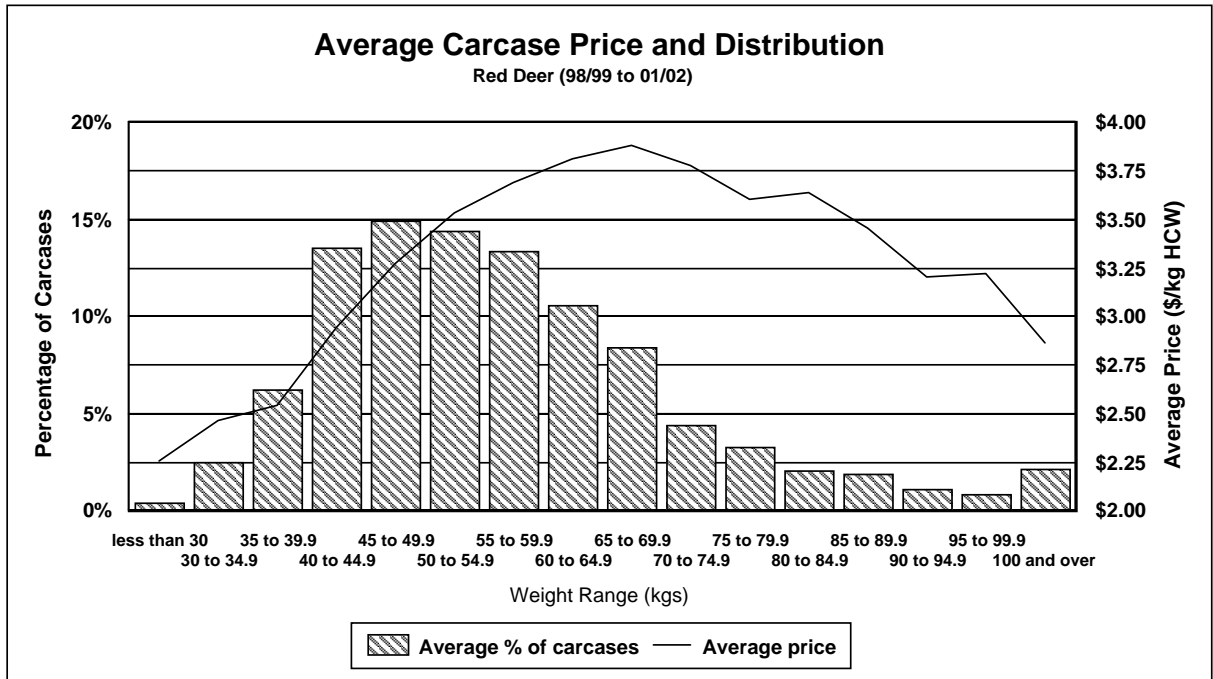
Data produced by the 1997-1999 RIRDC-funded project 'The Development of the Deer Industry as a Major Australian Livestock Industry' and this project, show a wide variation in weight of carcasses processed by Australia's venison processors. Although seasonal influences and natural change in body weight contributes significantly to this variation in carcass weight, experience suggests that a significant proportion of underweight animals during spring, summer and autumn result from inadequate nutrition regimes. Research data from around the world and local experience suggests that with appropriate feed management and considered use of genetics, the difficulties in maintaining body weight and growth rates during the winter, especially for male stock, can be minimised.

Average Carcass Weight Distribution and Average Price for Weight Ranges

Graphs 22 and 23 show the average percentage of carcasses within each specified weight range and the average carcass price for each of the weight ranges for red fallow and rusa deer for the years 1998/99 to 2000/01.

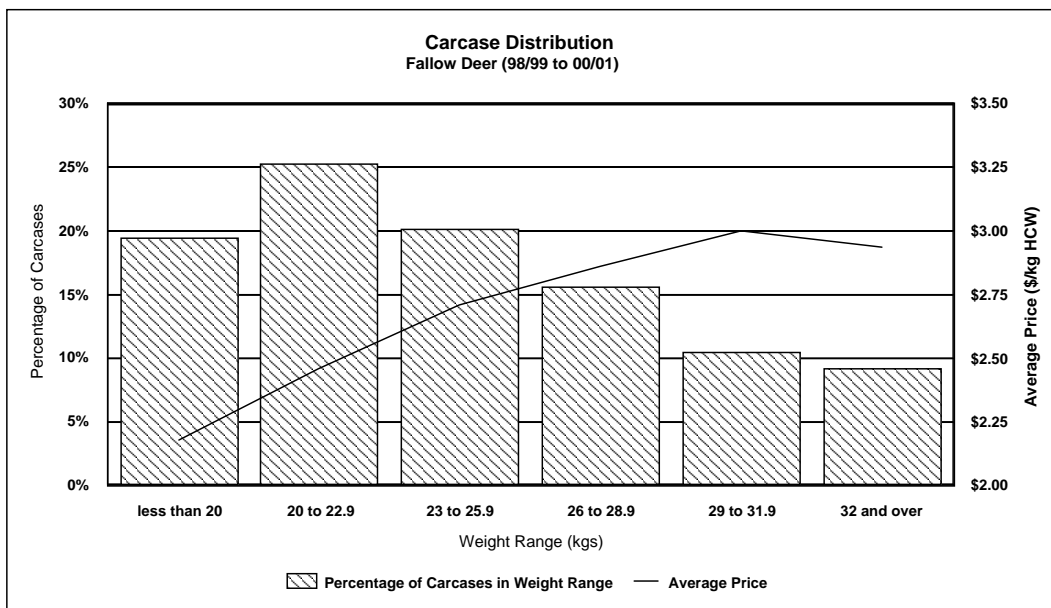
Graph 22 shows a similar distribution of percentage of carcasses within nominated weight ranges as was reported in 2001. It reinforces previous data that indicates that the preferred, 'ideal' red deer carcass weight required by processors is within the range 55 to 75 kilograms.

Graph 22 – Average Carcase Distribution and Price for Red Deer



Data for fallow deer is summarized in Graph 23. A similar distribution of percentage of carcasses within nominated weight ranges as was reported in 2001 is evident. The graph shows that the greatest percentage of fallow deer sold have average carcase weights that are less than 26 kilograms while the average price (\$/kg HCW) is greatest for carcasses that weigh from 26 to 30 kilograms.

Graph 23 – Average Carcase Distribution and Price for Fallow Deer

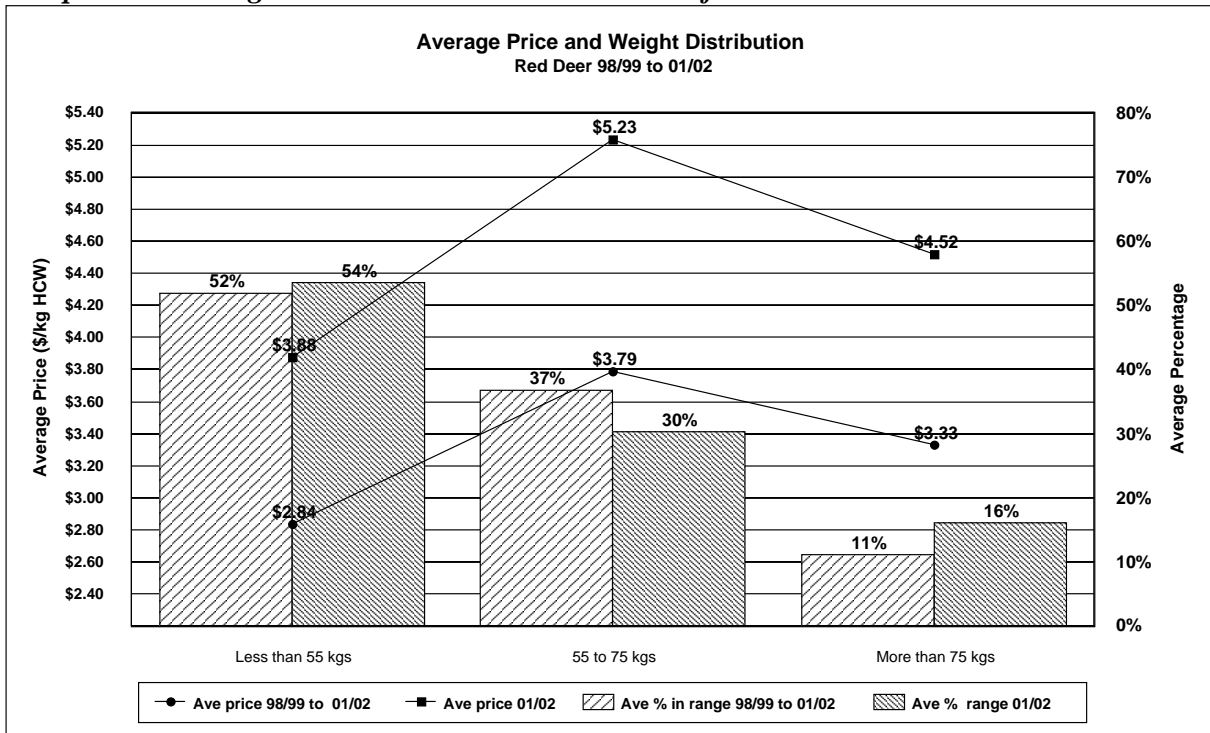


Average Carcase Price for Ideal Weight Ranges

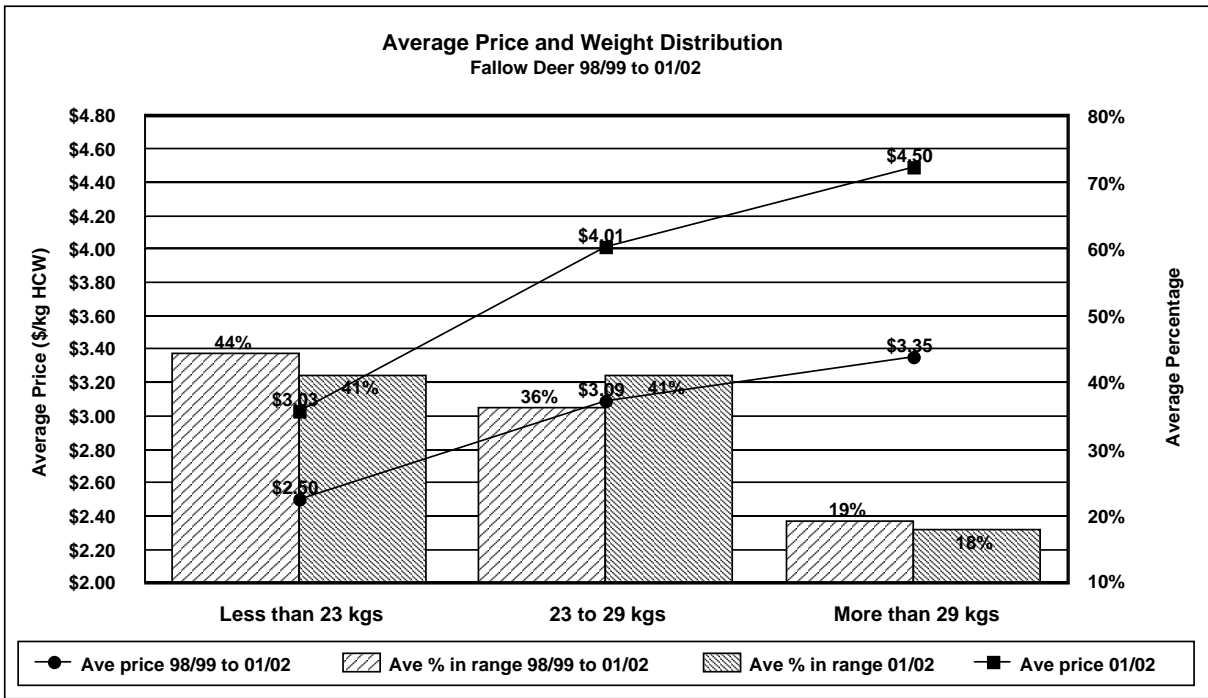
From average price data displayed in graphs 22 and 23, prime weight ranges for red, and fallow deer are similar to those presented in the 2001 project report (55 to 75 kgs and greater than 26 kgs respectively). Graphs 24 and 25 show: the average percentage of carcasses:

- (i) The average percentage of carcasses within the nominated prime weight range, with weight less than the prime weight range and greater than the prime weight range for each species for the years 1998/99 to 2001/02
- (ii) The average percentage of carcasses within the nominated prime weight range, with weight less than the prime weight range and greater than the prime weight range for each species for the year 2001/02
- (iii) The average carcase price for carcasses in each group for the years 1998/99 to 2001/02
- (iv) The average carcase price for carcasses in each group for the year 2001/02

Graph 24 – Average Carcase Distribution and Price for Red Deer



Graph 25 – Average Carcase Distribution and Price for Fallow Deer



A continuing cause for concern for each species is that almost 50% of carcasses processed weigh less than the ideal weight range. The average reduction in price (\$/kg HCW) paid for carcasses less than ideal weight during the years 1998/99 to 2001/02 is \$0.95 and \$0.59 for red and fallow deer carcasses respectively.

However, the average reduction in price (\$/kg HCW) paid for carcasses less than ideal weight during the year 2001/02 is \$1.88 and \$0.88 for red and fallow deer carcasses respectively

Graph 24 also demonstrates that red deer carcasses that are heavier than ideal were also discounted during the years 1998/99 to 2001/02 by an average of \$0.46 cent per kilogram and by \$0.49 per kilogram in 2001/2002. During the years 1998/99 to 2000/01 an average of only 36.8% of red and 33.3% of fallow deer carcasses had weights within the ideal range for each species.

These data further highlight the obvious dramatic difference in the prices paid to farmers for stock above and below 'ideal' carcass weights shown in the 2001 report, especially when these price differences are considered in conjunction with the percentage of carcasses within weight ranges and provides a new perspective on low grower returns.

Clearly, a significant opportunity to improve average grower returns by improving average carcass weight is evident from this data and perhaps an industry extension program should be developed to address this issue.

Farm Gate Value of Venison

The total farm gate value (\$/kg HCW) of venison produced by cooperating processors in years 1998/99 to 2000/01 and the estimate value in 2001/02 is shown in tables 1 to 4.

Table 1. Total Farm Gate Value of Venison

Year	Total Value	Average Value (\$/kg HCW)
1998/99	\$3.04M	\$2.30
1999/00	\$4.93M	\$2.69
2000/01	\$5.94M	\$3.54
2001/02	\$3.48M	\$4.38

Table 2. Farm Gate Value of Red Deer Venison

Year	Total Value	Average Value (\$/kg HCW)
1998/99	\$1.72M	\$2.44
1999/00	\$2.36M	\$2.71
2000/01	\$3.65M	\$3.79
2001/02	\$2.16M	\$4.70

Table 3. Farm Gate Value of Fallow Deer Venison

Year	Total Value	Average Value (\$/kg HCW)
1998/99	\$1.17M	\$2.16
1999/00	\$2.16M	\$2.64
2000/01	\$2.07M	\$3.18
2001/02	\$1.23M	\$3.69

Table 4. Farm Gate Value of Rusa Deer Venison

Year	Total Value	Average Value (\$/kg HCW)
1998/99	\$0.15M	\$1.91
1999/00	\$0.46M	\$2.84
2000/01	\$0.21M	\$3.30
2001/02	\$0.92M	\$3.19

Venison Production Summary

A summary of Australia's venison production by cooperating processors in years 1998/99 to 2000/01 and the estimate value in 2001/02 is shown in table 6 to 9 below.

Table 6. Total Volume of Venison Processed

Year	Total Number	Total HCW (Tonnes)	Average HCW (Kg)
1998/99	36,570	1,323	35.8
1999/00	56,105	1,832	32.0
2000/01	45,757	1,679	35.3
2001/02	29,389	1,023	34.5

Table 7. Red Deer Processed

Year	Total Number	Total HCW (Tonnes)	Average HCW (Kgs)
1998/99	12,928	703	54.4
1999/00	17,140	870	50.7
2000/01	18,026	963	53.4
2001/02	10,683	589	53.2

Table 8. Fallow Deer Processed

Year	Total Number	Total HCW (Tonnes)	Average HCW (Kgs)
1998/99	22,128	542	24.5
1999/00	36,065	816	22.6
2000/01	27,647	651	23.5
2001/02	17,620	415	23.2

Table 9. Rusa Deer Processed

Year	Total Number	Total HCW (Tonnes)	Average HCW (Kgs)
1998/99	1,883	77	41.1
1999/00	3,952	147	37.1
2000/01	1,851	65	35.0
2001/02	1,124	36	32.0

Average Prices of Animals Sold for Venison

Tables 10 and 11 show the difference in the average price (*not including deductions for the industry levy or other costs associated with transport*) achieved by farmers for red and fallow deer of different live weights.

Table 10. Value of Red Deer Processed 2001/2002

Red Deer	HCW		
	45	55	65
Jul-01	\$225	\$286	\$374
Aug-01	\$238	\$299	\$313
Sep-01	\$255	\$319	\$374
Oct-01	\$252	\$358	\$400
Nov-01	\$224	\$313	\$375
Dec-01	\$197	\$297	\$0
Jan-02	\$149	\$226	\$273
Feb-02	\$164	\$223	\$244
Mar-02	\$173	\$234	\$0
Apr-02	\$0	\$182	\$202
May-02	\$0	\$182	\$0
Jun-02	\$122	\$182	\$202

Table 11. Value of Fallow Deer Processed (2001/2002)

Fallow Deer	HCW		
	20	24	28
Jul-01	\$59	\$108	\$134
Aug-01	\$0	\$0	\$90
Sep-01	\$84	\$113	\$151
Oct-01	\$87	\$100	\$151
Nov-01	\$77	\$108	\$139
Dec-01	\$71	\$84	\$130
Jan-02	\$55	\$79	\$98
Feb-02	\$51	\$71	\$102
Mar-02	\$72	\$83	\$122
Apr-02	\$48	\$60	\$76
May-02	\$48	\$60	\$76
Jun-02	\$47	\$62	\$76

As can be seen by the data in the tables, the average increase in farmer returns achieved for red deer carcasses from each increase of 10 kilograms of carcass weight from 45 to 65 kg during 2000/2001 ranged from about \$75.00 to \$150.00 or \$7.50 to \$15.00 for each additional kilogram. Similarly, the average increase in farmer returns achieved for fallow deer carcasses from each increase of 4 kilograms of carcass weight from 20 to 28 kg during 2000/2001 ranged from about \$20.00 to \$75.00 or \$2.00 to \$7.50 for each additional kilogram.

The obvious effect of the improvement in carcass weight is further demonstrated by this information and will have a significant impact on farmer returns and profitability.

Export vs Domestic

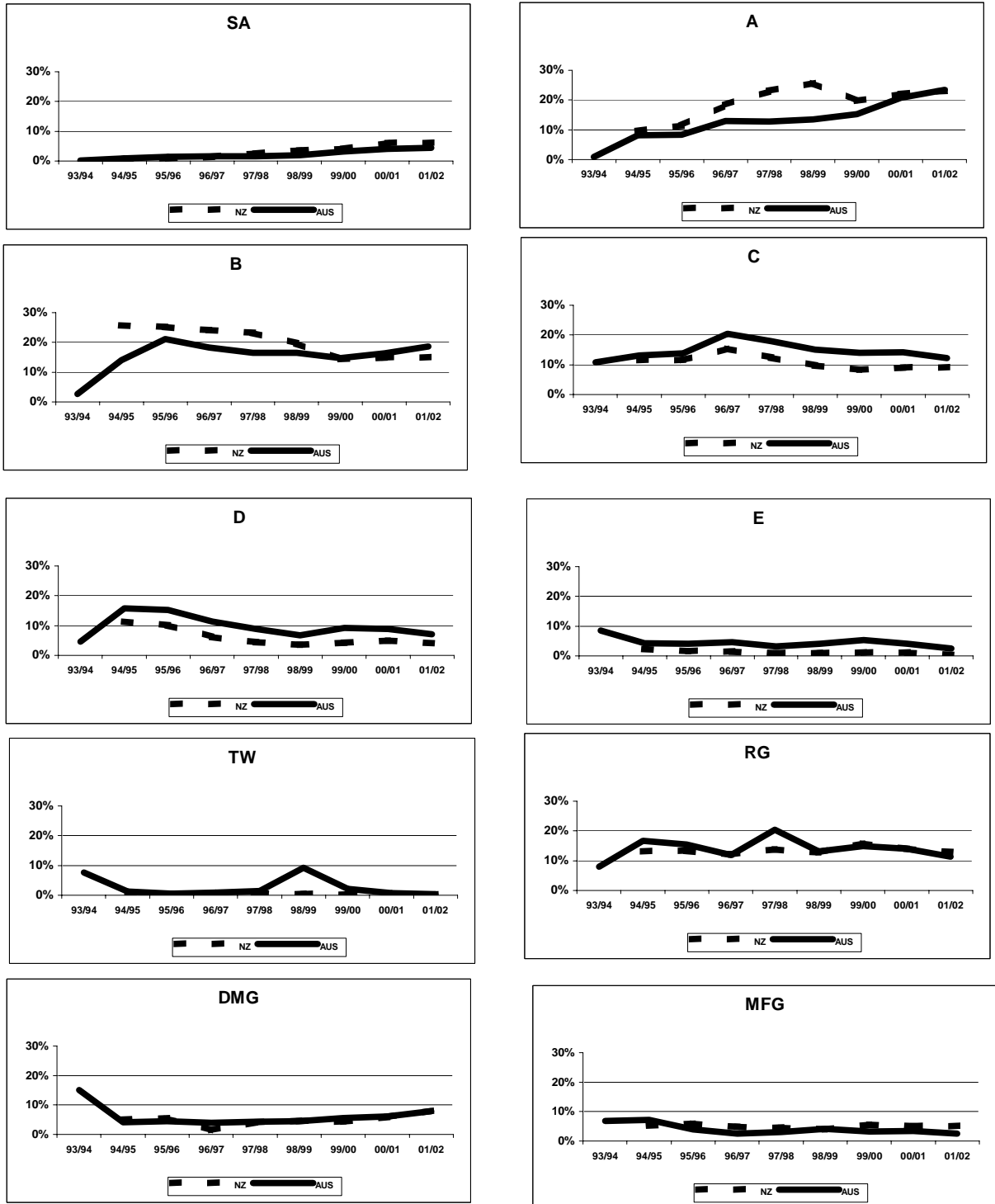
In 1999/2000 and 2000/2001 farmers received about 15% less for venison sold for processing in domestic only abattoir compared to that sold for processing export-licensed abattoirs. In 2001/2002 the relative price was up to 25.5% less for fallow venison processed in domestic only abattoirs.

Velvet antler

Relative Quality

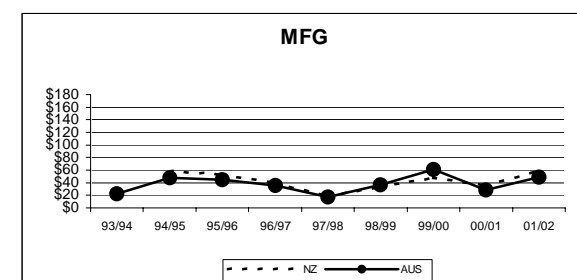
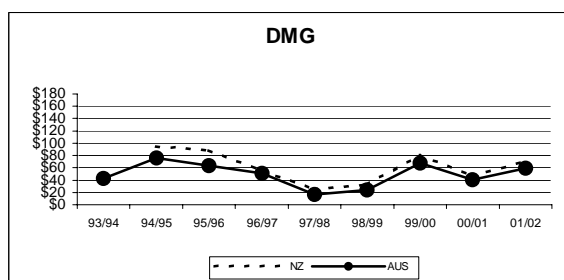
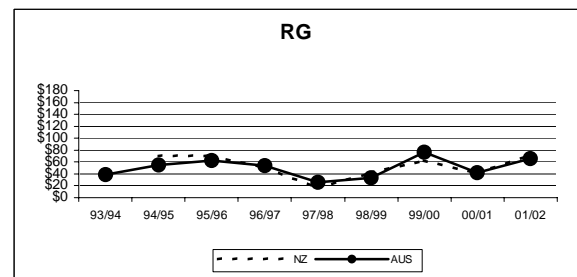
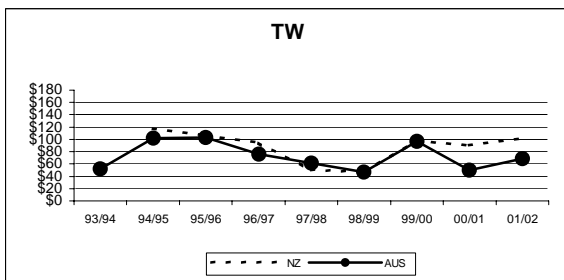
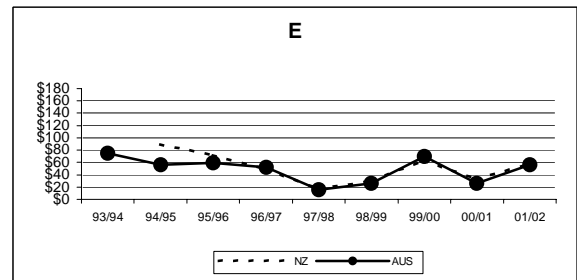
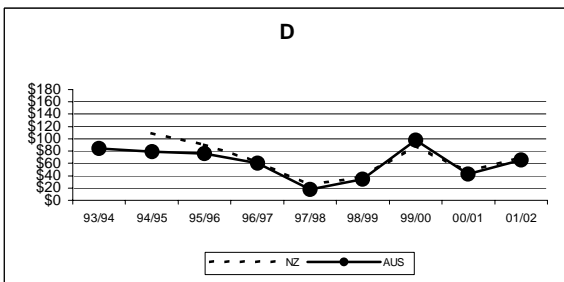
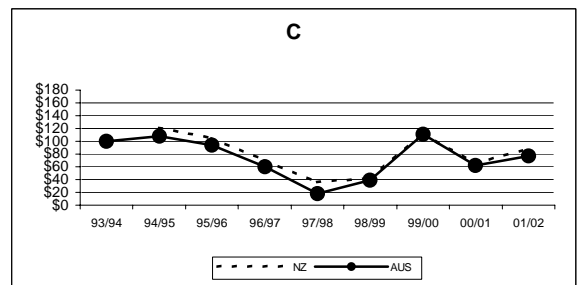
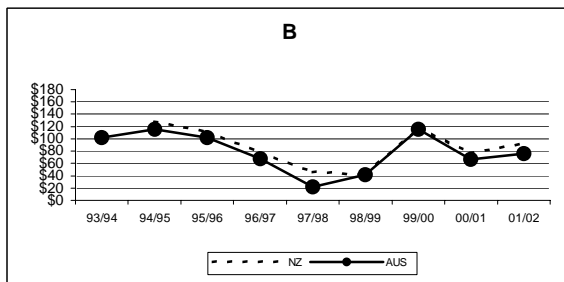
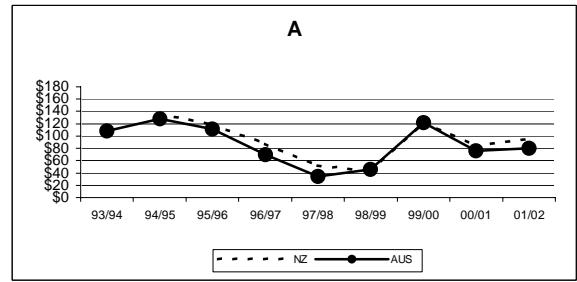
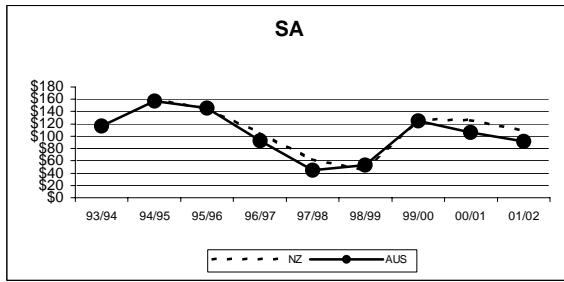
The New Zealand deer industry produces more velvet antler from farmed deer than any other country. It is reasonable to compare Australia's Red deer velvet production with that of New Zealand in an effort to assess relative quality. The collective graph 26 shows and compares the percentage of important grades of red deer velvet (relative to the total volume of velvet produced in New Zealand and sold by ADH in Australia).

Graph 26 Percentage of Velvet within grades



The collective graph 27 shows and compares the average value of important grades of red deer velvet (relative to the total volume of velvet produced in New Zealand and sold by ADH in Australia).

Graph 27 Average value of velvet within grades



Figures in the collective graph 26 show that the relative percentage of Australian Red deer velvet within each grade has improved since the 1993/94 season and is similar to the percentages achieved by the new Zealand industry for each grade. These data clearly show that the average quality of Australian velvet is similar to New Zealand velvet.

Major differences from the 2001/2002 season are that the New Zealand industry produces about 1.5% more Super A grade, 3.5% less B, C, and D grades, 2.5% less Manufacturing and 6.0% less Taiwanese velvet than the Australian deer industry.

Figures in the collective graph 27 show that the prices paid for Australian velvet are similar to those paid for New Zealand velvet although the prices for the better classes of velvet are about AUD\$15.00 to AUD\$20.00 per kilogram less than that paid for New Zealand Velvet. In particular in the 2001/2002 season New Zealand farmers received an average of about AUD\$17.00 more for Super A grade, AUD\$15.00 more for A and B grades, AUD\$11.00 more for Damaged and Manufacturing grades and about AUD\$34.00 more for Taiwanese grades of velvet.

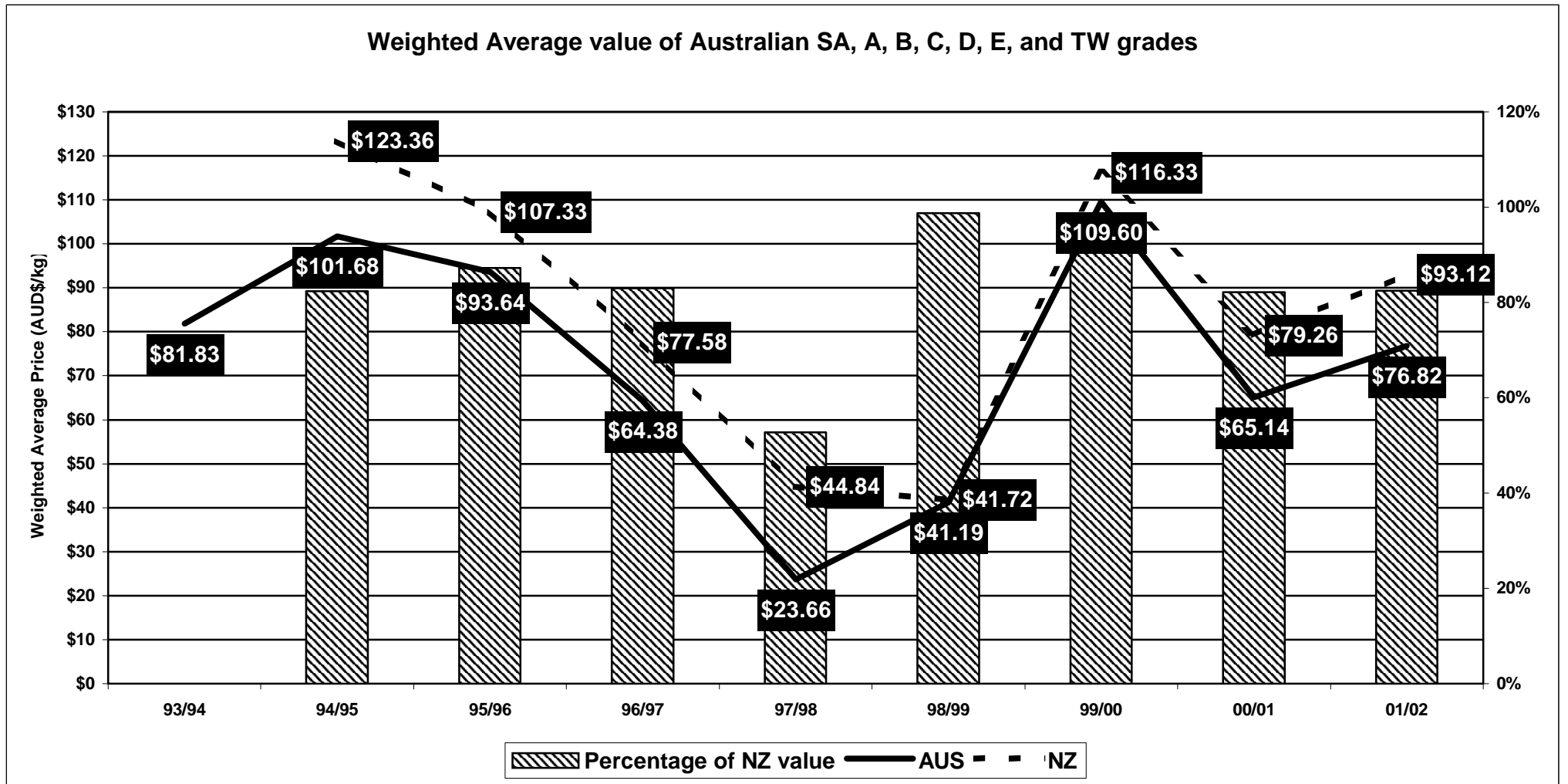
Graph 28 shows the weighted average value of important grades of Australian and New Zealand Red deer velvet and the percentage of New Zealand value (AUD) that each grade in Australia has achieved. In the 1998/99 season the weighted average prices for Australian and New Zealand were about par however during the last three seasons the price has differed by about AUD\$15.00 per kilogram.

More than 90% of velvet produced by the Australian Deer Industry is produced by red deer and the quality of red deer velvet produced is similar to the quality of red deer velvet produced by the New Zealand Deer Industry (relative percentage of velvet in each grade classification).

The weighted average value (\$/kilogram) of each grade of red deer velvet produced by the Australian Deer Industry is about AUD\$15.00 less than that obtained by the New Zealand Deer Industry.

Graph 28 Weighted average value (AUD) of Australian and New Zealand Red Deer Velvet.

31



6. Implications

1. Australian deer farmers should seek to ensure that their QA programs continue to evolve and remain relevant to the international and domestic communities that consume the Industry's products.

Future risks to international market access for agricultural commodities that are unable to guarantee consumer safety, meet minimum quality standards and consumer expectations with respect to animal welfare issues are increasingly obvious.

2. Australian deer farmers must adopt and actively maintain QA accreditation as a means of maintaining market access for products. Too often farmers consider QA as a cost impost that has no direct benefit for their enterprise profit. However although there are some costs associated with the implementation and maintenance of QA accreditation, it is likely that in the very near future, particularly in consideration of recent events in Europe and North America, that markets will only be open to commodities that are sourced from QA accredited industries.

The Australian Deer Industry QA program is a well developed and maintained program that is recognised by international deer industries. In fact industries in Canada and the UK are currently reviewing the Australian Deer QAMA computer program for potential use by their industries.

3. Australian Deer Industry research and development programs should also seek to improve average returns to farmers by concentrating their efforts on factors farmers and processors can easily influence and have a significant affect on profitability. For example:
 - a. Practical feeding regimes that are likely to produce animals with desired hot carcass weights in a desired time frame
 - b. Cost effectiveness of feeding programs
 - c. Training in condition score assessment of deer
 - d. Encouragement of processor cooperation to pay for carcasses according to a grid system (based factors like age, sex, body condition score and hot carcass weight) that rewards production of high quality carcasses and conversely penalises poor carcass production. Note: Software produced during previous RIRDC projects is available to allow processors to use a standardised approach to develop their own price grids).

Information presented in this report emphasises outcomes of the 2000 report. In particular, data shows the significant reduction in farmer returns that result for processing animals with less than ideal carcass weight.

Carcass weight and carcass quality generally is the major factor over which farmers have direct control. Extension programs should concentrate on promulgation of information that can profitably improve carcass trait and subsequently grower returns.

7. Recommendations

1 The Australian industry must actively adopt and promote its quality assurance program

Industry leaders and individual producers can play a major role in improving their returns by adopting and promoting the Industry Quality Assurance (QA) program.

Adoption of the QA program and development of strategic alliances with marketers to supply stock that meet defined specifications, can only help to stabilise venison returns to growers.

A range of strategies should be considered to improve the average hot carcass weight of deer processed in Australia

Most factors that influence venison prices are beyond industry control. However, available data continues to show considerable discounts for venison from carcasses that do not meet ideal weight specifications. Although natural seasonal influences affect the hot carcass weight of deer, inadequate nutrition is a major reason for inadequate hot carcass weight.

A more stable venison price is likely if the average hot carcass weight venison from the two major species is increased and the variation around the average is reduced.

Improvement in average hot carcass weight is most likely by improved producer management of deer.

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