

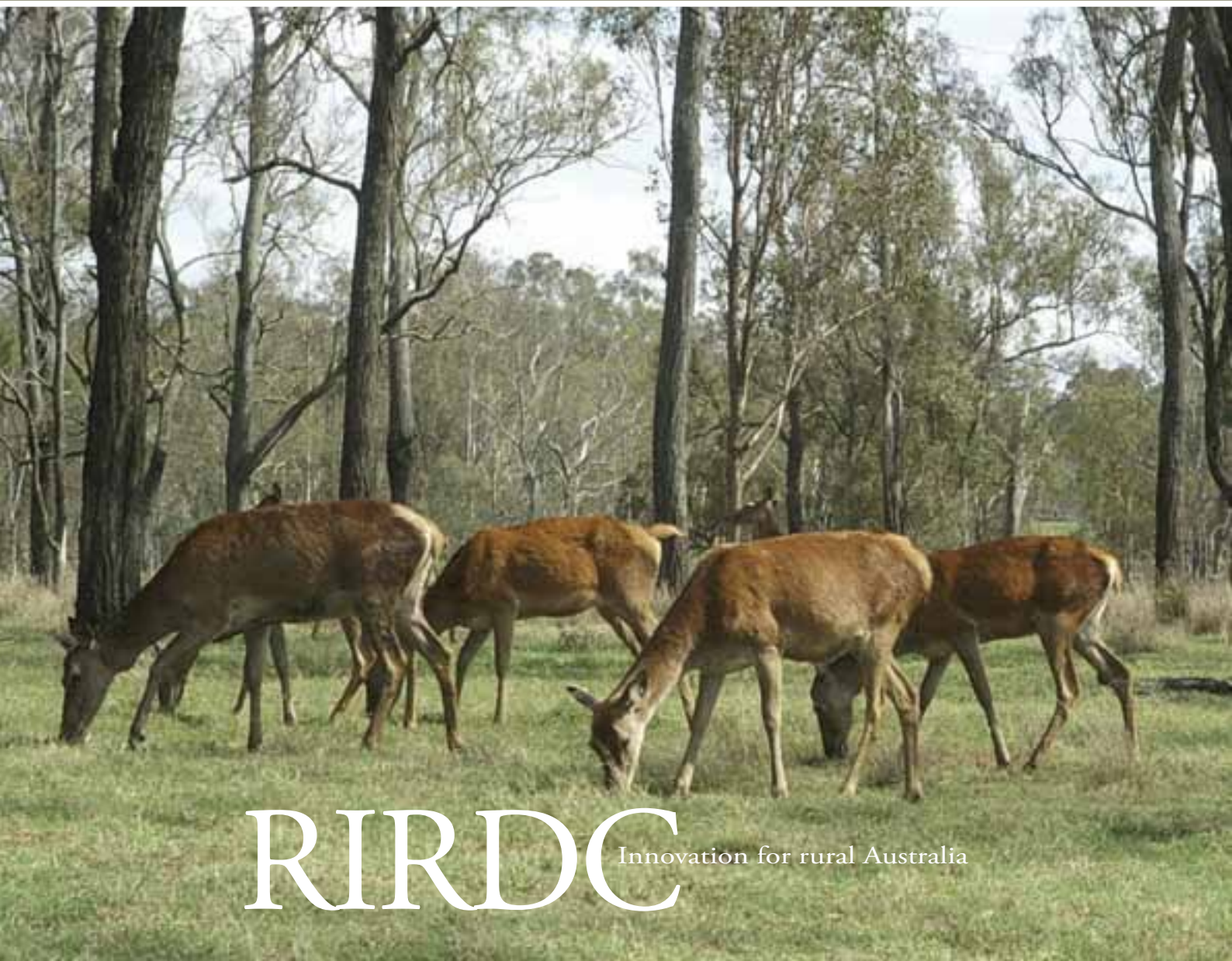


Australian Government

Rural Industries Research and
Development Corporation

Deer Industry Gross Margins

RIRDC Publication No. 10/192



RIRDC Innovation for rural Australia



Australian Government

**Rural Industries Research and
Development Corporation**

Deer Industry Gross Margins

by B. I. Mackay

October 2010

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Foreword

In recent years a significant number of new and emerging agricultural industries have provided existing mainstream livestock and crop producers with many options for increased income or security through diversification. Similarly, many investors new to agriculture have also considered diversifying their interests into these new industries. Basic financial information that allows an evaluation of these alternative industries can be of assistance to farming enterprises.

One of the financial tools available for making comparisons between enterprises is the gross margin budget. The calculation of a gross margin is considered to be the essential first step in farm budgeting and planning. A gross margin is simply the gross income from the enterprise less those variable costs directly attributable to the enterprise.

However, a gross margin does not measure profit, because it does not include fixed or overhead costs such as depreciation, interest, rates and labour. These expenses must be met regardless of enterprise type and size and will vary accordingly. By omitting these costs a better comparison of the financial performance of the enterprise is obtained.

Whilst up to date gross margin budgets are available for many mainstream livestock and cropping industries, in particular on the NSW Industry and Investment web site, there are few available for new and emerging industries. A basic gross margin budget for the deer industry was available on the NSW Industry and Investment site, but was dated September 2004.

The aim of this project was to prepare simple up to date deer gross margins and make them available on the Deer Industry Association of Australia web site, both in a static and downloadable form. This updated information has also been provided to NSW Industry and Investment to enable updating of their budgets.

This project was funded from RIRDC Core Funds which are provided by the Australian Government through the New Animal Products program which is guided by the Deer Industry R&D Advisory Committee following the Research and Development Plan for the Deer Program 2006-2011.

This report is an addition to RIRDC's diverse range of over 2000 research publications and it forms part of our New Animal Products R&D program, which aims towards improving industry performance in key areas where the industry has identified problems at both whole-of-industry and industry sector-specific levels.

Most of RIRDC's publications are available for viewing, free downloading or purchasing online at www.rirdc.gov.au. Purchases can also be made by phoning 1300 634 313.

Craig Burns
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About the Author

Bruce Mackay was employed by NSW Department of Primary Industries (NSWDPI) as a Livestock Extension Officer and a Grazing Systems Technical Specialist from 1968 until his retirement in 2005. He was closely involved with the deer industry in NSW from around 1976 and was the Department's deer industry specialist up until his retirement. He was an ex officio member of the original NSW Deer Farmers Association executive from 1986 and was appointed an honorary life member of the NSW Association in 1986. He prepared numerous deer farming extension publications whilst working with NSWDPI including gross margins which were the basis of this project.

Acknowledgments

Mr Andrew Hansen, deer veterinarian and President of the NSW branch of the Deer Industry Association of Australia, and Mr Tim Hansen, proprietor of Mandagery Creek Venison provided invaluable assistance with this project.

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Executive Summary

Background

Sustainability of the deer industry in Australia is dependent on having sufficient production to support existing and future markets. In order for this to happen the industry needs to expand through existing farmers diversifying into deer. For new investors to enter the industry some basic financial information needs to be available to allow comparisons between industries. A simple way of providing this information which can be used to make comparisons with other rural industries is through gross margin budgets.

Whilst a range of gross margin budgets for mainstream livestock and cropping industries is available from some state government agricultural department web sites there is currently no up to date gross margin budget available for the deer industry.

Aims/objectives

To develop user friendly gross margin budgets for the deer industry. These gross margin budgets can then be made available to the Deer Industry Association of Australia for publication on the DIAA website.

By having user friendly deer industry gross margins available on the deer industry web site, users will be able to enter their own deer farming data in relation to property/herd size, costs and returns. Producers considering entering the industry can then compare these gross margins to those available for other agricultural industries from other sources (eg NSW Department Industry and Investment). This will enhance their decision making as to whether to make further investigations into becoming deer producers or continuing to farm deer. Superior gross margins will hopefully encourage more new producers to enter the industry.

Methods used

Gross margin budgets have been prepared in Excel format using data provided by deer industry representatives. Budgets have been prepared for Fallow deer and Red deer to allow consideration of the differences between the two species.

The budgets have been made available in two forms;

- i) as simple PDF files using fixed data which can be easily printed from the DIAA web site
- ii) as downloadable Excel spreadsheet files which users can download from the web site and data changed to allow input of such factors as herd size, performance and financial information. Users can look at various “what-ifs” by changing the data. The bulk of the spreadsheet is protected so that only the appropriate data can be changed.

Results/key findings

Using the industry figures provided it is demonstrated that the gross margins for the deer industry are competitive with other livestock and cropping enterprises. However it must be remembered that gross margins are not a measure of profitability and should be only used as a guide. Gross margins are only the first step in whole farm planning and users of the gross margins are encouraged to seek professional financial advice as the next step of developing more detailed budgets and plans.

Implications for relevant stakeholders

Sustainability of the deer industry rests with a continued growth of productivity and markets. Hopefully with the availability of gross margins that reflect positively on the industry, more producers will be encouraged to enter the industry.

Recommendations

It is recommended that both the PDF and Excel forms of the Red and Fallow deer gross margin budgets be made available on the Deer Industry Association of Australia web site on the page which contains deer industry Factsheets. It is further recommended that the other Excel Spreadsheet currently available in the DIAA web site, the Venison Comparator, be moved from the News page of the site to the Factsheets page so that this information is more readily accessible.

1. Introduction

In recent years rural producers and investors have had the opportunity to become involved in a number of new and emerging agricultural industries. These new industries have provided existing mainstream livestock and crop producers with many options for increased income or security through diversification. However the decision as to whether or not to become involved requires a financial evaluation of these different enterprises.

The deer industry offers one such option and one of the financial tools available for making comparisons between this and other enterprises is the gross margin budget. A range of gross margin budgets for mainstream livestock and cropping industries are available from some state government agricultural department web sites but there is currently no up to date gross margin budget available for the deer industry.

From an industry perspective, sustainability of the deer industry in Australia is dependent on having sufficient production to support existing and future markets. In order for this to happen the industry needs to expand through existing farmers diversifying into deer. For new investors to enter the industry some basic financial information needs to be available to allow comparisons between industries.

2. Objectives

The objective of the project was to develop user friendly gross margin budgets for the deer industry to enable existing and intending deer farmers to make comparisons between the deer industry and gross margins from other mainstream agricultural industries available from other sources. The gross margin budgets are to be made available to the Deer Industry Association of Australia for publication on the DIAA website. It will also be recommended that the DIAA web site provide links to other livestock budgets on the NSW Department of Industry and Investment web site and other sites if known.

3. Methodology

Gross margin budgets for both Fallow and Red deer were developed using a Microsoft Excel spreadsheet format. Data on current costs and returns were provided by NSW deer industry representatives, and the layout of the budgets was discussed with members at the NSW Branch of the Deer Industry Association of Australia annual general meeting.

Budgets have been prepared for Fallow deer and Red deer to allow consideration of the differences between the two species. Separate budgets have not been prepared for Rusa, Chital or Elk/Wapiti, however, the existing budgets can be used to generate a gross margin for these species by using the relevant breed financial data in the spreadsheet.

Each budget can produce a gross margin for the enterprise along with the gross margin per doe/hind, and a gross margin per dry sheep equivalent.

In addition a sensitivity analysis/parametric budget has been produced for each enterprise which can be used to instantly determine the effect of different price and/or yield levels.

The budgets have been made available in two forms;

- iii) as simple PDF files using fixed data which can be easily printed from the DIAA web site
- iv) as downloadable Excel spreadsheet files which users can download from the web site and data changed to allow input of such factors as herd size, performance and financial information. Users can look at various “what-ifs” by changing the data. The bulk of the spreadsheet is protected so that only the appropriate data can be changed.

4. Results

The two gross margin spreadsheets are reproduced in Appendices 1 and 2.

These budgets have been forwarded to the Deer Industry Association of Australia with a request that both the PDF and download versions are published, subject to the Associations approval, on their web site.

Following discussions with Industry and Investment NSW (I & I NSW – formerly NSW Department of Primary Industries) it was decided by them to withdraw the September 2004 deer budgets that they currently have on their web site. They have stated that:

“Whilst I&I NSW currently develops and supports a full set of up to date gross margin budgets for beef and sheep enterprises, the Department no longer has staff with a detailed knowledge of deer husbandry and venison production, and hence is not equipped to respond to enquiries that may flow from publishing updated GM budgets.”

Therefore the best approach for the deer GM budgets is for the Department is to:

1. Withdraw the out of date deer gross margin budgets from the Industry & Investment NSW website
2. Post the following message under deer on the livestock gross margin page “Deer production information and gross margin budgets are available from the Deer Industry Association of Australia web site www.diaa.org”. This will ensure that people looking for information on deer production will find their way to the Associations website where the most up to date material would be available.

The RIRDC Deer Committee in approving this project commented that they “would like to see more work with material produced by an earlier deer project for superannuation companies”. Details of this project was obtained from its author and was closely considered. However it is considered that this type of study is the next step that intending producers need to take, having decided from the gross margins that they wish to investigate the deer industry further. Such projects involve a large number of variables, and are best carried out by a consultant on an individual basis.

5. Implications

Through having readily available gross margin budgets for deer farming intending investors can make the first step in assessing the financial viability of the industry. However it is emphasised that gross margins as a tool are purely a guide to the relative profitability of this and other similar enterprises. Intending investors need to obtain the best available information from a range of sources to evaluate their options before incorporating them into their business plan.

The degree to which these budgets reflect actual returns will be influenced not only by general factors common to all farms, such as prices and seasonal conditions, but also the individual farm characteristics such as soil type, pasture quality, rainfall, facilities and management. Gross margins also should only be used to make comparisons between enterprises that use similar resources. Budgeting techniques such as partial and whole farm budgets, cash flow budgets and development budgets should also be used.

6. Recommendations

It is recommended to the Deer Industry Association of Australia that:

- the PDF budgets produced in this project be published on the organisation web pages. It is suggested that they be readily available on the “Factsheets” page which is where most people seeking information about deer farming are likely to visit.
- The Microsoft Excel budgets, which can be downloaded for users to input their own data and examine various “what-ifs” as produced by this project, also be made available on a readily accessible page of the association web site. It is suggested that the “Factsheet” page is also the best site for these budgets.
- The PDF budgets will need to be updated on a regular basis to allow for changing market conditions. This can be done using the Excel spreadsheet budgets, updating information and then saving in PDF format for publication on the web site.

7. References

Industry and Investment NSW – Primary Industries – Agriculture – Farm budgets and Costs,
<http://www.dpi.nsw.gov.au/agriculture/farm-business>

Appendices

Appendix 1: Gross Margin Budget for Red Deer

GROSS MARGIN BUDGET FOR RED DEER

**N.B. THIS BUDGET IS A GUIDE ONLY AS VALUES
AND PRICES VARY ENORMOUSLY**

May 2010

A 'gross margin' is the gross income earned by an enterprise less the variable costs incurred in achieving it. It is not a measure of profitability as it does not usually include fixed or overhead costs. It is a planning tool used to help evaluate options and to enable comparisons between different enterprises. A range of comparative beef and sheep gross margin budgets can be found at www.dpi.nsw.gov.au/agriculture/farm-business

This budget is provided as a guide to members. However neither the DIAA or the author accept any responsibility for any errors, damage or losses whatsoever caused from using this budget. Intending deer farmers should seek professional advice as to the profitability of deer farming.

A downloadable version of this budget is available elsewhere on this site. It requires Microsoft Excel to open the spreadsheet and allows herd size and financial information to be changed.

Stock Assumptions

200 Breeding hinds
 0 Velveting Stags
 80 % Weaning Rate
 3 % Mortality Rate
 Stags run at 3% of hind number
 Stags retained for 10 years
 Hinds first mated at 16 months
 Hinds mated annually
 Hinds retained for 10 years
 Hinds sold as breeders 10 %

Herd Structure

<u>Age (yrs)</u>	<u>No.</u>	<u>DSE</u>	<u>Total DSEs</u>	
1 yr	25	3	75	(Replacement hinds retained)
2 yr	24	3.6	87	
3 yr	24	3.8	90	
4 yr	23	3.8	87	
5 yr	22	3.8	84	
6 yr	22	3.8	82	
7 yr	21	3.8	79	
8 yr	20	3.8	77	
9 yr	20	3.8	75	(Culled for slaughter)
Total Hinds	200		736	Deaths = 6
Velvet Stags	0	4.2	0	
Breeding Stags	6	4.2	27	
Total Head	206		763	

Capital Costs:

A. Land and Plant

Land				
Carrying capacity	8 DSE/Ha	95 ha @	\$3,000 /ha	\$285,000.00
Improvements - Fences				\$29,240.00
(Boundary fencing @ \$5.00 /metre for				
95 ha square paddock =	\$19,494)			
- Yards				\$10,000.00
				<u>\$324,240.00</u>

B. Livestock

200 Breeding Hinds at	\$300.00	\$60,000.00
6 Breeding stags at	\$1,000.00	\$6,000.00
0 Velvet stags at	\$850.00	\$0.00
		<hr/>
		\$66,000.00
		<hr/>
Total Capital		\$390,240.00

Enterprise Fixed Costs

340 hrs labour @ \$20.00 /hr	\$6,800.00	
Repairs and maintenance	\$2,000.00	
Rates and Insurance	\$3,000.00	
Depreciation (est)	\$1,000.00	
Interest on stock value \$66,000.00 @ 8.00%	\$5,280.00	
		<hr/>
		\$18,080.00
		<hr/>
Total Fixed Costs		\$408,320.00

INCOME

5 Hinds @ \$225.00 /head live sale	\$1,125.00
47 Hinds @ 50 kg at \$4.50 /kg	\$10,575.00
19 Hinds + 77 stags (venison)	
Mean Carcase Wt. 45 kg at \$4.50 /kg	\$19,440.00
Velvet: 6 stags at 3 kg @ \$80.00 /kg	\$1,440.00
By-products: 143 deer at \$0.00 /hd	\$0.00
	<hr/>
A. Total Income	\$32,580.00

VARIABLE COSTS

Fodder Purchases at \$20.00 per head	\$4,120.00
Drenching at \$1.00 per weaner	\$160.00
Vaccination at \$0.20 per head	\$41.20
Vet. Costs	\$100.00
Velveting Costs @ \$15.00 /stag	\$90.00
Slaughter Levy @ \$0.080 /kg	\$533.00
Selling/Transport Costs @ \$20.00 /head	\$2,860.00
Pasture costs @ \$100.00 /Ha	\$9,500.00
Replacement Breeding Stags @ \$1,000.00 /head	\$600.00
	<hr/>
B. Total Variable Costs	\$18,004.20

Gross Margin	\$14,575.80
Gross Margin/Hind	\$72.88
Gross Margin/DSE	\$19.10

The effect of changing prices or level of production on the Gross Margin per Hind is as follows:

	<u>Rise or Fall</u>	<u>Rise or Fall of Gross Margin/hind</u>
Venison Price	\$0.20 /kg	\$6.67
Hind Selling Price	\$20.00 /head	\$0.50
Venison Yield per Carcase @ \$4.50 /kg	5.00 kg	\$15.80
Replacement Stags	\$100.00 /head	\$0.30
Weaning %	10 %	\$19.01
Velvet Price	\$10.00 /kg	\$0.90

NOTES

* DSE - Dry Sheep Equivalent - feed required to maintain a 45 kg liveweight merino wether in body condition score 2. Accepted DSE ratings for red deer from 'The Deer Farming Handbook' are

Adult Hind	3.8 DSE
Breeding Stag	4.2 DSE
3yo Hinds	3.8 DSE
2yo Hinds	3.6 DSE
Yearling Hinds	3.0 DSE
Weaner Hinds	1.8 DSE
Yearling Stags	3.4 DSE
2yo Stags	3.8 DSE

* Fencing cost is materials only

* Total fencing cost is for a square paddock plus a 50% allowance for subdivisinal fencing

* Capital costs and enterprise fixed costs are not taken into account in the gross margins and are a guide only

Appendix 2: Gross Margin Budget for Fallow Deer

GROSS MARGIN BUDGET FOR FALLOW DEER

**N.B. THIS BUDGET IS A GUIDE ONLY AS VALUES
AND PRICES VARY ENORMOUSLY**

May 2010

A 'gross margin' is the gross income earned by an enterprise less the variable costs incurred in achieving it. It is not a measure of profitability as it does not usually include fixed or overhead costs. It is a planning tool used to help evaluate options and to enable comparisons between different enterprises. A range of comparative beef and sheep gross margin budgets can be found at www.dpi.nsw.gov.au/agriculture/farm-business

This budget is provided as a guide to members. However neither the DIAA or the author accept any responsibility for any errors, damage or losses whatsoever caused from using this budget. Intending deer farmers should seek professional advice as to the profitability of deer farming.

A downloadable version of this budget is available elsewhere on this site. It requires Microsoft Excel to open the spreadsheet and allows herd size and financial information to be changed.

Stock Assumptions

200 Breeding does
80 % Weaning Rate
3 % Mortality Rate
Bucks run at 3% of hind number
Bucks retained for 5 years
Does first mated at 16 months
Does mated annually
Does retained for 10 years
Does sold as breeders 10 %

Herd Structure

<u>Age (yrs)</u>	<u>No.</u>	<u>DSE</u>	<u>Total DSEs</u>	
1 yr	25	1.4	35	(Replacement hinds retained)
2 yr	24	2.2	53	
3 yr	24	2.2	52	
4 yr	23	2.2	50	
5 yr	22	2.2	49	
6 yr	22	2.2	47	
7 yr	21	2.2	46	
8 yr	20	2.2	45	
9 yr	20	2.2	43	(Culled for slaughter)
Total Does	200		420	Deaths = 6
Breeding bucks	6	3.1	19	
Total Head	206		438	

Capital Costs:

A. Land and Plant

Land				
Carrying capacity	8 DSE/Ha			
	54 ha @	\$3,000 /ha		\$162,000.00
Improvements - Fences				\$22,045.00
(Boundary fencing @ \$5.00 /metre for				
54 ha square paddock =	\$14,697)			
- Yards				\$10,000.00
				\$194,045.00

B. Livestock

200 Breeding Does at	\$120.00	\$24,000.00
6 Breeding bucks at	\$250.00	\$1,500.00

\$25,500.00

Total Capital

\$219,545.00

Enterprise Fixed Costs

340 hrs labour @ \$20.00 /hr	\$6,800.00
Repairs and maintenance	\$2,000.00
Rates and Insurance	\$3,000.00
Depreciation (est)	\$1,000.00
Interest on stock value \$25,500.00 @ 8.00%	\$2,040.00

\$14,840.00

Total Fixed Costs

\$234,385.00

INCOME

5 Does @ \$120.00 /head live sale	\$600.00
47 Does @ 22 kg at \$4.40 /kg	\$4,549.60
19 Hinds + 77 bucks (venison) Mean Carcase Wt. 22 kg at \$4.40 /kg	\$9,292.00

A. Total Income

\$14,441.60

VARIABLE COSTS

Fodder Purchases at \$10.00 per doe	\$2,060.00
Drenching at \$0.50 per weaner	\$80.00
Vaccination at \$0.15 per head	\$30.90
Vet. Costs	\$100.00
Slaughter Levy @ \$0.080 /kg	\$250.72
Selling/Transport Costs @ \$12.00 /head	\$1,716.00
Pasture costs @ \$100.00 /Ha	\$5,400.00
Replacement Breeding bucks @ \$250.00 /head	\$300.00

B. Total Variable Costs

\$9,937.62

Gross Margin	\$4,503.98
Gross Margin/Doe	\$22.52
Gross Margin/DSE	\$10.28

The effect of changing prices or level of production on the Gross Margin per Hind is as follows:

	<u>Rise or Fall</u>	<u>Rise or Fall of Gross Margin/hind</u>
Venison Price	\$0.20 /kg	\$3.15
Doe Selling Price	\$20.00 /head	\$0.50
Venison Yield per Carcase @ \$4.40 /kg	5.00 kg	\$15.45
Replacement Bucks	\$100.00 /head	\$0.60
Weaning %	10 %	\$8.44

NOTES

* DSE - Dry Sheep Equivalent - feed required to maintain a 45 kg liveweight merino wether in body condition score 2. Accepted DSE ratings for red deer from 'The Deer Farming Handbook' are

Doe	2.2 DSE
Buck	3.1 DSE
Weaner Doe	1.4 DSE
Weaner Buck	1.9

* Fencing cost is materials only

* Total fencing cost is for a square paddock plus a 50% allowance for subdivisional fencing

* Capital costs and enterprise fixed costs are not taken into account in the gross margins and are a guide only

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Sustainability of the deer industry in Australia is dependent on having sufficient production to support existing and future markets. In order for this to happen the industry needs to expand through existing farmers diversifying into deer. For new investors to enter the industry some basic financial information needs to be available to allow comparisons between industries. A simple way of providing this information which can be used to make comparisons with other rural industries is through gross margin budgets.

By having user friendly deer industry gross margins available on the deer industry web site, users will be able to enter their own deer farming data in relation to property/herd size, costs and returns.

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