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ENTERPRISE BENCHMARKING

FINAL REPORT

NOVEMBER 1996

for the MEAT RESEARCH CORPORATION

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EXECUTIVE SUMMARY

This report has reviewed existing benchmarking systems within the on-farm, feedlot, meat processing and post processing sectors of the Australian meat industry. Detailed benchmarked results for each section have been provided. This summary addresses our recommendations for the continuation and development of benchmark systems within each of these industry sectors.

ON FARM

Our attempt to benchmark on-farm enterprises on the basis of broad enterprise types and within broad geographic regions illustrates the limited usefulness of such an exercise. While large differences in costs between average and low cost producers have been identified in this study, individual producers would largely benefit from being benchmarked against like operations within their geographic locality. Past studies, most notably the South West Monitor Farm, Farmcheque, Taylor Byrne and Beef Manager, have provided formats for data collection and data analysis for various benchmarking exercises but differences exist between them all. Our recommendations for on-going, on-farm benchmarking include:

1. That the ABARE template used for their Farm Surveys Report be promoted as the standard for conducting enterprise benchmarking at the on-farm level.

2. That the ABARE template be extended to include:
   - provision for producers to nominate their primary enterprise type (eg, prime lamb, beef, wool sheep etc) and to then be benchmarked against like enterprises; and
   - benchmarking of costs on a 'dollars per productivity index' where the productivity index is weighted for wool, grain and meat production.

3. That MRC support the promotion of localised benchmark groups through the provision of promotional funds to State Departments of Agriculture. These departments would then coordinate regional benchmarking groups on a cost recovery basis. Standard analysis would be undertaken by ABARE who would aggregate data for industry analysis. ABARE would undertake this work on a cost recovery basis with payment from State Departments of Agriculture.

FEEDLOT

Prior to this study, no previous cost benchmarking had been undertaken within the Australian feedlot industry. Our recommendations are that:

1. An independent feedlot benchmark service be provided to the industry on a cost recovery basis. Proposed templates for this service are provided in Annex 2. Emphasis

to be given to the collection of all information related to the cost of capital (eg, depreciation and interest).

2. An attempt be made to improve productivity data through the collection of carcase information.

3. MRC provide a 50% subsidy to participating feedlots, for the first two years, as an inducement to join the scheme.

4. MRC appoint a suitably qualified group, in consultation with ALFA, to undertake the benchmarking on a confidential basis with participating feedlots.

5. Aggregated industry findings would be provided to MRC and ALFA on the basis that the information did not breach any confidentiality of the feedlot participants.

6. Consideration be given to the formation of an alliance with US feedlot benchmark groups to facilitate inter country comparisons.

MEAT PROCESSING

The beef industry benchmarking that has been conducted to date has provided benefits at two levels:

- Enterprises have been able to examine their performance compared with both national and international best practices. The benchmark information has allowed decision makers at the enterprise level to focus on improving practices and costs in the areas of poorer performance.
- Benchmarking at the industry level has allowed the characteristics of this sector to be analysed and discussed More importantly, it allows the international competitiveness to be rated. The international competitiveness of the beef industry needs to be addressed at an industry level as well as at the enterprise level.

The Booz-Allen Hamilton study assessed that while some improved performance could be achieved at the enterprise level, the major disadvantages for the Australian beef sector were structural and needed to be addressed at an industry level.

Benchmarking in the Australia meat industry has advantages at both the enterprise and industry levels, therefore it is considered appropriate that both enterprise and industry contribute to the cost of further benchmarking.

The consultancy cost of conducting benchmarking at the enterprise level is currently $5000 per enterprise that has previously participated in the 1994 or 1995 studies.

The cost for new participants is approximately $7500 per enterprise due to the need to spend time ensuring that the data is supplied in a form that complies with the study format and

definitions. Travel and expenses incurred in conducting the studies would be extra to the fees detailed above.

The participant fee covers data input (including an initial site visit for a new participant), participant report, report presentation and model software for plants to make more regular comparisons. The extra $2500 for new participants is to allow for an initial site visit plus access to the software model.

It is considered appropriate that MRC/MIC should provide funding assistance to any of the processing benchmark studies in order to obtain access to an industry summary of the data. The industry summary will assist in the formation of rational activities to improve the performance of this sector.

The MIC/MRC provision of funding support for the continuing meat processing benchmarking is recommended for a number of reasons:

1. Rating of the industries international competitiveness is important at the industry level. Individual enterprises are less interested in international comparisons than in national comparisons.

2. An industry performance monitor is required. This is currently even more relevant as the industry is likely to enter a period of change in the industrial relations environment.

3. At the enterprise level actions can be taken to improve individual performance as a result of knowledge of competitive performance that will in itself improve industry performance.

4. The improvement in average performance between the 1993 and 1994 Benchmarks showed a benefit to the industry of $0.12 per kg FW. Across the total finished weight represented by the plants included in the benchmarking this represents an improvement in overall industry costs of in excess of $30 million. If only 5% of this was somehow due to response to the benchmark data this would represent an industry saving eighteen times the value of the benchmark project.

It is most likely that the Australian industry level funding contribution would need to be higher for international meat processing companies than for Australian companies in order to encourage participation. International competitors, particularly USA and NZ, consider that Australia has something to learn from them but that they have little to learn from the Australian industry.

Australian processors are very interested in intra country comparisons and it is considered that sufficient companies will participate.

Individual plant data will of necessity need to be kept confidential.

Assuming ten plants (Australian and International) from each of the four categories are included in each year the cost of the project would be in the order of $200,000 for fees plus travel and expenses.

Australian Comparisons

The following recommendations are made for comparisons between Australian meat processors. Meat processors should be benchmarked within four broad industry groupings, these being:

- Export Beef.
- Domestic Beef.
- Export Mutton (boneless).
- Domestic Lamb (carcase).

As the studies develop it may be appropriate to further split the export beef category into two groups:

- Japanese grain fed beef processors; and
- others.

It is recommended that:

1. A minimum of five participants per sector is included in order to generate average and best in class figures for the period of the study and to maintain confidentiality.
2. Data period to be 12 month financial performance.
3. Data to be collected as shown in attached templates (Annex 3).
4. Both cost and revenue stream data to be collected and analysed.
5. Collection of productivity information to be improved by collecting plant staffing and working hours for each functional area.

International Comparisons

For the beef processing sector international comparisons should be with NZ and US performance. South America should be considered for future inclusion.

The US should be targeted to include plants representative of "Choice" beef operations and manufacturing (cow) beef operations.

For sheep and lamb processors the comparisons should be with NZ participants.

International participants should be invited to be included in the Benchmarking on the basis that their involvement is at the expense of the Australian industry (fees and expenses paid by the Australian industry).

Over a period of time the intention would be that at least 5 participating plants from each of the competing countries would be included in the study. Once this was achieved then a comparison of say a US company performance against the average and BIC of other US plants could be conducted, and consequently Australian industry funding reduced.

The methodology and outputs would be the same as for the Australian participants.

POST PROCESSING

Existing benchmarking systems were examined within three broad groups within the post processing sector. Our recommendations for on-going benchmarking work within each of these groups are:

1. Wholesaler and Food Service Sector.

   Many meat wholesaler operations are part of a meat processing enterprise and are therefore subject to being benchmarked within that sector. Other meat wholesaler operations are primarily trading organisations with low overhead costs. They are extremely reluctant to provide cost information and the industry benefit and individual enterprise benefit likely to be obtained via benchmarking would be limited.

2. Retail Sector.

   Established benchmark systems already operate through MATFA and FMRC. We do not recommend any change to the established systems nor the manner in which they operate.

3. Export Sector.

   This sector is made up of non packer exporters and as discussed for meat wholesalers little benefit is likely to be achieved through establishment of an enterprise benchmarking system.

1. INTRODUCTION

The major objective of this project is to establish the systems and framework for widespread adoption of enterprise benchmarking in mainstream sectors of the meat industry.

Industry wide statistics on costs and structure are of little commercial value to individual businesses. For the enterprise, the primary purpose of benchmarking lies in comparing specific activity costs against particular management practices, production procedures or technological packages and then progressively making the changes to capture the lower costs. Done properly over time, these benchmarking systems provide the basis for inter-firm comparisons and ongoing enterprise improvement.

A considerable amount of enterprise benchmarking has already occurred in the slaughtering and fabrication areas of beef and sheepmeat, much of which is documented in this report. A framework for introducing these programmes nationally and encouraging their adoption is proposed.

Benchmarking at the retail level occurs within the supermarket industry but the data are often subject to commercial confidence while enterprise comparisons between butchers have been undertaken by MATFA.

At the on-farm level, forms of financial benchmarking have been conducted for many years by State Departments of Agriculture, Universities, and at a national level by ABARE. There is also a lot of published information on the economic benefits of particular management practices. Because of the relatively decentralised and small size of many of the on-farm enterprises we have proposed a regionalised approach to maximise the benefits for producers from on farm benchmarking.

2. ON FARM BENCHMARKING

2.1 INTRODUCTION

Data for this section were sourced from ABARE for the 1993/94 financial year. The ABARE data set was used because it provided the most comprehensive coverage of Australian farm business units and avoided duplication of data collection from individual primary producers. Whilst some regional data sets were available (see list below), collectively they did not offer the same coverage as ABARE and did not offer consistency of data collection between them.

ABARE's annual survey includes personal interviews of all farm operators or managers of participating farm business units. The information collected includes physical and financial details of the farm business for the financial year ending 30 June and is supplemented, where necessary, with information from accountants, selling agents and marketing organisations on the authority of responding farmers. The survey is designed and samples selected on the basis of a framework provided by the Australian Bureau of Statistics (ABS) based on their Agricultural Census carried out in March of each year. ABARE only includes establishments with an estimated value of agricultural operations in excess of $22,500.

ABARE's database (approximately 1,500 producers) has been reanalysed to provide benchmarks for producer enterprises within geographic regions based on ABS statistical groupings and broadacre enterprise groupings. These regions are shown in Figure 2.1. Selected demographic data for key enterprises within regions are provided in Table 2.1. Complete data sets are provided in Annex 1.

Comparisons have been made with data from other relevant studies including:

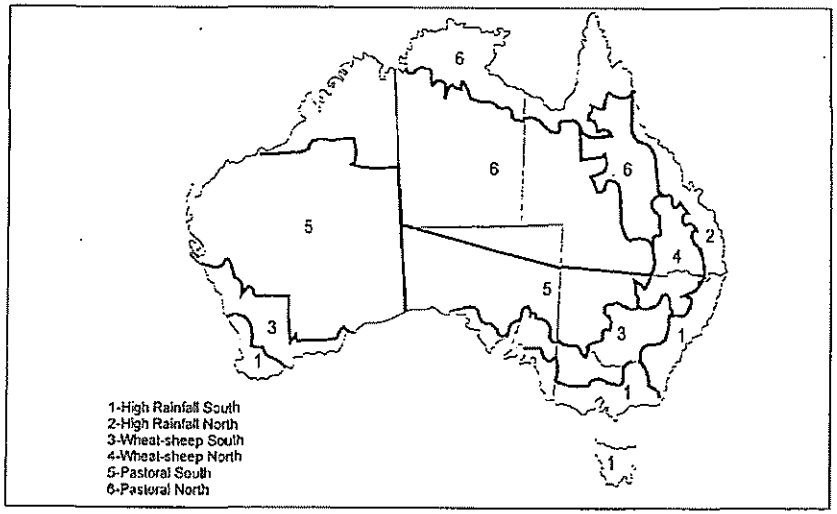
- NSW Agriculture 1994: *Prime Lamb Enterprise Analysis: pers comm* A. White, DLO Sheep & Wool, Cowra, NSW.
- Taylor Byrne Agribusiness 1994: *Financial and Management Profiling of the Northern Beef Industry Project (M.418):* report to the Meat Research Corporation.
- Agriculture Victoria 1995: *South West Victorian Monitor Farm Project - Summary of results 1993-94:* A. Patterson, Pastoral & Veterinary Research Institute, Hamilton, Vic.
- Agriculture Victoria 1995: *Beef Manager - Improving the productivity of beef production in southern Australia:* report on project DAV079 to the Meat Research Corporation.

Differences exist between these data sets with respect to the method of collection and analysis. Primary differences are listed in Table 2.1.

TABLE 2.1 : DIFFERENCES BETWEEN ON-FARM BENCHMARK DATA SETS

Data Set	Years	Differences
ABARE	1977+	Financial data allocated by broadacre enterprise type. Includes all farm data associated with all operations (eg, cattle, sheep, cropping). Australia wide representation.
Prime Lamb Enterprise	1993/94	Allocation of mixed enterprise costs to prime lamb component based on the percentage area of the farm devoted to lamb production. Producers in Canowindra Farmcheque Group, NSW
M418-Taylor Byrne	1991/93	Review of beef cattle enterprises only. Reported weaknesses with treatment of livestock inventory changes and the handling of capital expenditure/depreciation items. Beef enterprises in central Queensland
SW Monitor Farm	1969-94	Advantage in that attempts are made to maintain consistency of participants from year to year. Therefore allows for both trend and performance variation analyses. Analysis carried out by farm business unit and within enterprise type. Mixed enterprises in south west Victoria.
Beef Manager	1990-94	Beef enterprises throughout Victoria. Allocation of mixed enterprise costs to beef component. Project to demonstrate gains possible through adoption of alternative management practices rather than true benchmark study.

FIGURE 2.1 : GEOGRAPHIC REGIONS USED FOR BENCHMARK COMPARISONS



ABARE's broadacre industry classifications have been used for comparison between geographic regions and between classifications within a region. The broadacre industry classifications benchmarked in this study include:

1. Beef Enterprises - farms with approximately 75% or more of production coming from beef cattle.
2. Sheep Enterprises - farms with approximately 75% or more of their cash receipts coming from wool and sheep production.
3. Sheep-Beef Enterprises - farms with approximately 75% or more of production coming from sheep and beef cattle.

Sheep and Sheep/Beef enterprises were further stratified to enable benchmarking of prime lamb producers. ABARE does not specifically collect information for prime lamb producers so an arbitrary figure of at least 500 lambs sold per annum was used. This approach is less than desirable since it would also include some large, dedicated wool producers who sold more than 500 lambs in a year.

Table 2.2 lists the key physical data for all farm enterprises benchmarked. For both the physical and financial data, LC refers to the lowest cost producer. In order to protect the confidentiality of participants within the ABARE survey, LC in this case refers to the average of 5% of the lowest cost producers within any sample.

TABLE 2.2 : KEY DATA FOR THE ON-FARM ENTERPRISES BENCHMARKED

Enterprise	High Rain Sth-Av[1]	High Rain Sth-LC[2]	High Rain Nth-Av[1]	High Rain Nth-LC[2]	Wheat/Ship Sth-Av[1]	Wheat/Ship Sth-LC[2]	Wheat/Ship Nth-Av[1]	Wheat/Ship Nth-LC[2]	Pastoral Av[1]	Pastoral LC[2]
Beef										
Land Area (ha)	633	311	7344	15342	618	586	4167	4595	184348	311549
Cropped Area (ha)	29	6	37	40	42	146	120	115	16	0
Livestock run (dse)										
- Sheep	165	0	0	0	285	320	363	0	373	0
- Cattle	3879	2342	8417	10344	2898	3459	5771	7717	43800	32684
Livestock sold (dse)										
- Sheep	72	0	0	0	125	298	153	0	44	0
- Cattle	2168	1874	3777	18256	1815	1363	3324	4471	11018	14546
Sheep										
Land Area (ha)	672	908	1193	2430	NA	NA	4450	NA	88580	86527
Cropped Area (ha)	45	20	53	22	NA	NA	40	NA	4	0
Livestock run (dse)										
- Sheep	3296	2291	3488	1761	NA	NA	2821	NA	11078	8391
- Cattle	354	364	294	0			474		1829	3746
Livestock sold (dse)										
- Sheep	818	1466	848	1368	NA	NA	464	NA	1924	2954
- Cattle	184	325	111	0			205		688	2513
Sheep - Prm Lamb										
Land Area (ha)	910	267	3087	942	NA	NA	NA	NA	84644	NA
Cropped Area (ha)	80	1	76	27	NA	NA	NA	NA	0	NA
Livestock run (dse)										
- Sheep	3489	1629	7779	8505	NA	NA	NA	NA	9833	NA
- Cattle	1136	83	403	0					349	

Enterprise	High Rain Sth-Av[1]	High Rain Sth-LC[2]	High Rain Nth-Av[1]	High Rain Nth-LC[2]	Wheat/Shp Sth-Av[1]	Wheat/Shp Sth-LC[2]	Wheat/Shp Nh-Av[1]	Wheat/Shp Nh-LC[2]	Pastoral Av[1]	Pastoral LC[2]
Livestock sold (dse)										
- Sheep	4092	3834	3171	3267	NA	NA	NA	NA	3199	NA
- Cattle	494	343	131	0					425	
Sheep-Beef										
Land Area (ha)	860	328	1187	1272	NA	NA	2903	1922	48538	34524
Cropped Area (ha)	35	14	61	46	NA	NA	55	119	6	0
Livestock run (dse)										
- Sheep	2653	559	2487	1965	NA	NA	2470	2487	7703	4762
- Cattle	2136	1585	2106	1977			3815	2106	4742	10003
Livestock sold (dse)										
- Sheep	751	697	899	824	NA	NA	709	820	1358	2454
- Cattle	950	1274	1026	1697			867	3551	1559	3895
Sheep-Beef Pm Lmb										
Land Area (ha)	1046	149	1686	NA	NA	NA	1230	NA	38432	NA
Cropped Area (ha)	57	22	43	NA	NA	NA	24	NA	0	NA
Livestock run (dse)										
- Sheep	3803	439	3576	NA	NA	NA	2661	NA	10060	NA
- Cattle	3526	1296	2877				2305		6359	
Livestock sold (dse)										
- Sheep	1404	580	1481	NA	NA	NA	1255	NA	1650	NA
- Cattle	1802	1102	1399				1081		3357	

1 - Average 2 - Low Cost NA - Not Available
Source: ABARE 1994/95.

2.2 BENCHMARK RESULTS

To enable comparison between enterprises within and across regions, all costs have been expressed as $/dry sheep equivalent (dse) turned off so that all enterprises are benchmarked on the basis of costs per production unit. DSE's were used to provide for mixed species operations with the following conversions used:

Category	DSE
Cow/Calf	13
Beef Weaner	8
Heifer/Steer	10
Ewe/Lamb	1.8
Sheep weaner	0.8
Wether	1

Comparisons have also been made for $/dse run and $/hectare in the following sections.

2.2.1 Limitations of the Study

Benchmarking of farm operations is made difficult by the large variation in operation type between individual farm units. This is the case within a geographic region (eg, prime lamb producers in the northern tablelands of NSW) but is magnified for any attempt to compare enterprise types between regions (eg, beef cattle enterprise in central Qld v beef cattle enterprise in southwest Victoria). The utility of national benchmarks is therefore limited.

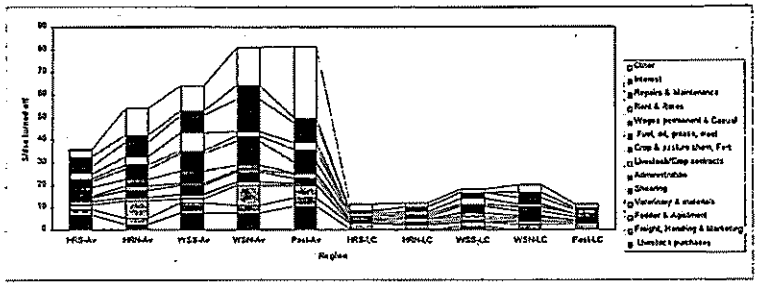
The data presented in this report are related to the 1994/95 financial year and as such reflect the seasonal and financial circumstances applying during that period. Environmental and other factors will therefore impact on the data reported.

In many cases in the data that follows, low cost producers are characterised by lower 'repairs and maintenance' and lower 'crop & pasture chemical and fertiliser' costs. Although direct extrapolation is not possible, this finding does question the long term viability/profitability of operations adopting such practices. Low cost does not necessarily mean sustainability.

2.2.2 Beef Enterprise

Average beef enterprise costs of production by region are provided in Figure 2.2 on the basis of dry sheep equivalents (dse) turned off. Corresponding data for the lowest cost producer in each of these regions are also provided in Figure 2.2.

FIGURE 2.2 : BEEF ENTERPRISE COSTS PER DSE TURNED OFF BY REGION - 1994/95

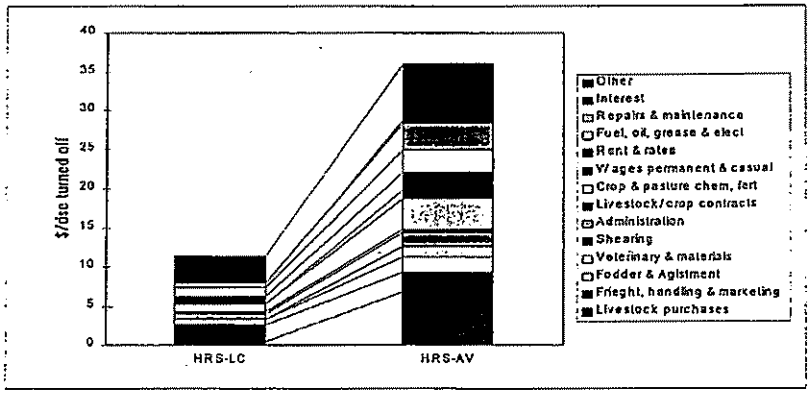


Source: ABARE 1994/95.

For 1994/95, higher costs of production per dse turned off were reported for northern beef producers. Major differences in costs were observed for 'other' (includes Insurance, Leasing, Plant Hire, Travel & Entertainment, AI and Herd testing, Seed, Advisory services and Sharefarmer payments), 'repairs and maintenance', 'fuel, oil, grease and power', and 'fodder and agistment'. Gross margins for the lowest cost producers ranged from $17.90 per dse turned off in the Pastoral region to $38.70 per dse turned off in the southern Wheat Sheep region. Lowest cost producers were identified as having higher cattle turn off rates than their respective enterprise averages which would lower their respective costs when compared on the basis of dse turn off.

Figures 2.3 to 2.7 provide more detail on cost comparisons on the basis of dse turned off for low cost and average cost beef producers within regions.

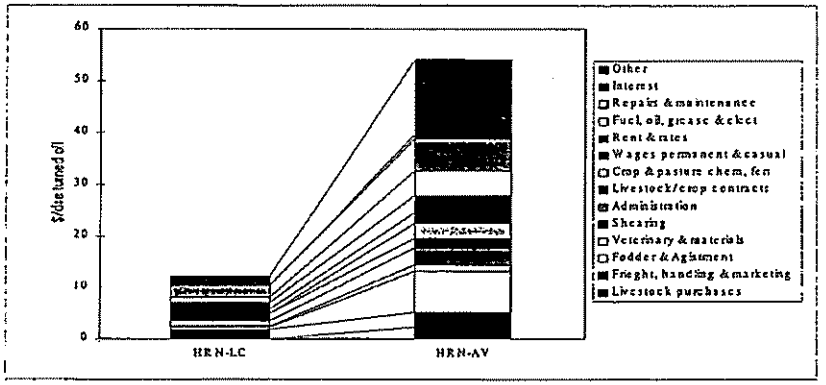
FIGURE 2.3 : HIGH RAINFALL SOUTH - LOW COST V. AVERAGE COST PRODUCERS



The significant differences between low cost and high cost producers occurred in a number areas.

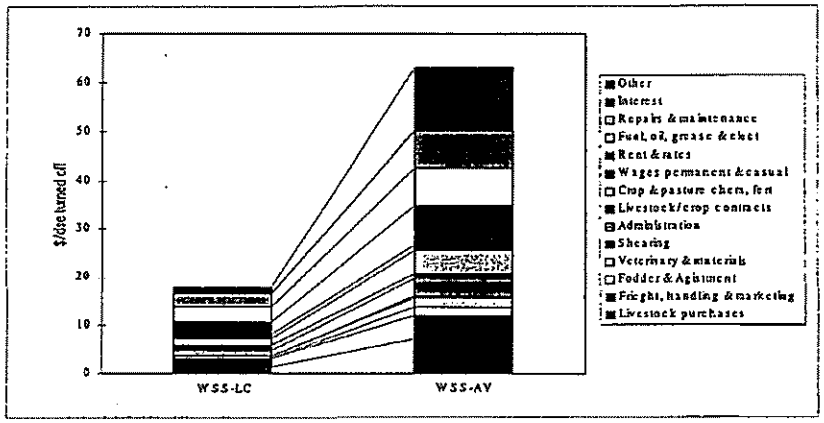
- Average cost producers had substantially higher livestock purchases per dse turned off ($6.7 v $0.4).
- Fodder and agistment costs were nearly 3 times as high for average cost producers.
- Crop and pasture chemical costs were 4 times higher for the average cost producers.
- Repairs and maintenance costs were 5 times higher.
- In comparison to other regions this region had the lowest costs of production on a dse turned off basis.

FIGURE 2.4 : HIGH RAINFALL NORTH - LOW COST V. AVERAGE COST PRODUCERS



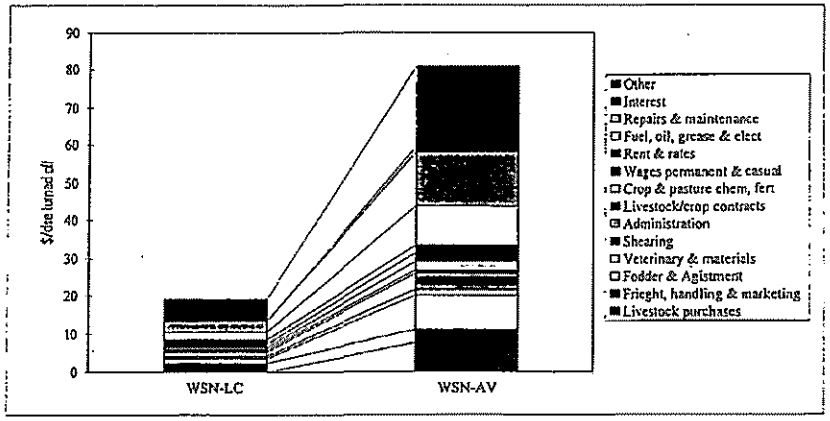
- In the High rainfall north the costs per dse turned were more than 4 times higher for average cost producers compared to low cost producers.
- Significant differences were recorded in the area of other costs, livestock purchases, administration, repairs and maintenance and fuel.
- Fodder and agistment costs were 15% ($8/dse) of costs turned off for average cost producers and only 3% of costs for low cost producers.

FIGURE 2.5 : WHEAT-SHEEP SOUTH - LOW COST V. AVERAGE COST PRODUCERS



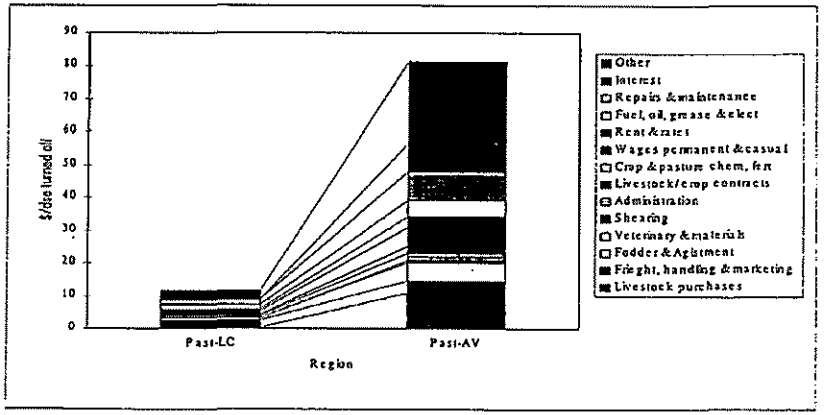
- Total costs per dse turned off were $63 for average cost producers in this region and $18 for low cost producers.
- There were significant differences in livestock purchase costs ($7.4 v $1.3/dse turned off) and associated costs.
- The rent and rates costs for average cost producers were 8.3/dse turned off or 3 times higher than the low cost producers.
- Repairs and maintenance and crop and pasture chemicals and fertilisers are also significantly different between low and average cost producers.

FIGURE 2.6 : WHEAT-SHEEP NORTH - LOW COST V. AVERAGE COST PRODUCERS



- Average cost producers in the wheat-sheep north had production costs 4 times higher than low cost producers.
- Significant cost differences occurred in livestock purchases and livestock associated costs such as fodder and agistment.
- Livestock purchases were 9% of average cost producers total costs.
- Fuel, oil, grease and electricity costs were 5 times higher for average cost producers in this region ($10.5 v $2.2/dse turned off).
- Repairs and maintenance costs were also significantly different ($2.8 v $14.4/dse turned off).
- This region had the highest repairs and maintenance costs of all regions.

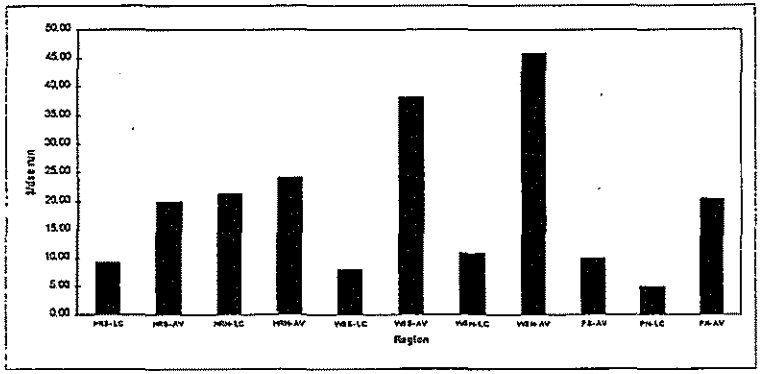
FIGURE 2.7 : PASTORAL - LOW COST V. AVERAGE COST PRODUCERS



- The pastoral zone had the largest difference in costs between low cost and average cost producers.
- The pastoral zone had the highest average cost production of more than $81/dse turned off.
- Average cost producers faced costs in the 'other' category of $25/dse turned off compared to $2.8 for the low cost producers.
- Average cost producers in the Pastoral region have wages costs 5 times higher than the low cost producers and the highest wages bill across all regions.
- Livestock purchases differed by $10.6/dse turned off.
- The repairs and maintenance bill was 6 times higher for average cost producers.
- Average cost producers in this region faced the highest interest bill of any producers ($8.5/dse turned off). The interest cost is more than 10% of total costs for average cost producers.

Figures 2.8 and 2.9 show costs expressed on a per dse run and per hectare basis. In both cases the low cost producers remained the same as those calculated on a dse turned off basis.

FIGURE 2.8 : BEEF ENTERPRISE COSTS PER DSE RUN BY REGION - 1994/95



Source: ABARE 1994/95.

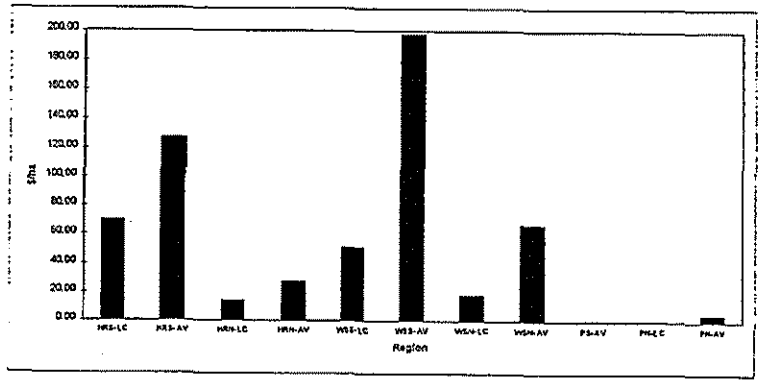
Direct comparisons between results of different studies are not valid because of differences in the way data were analysed. Table 2.3 provides the relative difference in costs between average and low cost producers within each study. The costs of the lowest cost producers were between 21% and 88% of the average cost producer depending on the region.

TABLE 2.3 : COMPARISON BETWEEN STUDIES OF DIFFERENCES IN COSTS BETWEEN LOW AND AVERAGE COST BEEF PRODUCERS

Database	Region	Year	Low Cost/Av Cost (%)[1]
ABARE	High Rainfall South Wheat Sheep South	1994/95	46.5 21.0
SW Vic Monitor Farm	South West Victoria	1993-94	30.6
ABARE	High Rainfall North Wheat Sheep North Pastoral North	1994/95	88.1 24.0 24.8
Taylor Byrne M.418	Central Queensland	1992/93	81.1

[1] Costs of Lowest cost producer as percentage of Average cost producer in a region.

FIGURE 2.9 : BEEF ENTERPRISE COSTS PER HECTARE BY REGION - 1994/95

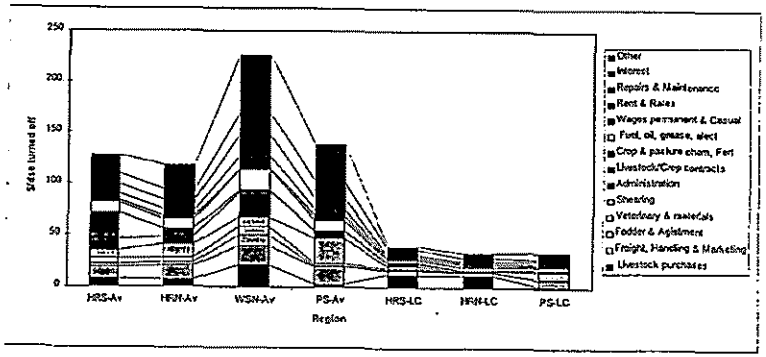


Source: ABARE 1994/95.

2.2.3 Sheep Enterprise

Average costs per dse turned off for sheep enterprises within regions are provided in Figure 2.10. Corresponding data for lowest cost producers, in each region, are also provided in Figure 2.10. These data are affected by the relative contribution of wool production to the enterprise. In all regions, wool production for the lowest cost producer, as a contribution to total gross receipts, was less than that for the respective average. The greatest differences were recorded in the High Rainfall Southern (39% low cost v 63% average) and the Southern Pastoral regions (49.8% v 70.1%).

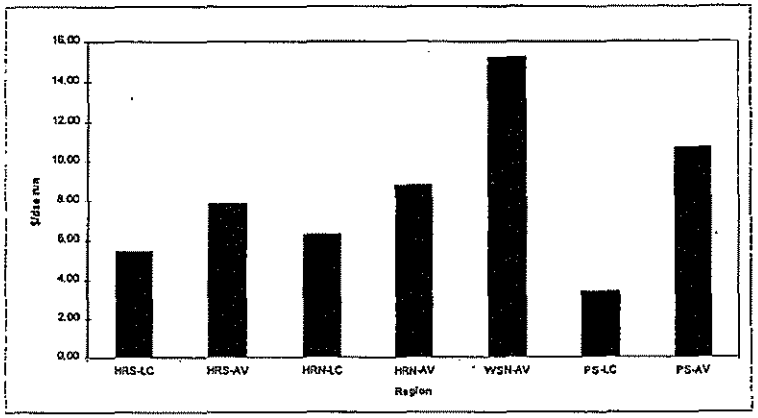
FIGURE 2.10 : SHEEP ENTERPRISE COSTS PER DSE TURNED OFF BY REGION



Source: ABARE 1994/95.

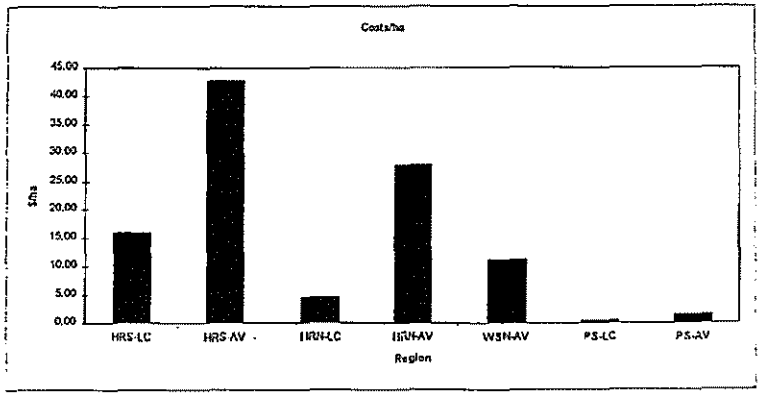
Figures 2.11 and 2.12 show costs expressed on a per dse run and per hectare basis. In both cases the low cost producers remained the same as those calculated on a per dse turned off basis.

FIGURE 2.11 : SHEEP ENTERPRISE COSTS PER DSE RUN BY REGION



Source: ABARE 1994/95.

FIGURE 2.12 : SHEEP ENTERPRISE COSTS PER HA BY REGION

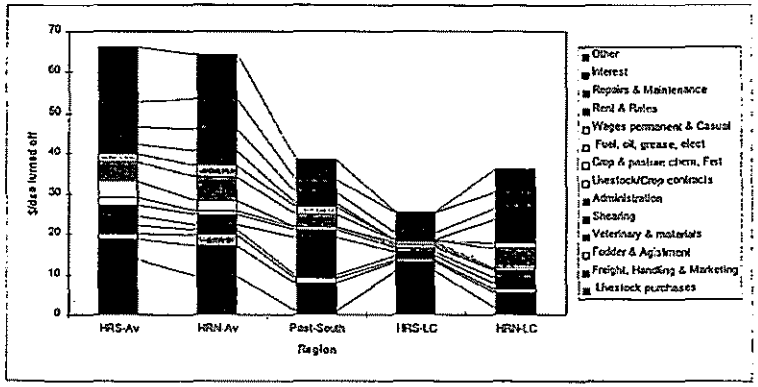


Source: ABARE 1994/95.

2.2.4 Sheep Enterprise - Prime Lamb Producers

Prime lamb producers were identified within the Sheep Enterprise database as those producers selling more than 500 lambs during 1994/95. Inevitably this would include those wool producers who had sold more than 500 lambs and possibly explains the inclusion of the Southern Pastoral group in Figure 2.12.

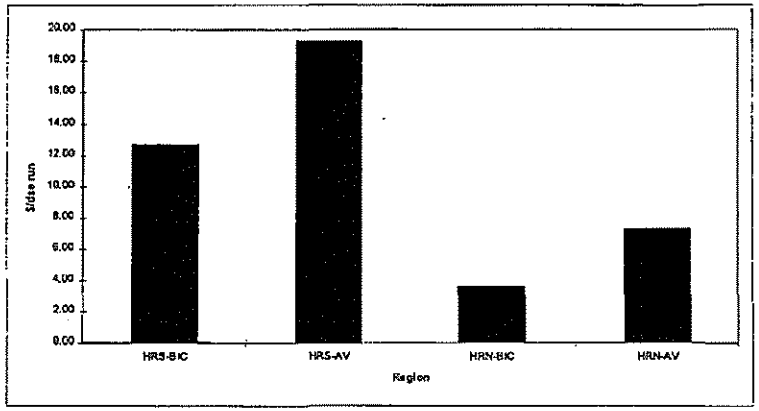
FIGURE 2.13 : SHEEP ENTERPRISE COSTS PER DSE TURNED OFF BY REGION - PRIME LAMB (MIN 500 LAMBS SOLD)



Source: ABARE 1994/95.

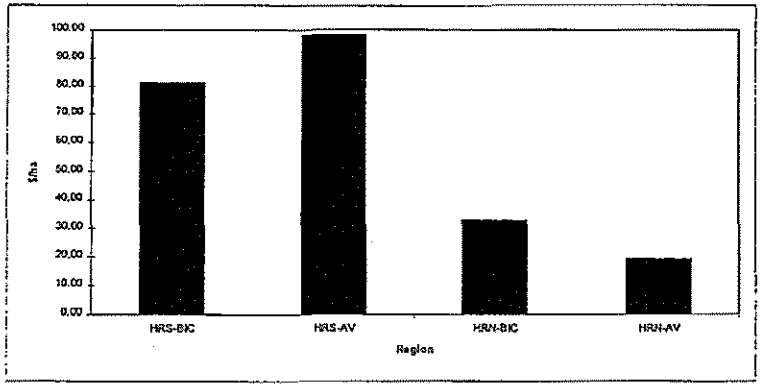
There is little difference in costs per dse turned off between southern and northern prime lamb enterprises. Figures 2.14 and 2.15 show costs expressed on a per dse run and per hectare basis. For $/dse run, the low cost producers remained the same as those calculated on a dse turned off basis. However, when compared on the basis of $/ha the low cost northern High Rainfall producer recorded costs higher than the average.

FIGURE 2.14 : SHEEP ENTERPRISE COSTS PER DSE RUN BY REGION - PRIME LAMB (MIN 500 LAMBS SOLD)



Source: ABARE 1994/95.

FIGURE 2.15 : SHEEP ENTERPRISE COSTS PER HA BY REGION - PRIME LAMB (MIN 500 LAMBS SOLD)



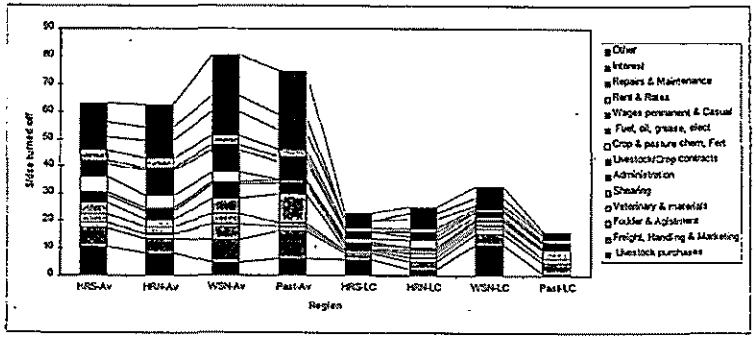
Source: ABARE 1994/95.

2.2.5 Sheep-Beef Enterprise

Average and low cost profiles on a per dse turned off basis are provided in Figure 2.16 for Sheep-Beef enterprises. In general, lowest cost producers possessed higher cattle populations as a proportion of total DSE's run than the respective average. In all cases, the lowest cost producer recorded a higher gross margin than the respective regional average.

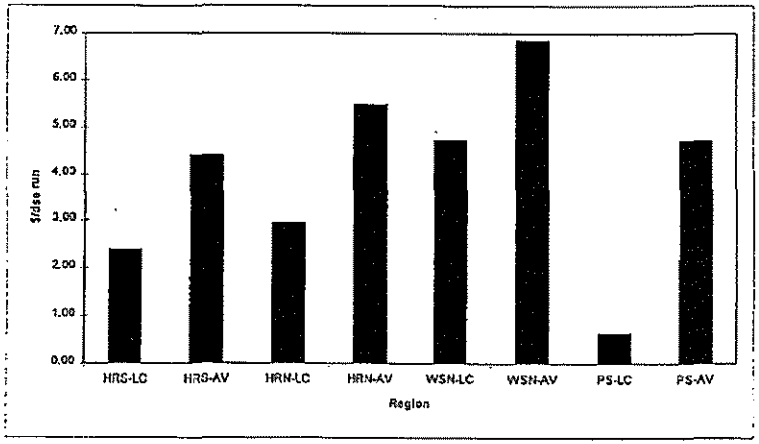
Total costs per dse run and per hectare are provided in figures 2.17 and 2.18 respectively. For $/dse run, the low cost producers remained the same as those calculated on a dse turned off basis. However, when compared on the basis of $/ha the low cost Wheat Sheep producer recorded costs higher than the average.

FIGURE 2.16 : SHEEP-BEEF ENTERPRISE COSTS PER DSE TURNED OFF BY REGION



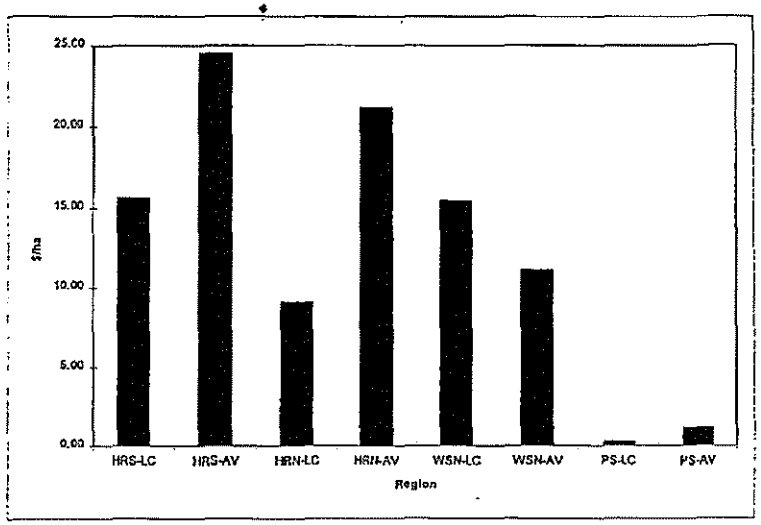
Source: ABARE 1994/95.

FIGURE 2.17 : SHEEP-BEEF ENTERPRISE COSTS PER DSE RUN



Source: ABARE 1994/95.

FIGURE 2.18 : SHEEP-BEEF ENTERPRISE COSTS PER HA BY REGION



Source: ABARE 1994/95.

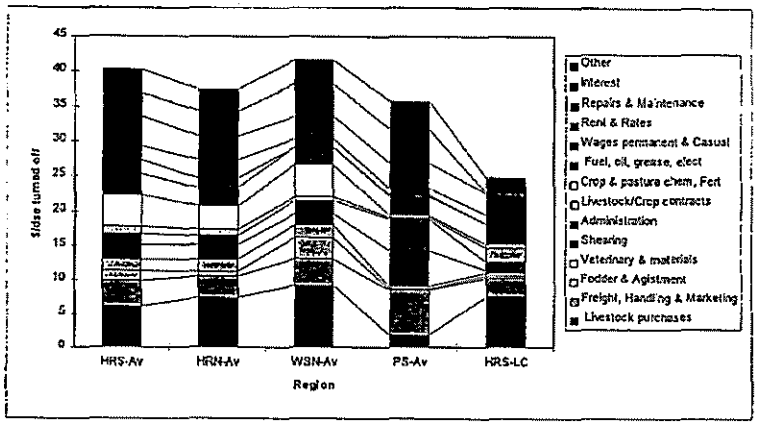
2.2.6 Sheep-Beef Enterprise - Prime Lamb Producers

Average and low cost profiles on a per dse turned off basis are provided in Figure 2.19 for Prime Lamb producers within Sheep-Beef enterprises. Prime Lamb producers were identified as those enterprises selling at least 500 lambs during the 1994/95 financial year.

Due to limitations in the ABARE data set, low cost producers could only be identified for the High Rainfall Southern region. Gross margins for the average High Rainfall Southern producer were higher than that for the lowest cost producer ($14.80 v $9.80 respectively). Average cost High Rainfall Southern derived proportionally more of their income from wool production which would be reflected in higher costs per dse turned off.

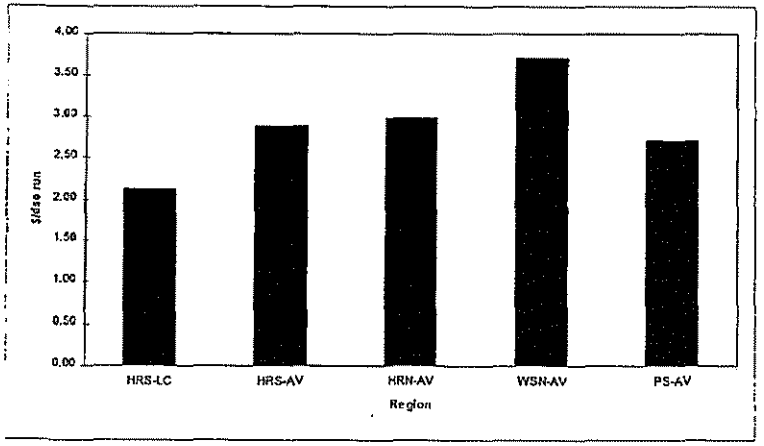
Total costs per dse run and per hectare are provided in figures 2.20 and 2.21 respectively. For $/dse run, the low cost producers remained the same as those determined on a $/dse turned off basis but recorded higher than average costs when compared on the basis of $/ha.

FIGURE 2.19 : SHEEP-BEEF ENTERPRISE COSTS PER DSE TURNED OFF BY REGION - PRIME LAMB (MIN 500 LAMBS SOLD)



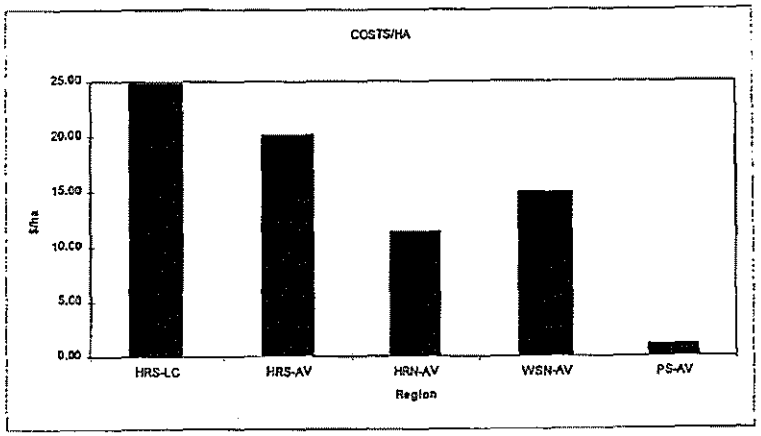
Source: ABARE 1994/95.

FIGURE 2.20 : SHEEP-BEEF ENTERPRISE COSTS PER DSE RUN - PRIME LAMB (MIN 500 LAMBS SOLD)



Source: ABARE 1994/95.

FIGURE 2.21 : SHEEP-BEEF ENTERPRISE COSTS PER HA BY REGION - PRIME LAMB (MIN 500 LAMBS SOLD)

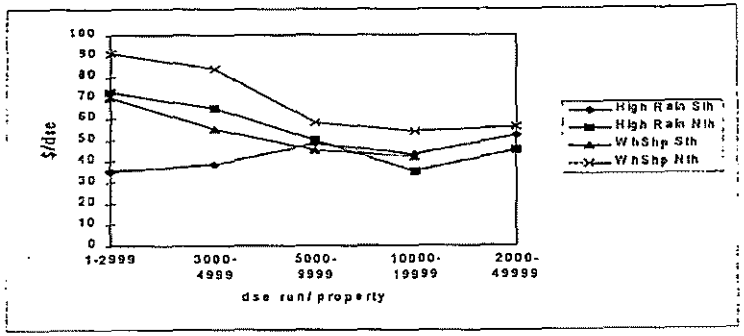


Source: ABARE 1994/95.

2.3 ENTERPRISE SIZE RELATIONSHIPS

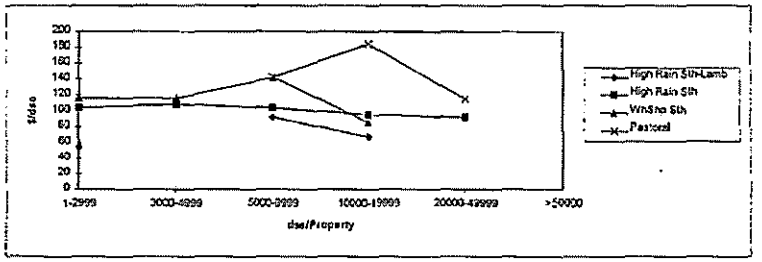
Relationships between property size (in terms of total DSE's run) and costs per dse turned off are provided for all enterprise types in figures 2.22-2.26. The relationship between property size and margin per dse turned off is also shown for sheep and beef/sheep enterprises. While some figures may show economies of size trends in terms of falling costs or increasing margins with increasing size, consistent trends are not forthcoming and may reflect the vast differences in enterprise types and environments from which the data have been collected.

FIGURE 2.22 : BEEF ENTERPRISE - SIZE-COST RELATIONSHIP



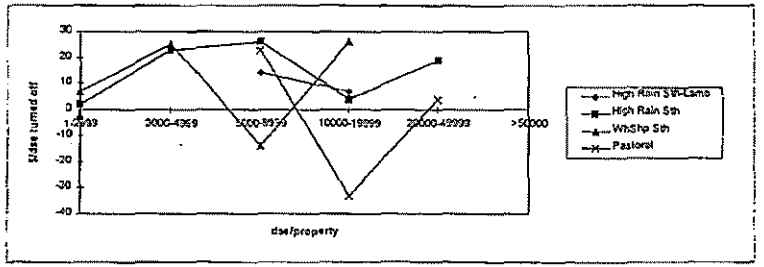
Source: ABARE 1994/95.

FIGURE 2.23 : SHEEP ENTERPRISE -SIZE-COST RELATIONSHIP



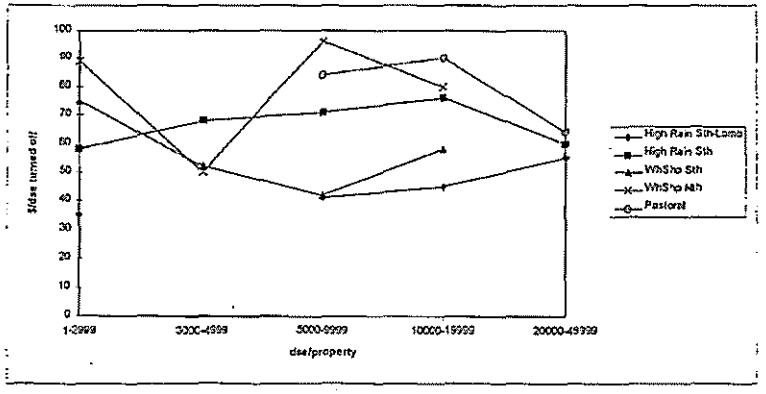
Source: ABARE 1994/95.

FIGURE 2.24 : SHEEP ENTERPRISE -SIZE-MARGIN RELATIONSHIP



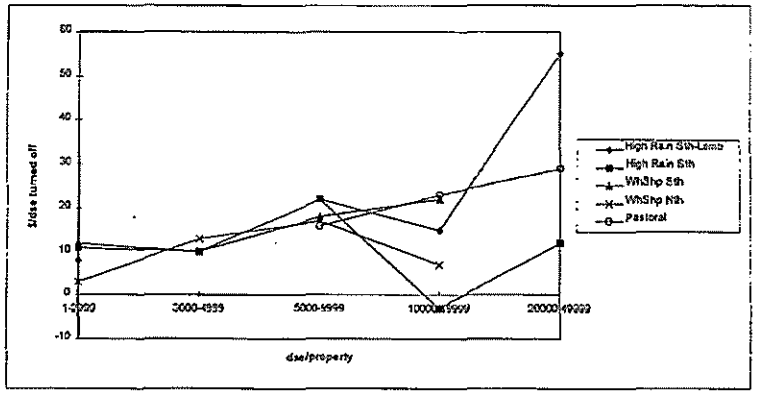
Source: ABARE 1994/95.

FIGURE 2.25 : SHEEP-BEEF ENTERPRISE -SIZE-COST RELATIONSHIP



Source: ABARE 1994/95.

FIGURE 2.26 : SHEEP-BEEF ENTERPRISE -SIZE-MARGIN RELATIONSHIP



Source: ABARE 1994/95.

2.4 COMPARISON WITH OVERSEAS

The usefulness of the data we have presented for on-farm benchmarking are limited because of the difficulty associated with comparing individual enterprise types across geographic regions (eg, cost comparison of a beef enterprise in northern Qld with a beef enterprise in south west Victoria which also derives a large proportion of its income from sheep production). Any attempt to compare Australian producers with their international competitors is constrained even further on this basis.

2.5 RECOMMENDATIONS FOR ENTERPRISE BENCHMARKING

Our attempt to benchmark on-farm enterprises on the basis of broad enterprise types and within broad geographic regions illustrates the limited usefulness of such an exercise. While large differences in costs between average and low cost producers have been identified in this study, individual producers would largely benefit from being benchmarked against like operations within their geographic locality. Past studies, most notably the South West Monitor Farm, Farmcheque, Taylor Byrne and Beef Manager, have provided formats for data collection and data analysis for various benchmarking exercises but differences exist among them all. Our recommendations for on-going, on-farm benchmarking include:

1. That the ABARE template used for their Farm Surveys Report be promoted as the standard for conducting enterprise benchmarking at the on-farm level.

2. That the ABARE template be extended to include:

   - provision for producers to nominate their primary enterprise type (eg, prime lamb, beef, wool sheep etc) and to then be benchmarked against like enterprises; and
   - benchmarking of costs on a 'dollars per productivity index' where the productivity index is weighted for wool, grain and meat production.

3. That MRC support the promotion of localised benchmark groups through the provision of promotional funds to State Departments of Agriculture. These departments would then coordinate regional benchmarking groups on a cost recovery basis. Standard analysis would be undertaken by ABARE who would aggregate data for industry analysis. ABARE would undertake this work on a cost recovery basis with payment from State Departments of Agriculture.

3. FEEDLOT BENCHMARKING

3.1 INTRODUCTION

No previous cost benchmarking has been undertaken in the Australian feedlot sector. Data for this study were obtained from confidential surveys of 10 feedlots located throughout south east Queensland and New South Wales. Collectively these areas account for around 83% of estimated feedlot capacity. Data were collected for the 1994/95 financial year. Comparison with the US industry is based on 1992/93 data from 30 feedlots subscribing to Professional Cattle Consultants.

The objectives of the study were to:

- Determine key cost drivers and measures for benchmarking.
- Develop a baseline from which subsequent cost reduction and productivity improvements can be measured.
- Specify selected practices through which efficiency/productivity gains can be achieved.

The scope of the feedlots surveyed considers:

- Cost and productivity performance for the 1994/95 financial year.
- A collective constructed capacity of 149,490 head which was 26.5% of the licensed capacity reported in the ALFA/AMLC survey at June 1995.
- Feedlots located in southern Queensland, northern and southern New South Wales.
- Half corporate and half private ownership.
- A range of feed processing methods including dry crack/rolling, reconstitution and steam flaking.

3.1.1 Assumptions

Productivity comparisons have been made on the basis of head days in the feedlot with an allocation of costs based on the proportional number of head days recorded within five feeding regimes. These regimes were:

1. 70-100 day trade cattle.
2. 100-150 day short fed export cattle.
3. 150-200 day medium fed export cattle.
4. 200-300 day long fed export cattle.
5. 300+ day long fed export cattle.

Data were collected from individual lots closed-out during the 1994/95 financial year. Where intended feeding range for individual lots was not known the following grouping was made on the basis of each lot's average days on feed. No allowance was made for lots which

finished their feeding period in an individual lot but may have commenced feeding in another lot; the actual occurrence of this was not considered significant.

Average Days On Feed	Allocated Feeding Regime
less than 99 days	70-100 day trade
100-174 days	100-150 day export
175-249 days	150-200 day export
250-349 days	200-300 export
over 350 days	Over 300 day export

Accumulated close-out data were then compared to actual input/output figures for each feedlot and factored up or down on the basis of the following calculation:

(Actual no. Head placed on feed 1994/95) ÷ (Close-out head placed on feed) = X
(Actual no. Head sold off feed 1994/95) ÷ (Close-out head sold off feed) = Y
Factor = (X+Y) ÷ 2

The following data and calculations were used:

1. All weights are of the live animal recorded over the feedlot weighbridge. They may therefore be 'empty' input weights and 'full' output weights.
2. For consistency 'Average Days on Feed' for a lot has been determined by the number of head days in the feedlot divided by the number of cattle sold from the lot.

3.2 BENCHMARKING RESULTS

3.2.1 Standardisation

All costs have been collected on an absolute basis and converted to a cents per head day and dollars per 1,000 head of capacity. All US cost data have been converted to $AUS based on the average exchange rate for 1994/95 (US$0.7469 = AUS$1). US cost data for 1992/93 were converted to 1994/95 figures using an inflation factor of 5.3% (USDA Agricultural Outlook, December 1995).

Capacity utilisation for Australian feedlots has been calculated by dividing the average of beginning and ending annual inventories by constructed capacity whereas for US feedlots capacity utilisation was determined by dividing average beginning inventory by practical capacity.

3.2.2 Demographics

Table 3.1 shows the relative demographics of the feedlots surveyed in Australia and the US.

TABLE 3.1 : DEMOGRAPHICS OF SURVEYED FEEDLOTS

Item	Australia	United States
Ownership	50% Foreign Ownership 50% Australian Ownership 30% Custom Feeders	
Capacity - Average - Range	 18,182 7,000+	 24,897 4,800-87,500
Av Capacity Utilisation	75.0%	84.7%
Geographic Distribution	South east Qld, Northern NSW, Southern NSW	Iowa, South Dakota, New Mexico, Texas, Kansas, Nebraska, Colorado, Okalahoma,

Source: PCC 1992/93, AACM 1994/95.

The relevance of the capacity utilisation figures in Table 3.1 is not to make a direct comparison of differences between the Australian and US industries (because different years are involved) but rather to ensure the difference is taken into account when comparison between Australian and US costs is made.

3.3 FEEDLOT OPERATING COST COMPARISON

Figure 3.1 provides a break down of feedlot operating costs by category The following costs have been specifically excluded from the analysis:

1. Cost of feed and livestock purchases since these are considered beyond the control of individual feedlots.
2. Cost of capital (depreciation and interest could not be collected for all Australian feedlots).
3. Health and induction costs (only in any comparison with the US because these were not provided in the US data).

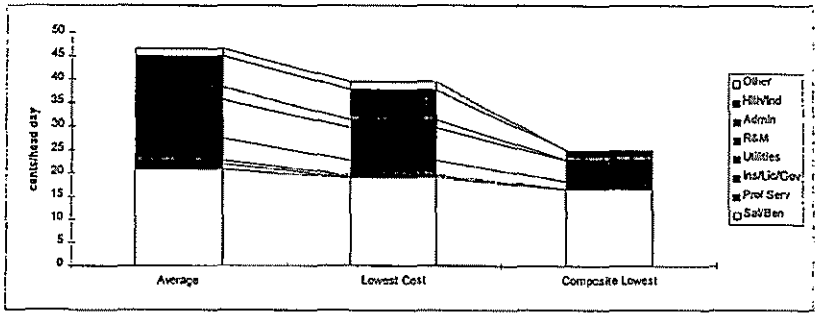
Individual operating cost items, assumed to be controllable to some degree by individual feedlots, comprise:

1. Sal/Ben - includes all salaries, wages, on-costs and amounts paid to contract labour associated with the feedlot operation.
2. Prof Serv - includes all fees paid to consultants (eg, nutritionist, vet, etc).
3. Ins/Lic/Gov - includes general insurance, land rates and feedlot licensing costs.
4. Utilities - includes electricity, water, fuel and oil.
5. R&M - repair and maintenance costs associated with the yards, water, feedmill, vehicles, roads and buildings.

6. Admin - includes telephone, postage, promotion and other costs but excludes associated salaries.
7. Health/Ind - includes all supply costs associated with the induction of stock into the feedlot and any subsequent medication.
8. Other - includes all other operating costs not specifically included elsewhere.

The lowest cost feedlot had total operating costs 15% below the study average. Major differences existed for Professional Services (86% less), Utilities (35% less), Administration (31% less) and Repairs and maintenance (15% less).

FIGURE 3.1 : OPERATING FEEDLOT COSTS BY CATEGORY



Source: PCC 1992/93, AACM 1994/95.

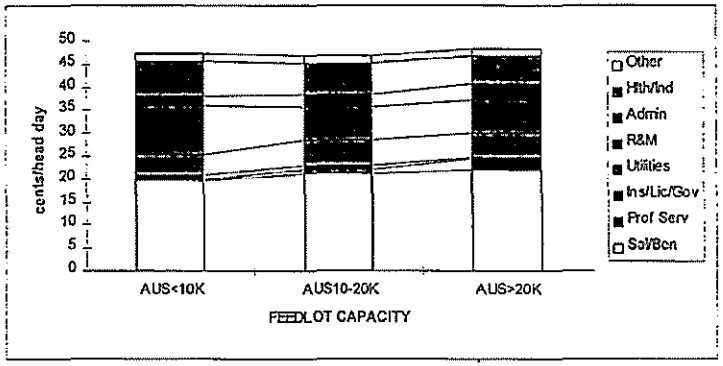
A comparison of Australian feedlot operating costs with those in the US is provided in Table 3.2. Salaries, benefits and payments to contractors accounted for 51% of overhead compared to 48% for US feedlots. Other major cost items included repairs and maintenance (21% cf 28% US), utilities (12% cf 7% US) and administration (7% cf 3% US).

TABLE 3.2 : FEEDLOT OPERATING COSTS - COMPARISONS AUSTRALIA V US

	Australia (%)	US (%)
Salaries/Benefits	52	47
Prof Services	2	2
Ins/Lic/Gov	2	5
Utilities	12	7
R & M	21	28
Administration	7	3
Other	4	8
TOTAL	100%	100%

Feedlot costs are analysed by feedlot size, capacity utilisation, feed processing method and ownership in Figures 3.2-3.5. Insufficient data were available to allow any comparison between regions and feedlot operating costs.

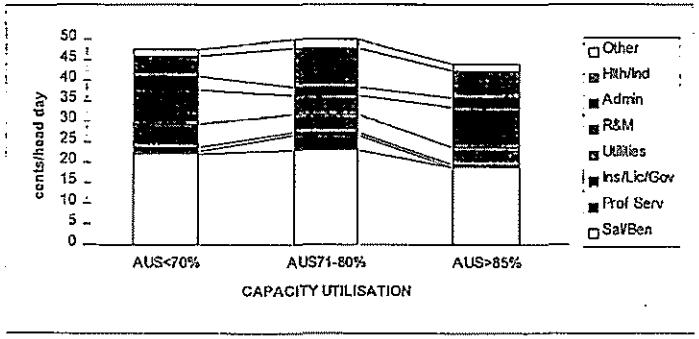
FIGURE 3.2 : AVERAGE OPERATING COSTS BY AVERAGE FEEDLOT SIZE



Source: PCC 1992/93, AACM 1994/95.

Overall no economies of scale are apparent for operating costs (Figure 3.2). However, for individual items the following decreased with increased feedlot size; repairs and maintenance, utilities and induction and health costs, while, the following items increased; salaries and benefits, professional services and administration.

FIGURE 3.3 : AVERAGE OPERATING COSTS BY AVERAGE ANNUAL CAPACITY UTILISATION

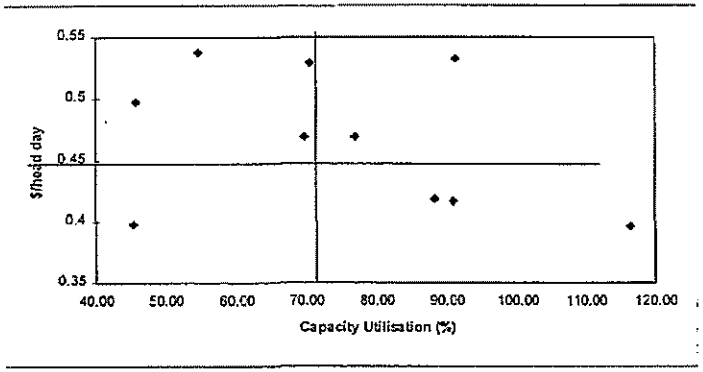


Source: PCC 1992/93, AACM 1994/95.

Higher capacity utilisation is associated with lower average costs (Figure 3.3). This is further demonstrated in Figure 3.4 where total operating costs have been plotted for each feedlot in

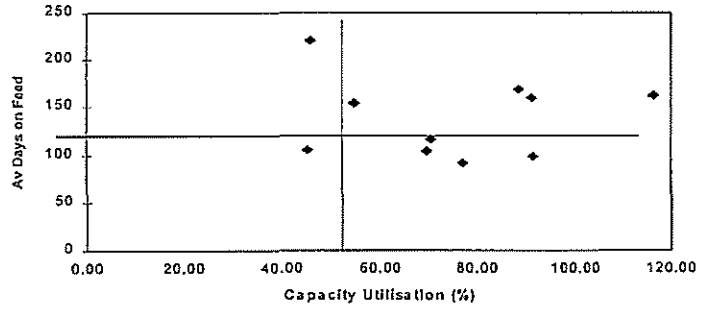
this study. This occurred despite no association between average days on feed and capacity utilisation (Figure 3.5).

FIGURE 3.4 : FEEDLOT OPERATING COSTS BY CAPACITY UTILISATION



Source: AACM 1994/95.

FIGURE 3.5 : FEEDLOT CAPACITY UTILISATION BY DAYS ON FEED

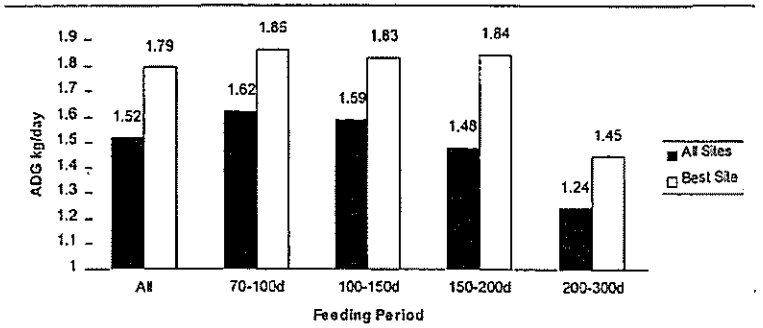


Source: AACM 1994/95.

3.4 PRODUCTIVITY COMPARISONS

The following productivity comparisons are based on data from the 10 feedlots sampled which collectively amounted to 149,000 head from 593 lots.

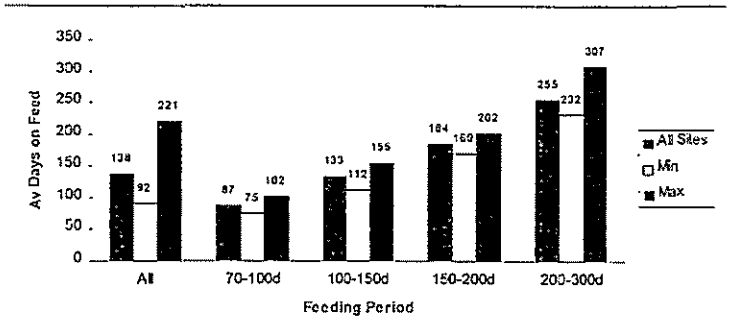
FIGURE 3.6 : AVERAGE MORTALITY RATE BY FEEDING PERIOD



Source: AACM 1994/95.

The average cattle mortality rate was 0.74% although this was double the average mortality rate for the best feedlot. Mortality rates were higher in the longer feeding period although individual lowest average mortality rates were recorded in the longest feeding groups (0.12% and 0.22% respectively for 150-200d and 200-300d feeding periods).

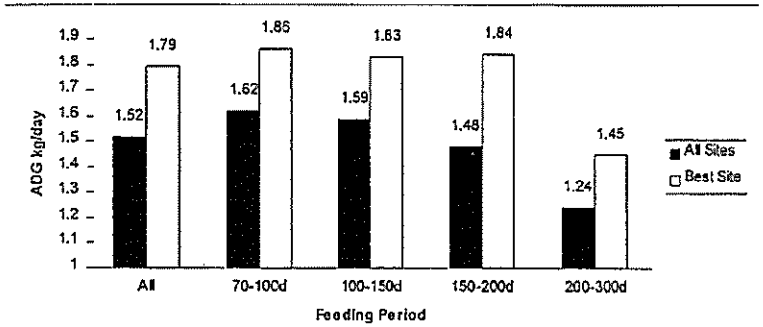
FIGURE 3.7 : AVERAGE DAYS ON FEED BY FEEDING PERIOD



Source: AACM 1994/95.

Australian feedlots cater to a broad range of markets as reflected by feeding regime. The average days on feed for the lots in this study was 138 days with a range from 92 to 221 days. US data (PCC, May 1995) report average days on feed figures for steers ranging from 140 to 171 days depending on the time of the year.

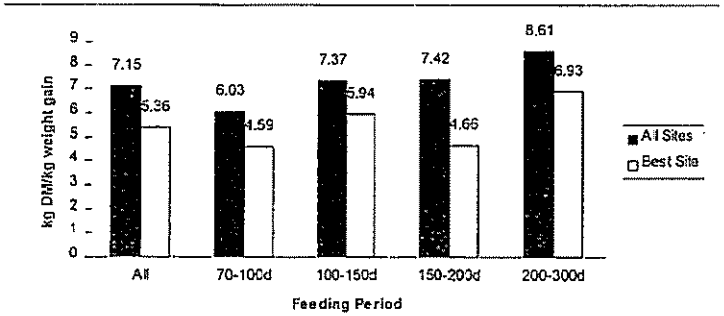
FIGURE 3.8 : AVERAGE DAILY GAIN BY FEEDING PERIOD



Source: AACM 1994/95.

Daily weight gains averaged 1.52 kg for all feedlots and feeding periods. The best feedlot averaged 1.79 kg/day. While average daily gains fell as feeding period increased, some feedlots maintained high growth rates in all feeding periods other than 200-300 days. Reported average daily weight gains in the US ranged from 1.27 to 1.50 kg/day depending on time of the year (PCC, May 1995).

FIGURE 3.9 : AVERAGE DRY MATTER FEED CONVERSION RATES BY FEEDING PERIOD



Source: AACM 1994/95.

Over all feeding periods, average dry matter feed conversions were 33% worse than the best feedlot. Average dry matter feed conversions for steers in the US ranged from 6.1 to 6.8 depending on the time of year.

2. An attempt be made to improve productivity data through the collection of carcase information.
3. MRC provide a 50% subsidy to participating feedlots, for the first two years, as an inducement to join the scheme.
4. MRC appoint a suitably qualified group, in consultation with ALFA, to undertake the benchmarking on a confidential basis with participating feedlots.
5. Aggregated industry findings would be provided to MRC and ALFA on the basis that the information did not breach any confidentiality of the feedlot participants.
6. Consideration be given to the formation of an alliance with US feedlot benchmark groups to facilitate inter country comparisons.

4. MEAT PROCESSING BENCHMARKING

4.1 INTRODUCTION

The raw information for this section has been sourced from a variety of projects previously undertaken to investigate cost structures in the Australian Meat processing industry.

Relevant studies include:

- Booz•Allen and Hamilton, 1993: *International Comparisons in the Beef Processing Industry*: report to the Meat Research Corporation.
- AT Kearney 1994: *Sheepline 2000 - Processing Benchmarking Study*: report to the Meat Research Corporation.
- Hassall and Associates 1994: *Pig Processing Benchmarking Study*: report to the Pig Research and Development Corporation and the Agrifood Council Secretariat, Department of Industry Science and Technology.
- Australian Meat Marketing 1994: *Country Meatworks Association - NSW Meat Processing Benchmarking Study*: report on Project M433 to the Meat Research Corporation.
- Australian Meat Marketing and ProAnd Associates Australia 1995: *Beef Processing Benchmarking Project*: report on Project M433B to the Meat Research Corporation.
- Industry Commission Report 38 1994: *Meat Processing.*

These data have been supplemented by further analysis where required. Additional data gathering was required to provide improved detail.

It should be recognised that detailed Benchmarking data gathering has only been conducted in a relatively small number of plants. Each study has had a variety of plant types included, for example smaller multi-species domestic plants to large single species export beef plants. The result from each study have been tested against other information and are supported by general observations across a large section of the industry.

The benchmarking surveys have been conducted with a relatively small number of cooperating enterprises. The results presented are actual performance data which have been aggregated to provide a general picture of the industry situation. It is not possible to provide further detail without compromising the confidentiality of the data.

Most benchmark comparisons have been based on finished weight costs as a basis to compare the differing types of operations. (Finished weight (FW) is the amount of boneless yield from a body ie dressing weight X boning percent.) Further details can be sought from individual studies.

Definitions:

- AUSBIC, USBIC - Booz Allen Study 1992/93.
  AUSBIC - is the composite best in class (BIC) of the Australian participants.
  USBIC - is the composite BIC of the United States participants.

- AVCMA93, CMABIC93 - Costs in Australian plants in 1993 survey.
  AVCMA93 - is the average for 1993 Australian participants (all Country Meatworks Association members (CMA)).
  CMABIC93 - is the composite BIC for the 1993 participants.

- AVCMA94, CMABIC94, NZ - Costs in NZ and Australian plants in 1994 survey.
  AVCMA94 - is the average for 1994 Australian participants (Country Meatworks Association members (CMA) were supplemented with additional plants).
  CMABIC94 - is the composite BIC for the 1994 participants.
  NZ - is the composite BIC for both Australian and New Zealand participants (the limited number of New Zealand participants excluded the presentation of solely New Zealand results).

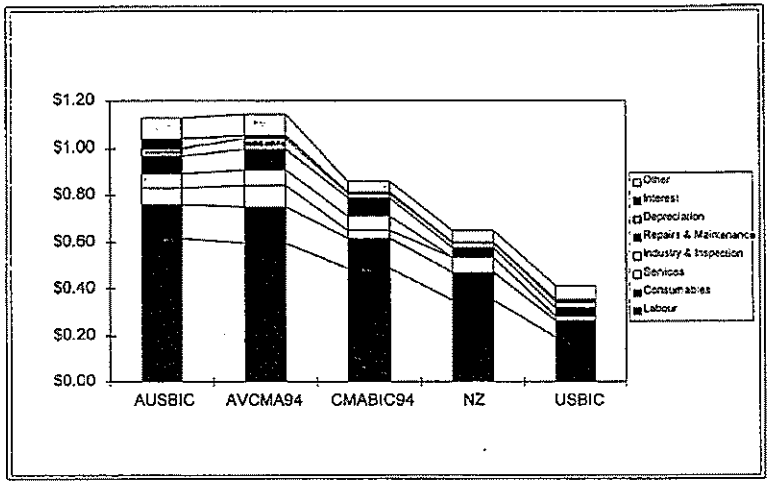
4.2 BENCHMARKING RESULTS - BEEF PROCESSING

4.2.1 Comparison of International Beef Processing Benchmarks

Comparison of international beef processing costs derived from the previous studies are provided in Figure 4.1. Key findings are:

- Australian meat processing has a cost disadvantage against both NZ and US.
- The cost disadvantage of best Australian practice against NZ is approx SA0.20 per kg (FW).
- Exchange rate movements since the study was completed have reduced this gap to approx SA0.15 per kg (FW).
- The average Australian plant has a cost disadvantage of almost SA0.50 per kg (FW) when compared to NZ competitors (reduced to approx SA0.45 per kg (FW) by exchange rate movements).
- At a parity exchange rate, the cost disadvantage for Australian best practice would still be SA0.12 per kg (FW), some 14% of total costs.
- The NZ cost advantage is due to lower labour, inspection and government charges and lower repairs and maintenance (R&M) costs.
- Inspection charges in NZ are recovered directly from producers while lower R&M costs are due to newer plant and equipment (in the study).
- NZ is disadvantaged in the area of services costs - which includes fuel, water and electricity.

FIGURE 4.1 : COMPARISON OF INTERNATIONAL BEEF PROCESSING BENCHMARKS ($ PER KG FINISHED WEIGHT)

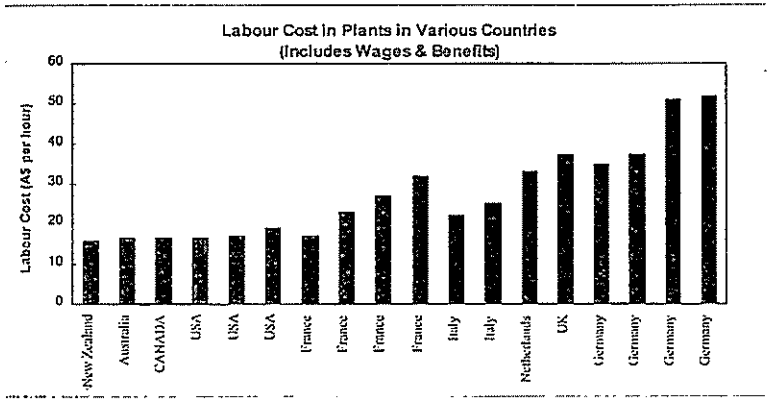


Source: Benchmark Studies.

4.2.2 International Labour Comparisons

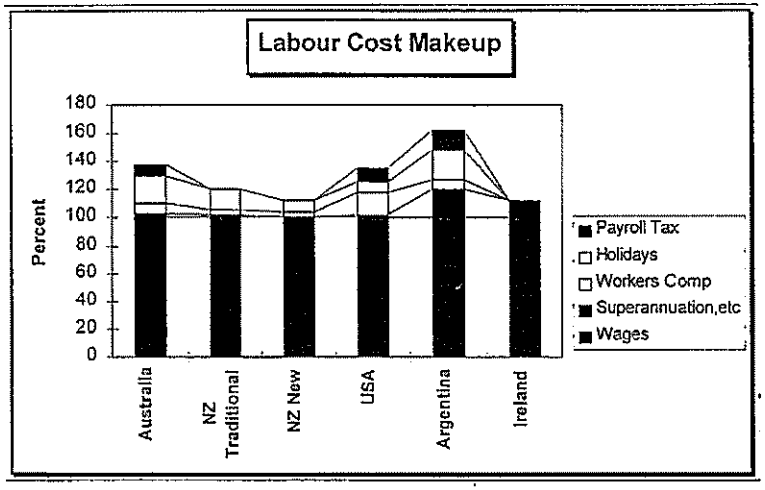
- The labour cost difference is not due to differences in wage rates.

FIGURE 4.2 : PLANT LABOUR COST BY COUNTRY



Source: MRC Project M.228

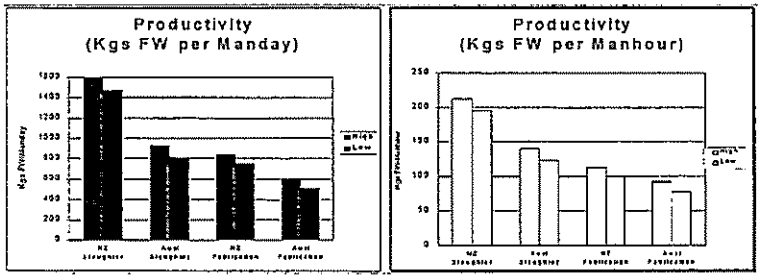
FIGURE 4.3 : COMPOSITION OF LABOUR COST ACROSS COUNTRIES



Source: MRC Project M.228.

- Australian labour costs are disadvantaged against New Zealand by the imposition of higher oncosts, particularly the areas of workers compensation, holidays and payroll tax. These on-costs are generally out of the control of individual enterprises.

FIGURE 4.4 : AUSTRALIAN BEEF SLAUGHTER AND FABRICATION PRODUCTIVITY COMPARED WITH NEW ZEALAND

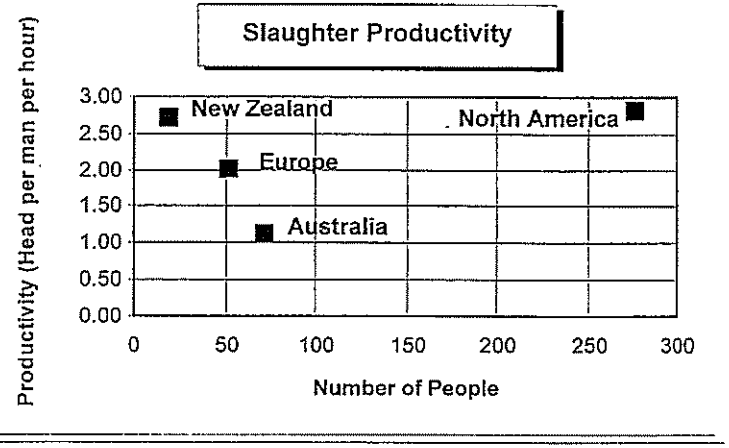


Source: Various Benchmark Studies.

- Part of the labour cost difference between Australian and New Zealand is due to higher productivity in New Zealand.

- Although New Zealand labour in the slaughter area is some 70 percent more productive than Australian labour (in terms of kg FW per manday), 25 percent of this can be attributed to New Zealand plants working a longer day.
- The improved productivity is also due to more flexible labour practices, multi-skilling and team work.
- The New Zealand labour flexibility even includes the ability to utilise meat inspectors to assist process work.
- The data shows that the productivity advantages New Zealand enjoys in the fabrication area are much smaller than in the slaughter area. New Zealand has a 40 percent advantage on the basis of kgs FW per manday in the fabrication area.

FIGURE 4.5 : BEEF SLAUGHTER PRODUCTIVITY BY COUNTRY



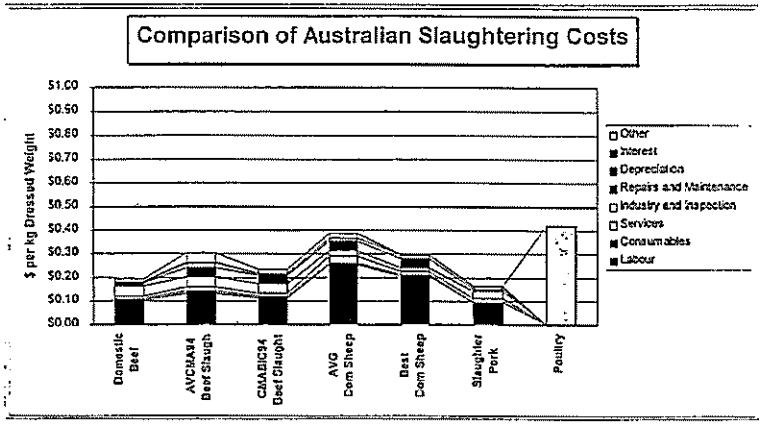
Source: MRC Project M.228.

- Other studies have confirmed the New Zealand/Australia productivity difference, as shown in figure 4.5.
- Figure 4.5 also demonstrates that the smaller New Zealand plants have been able to achieve labour productivity levels comparable with high volume US plants in the slaughter area.

4.2.3 Meat Processing Costs in Australia

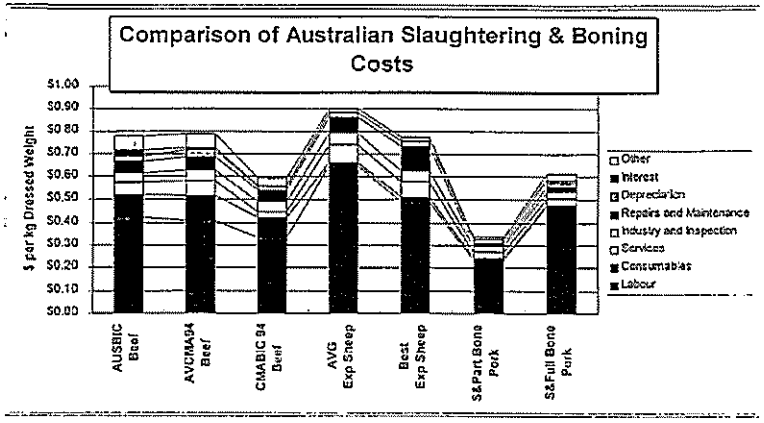
Figures 4.6 and 4.7 show comparative costs for beef, sheep, pork and poultry in Australia. Collection of accurate poultry processing costs has proved very difficult due to the closed nature of the industry. The estimate used here is derived from an analysis of cost distributions in the poultry processing chain from data provided by the Australian Poultry Industries Association.

FIGURE 4.6 : SLAUGHTER COST BY ABATTOIR TYPE



Source: Various Benchmark Studies.
Poultry data - derived from information supplied by The Australian Poultry Industries Association.

FIGURE 4.7 : SLAUGHTER AND BONING COSTS BY ABATTOIR TYPE



Source: Various Benchmark Studies.

Figures 4.6 and 4.7 show:

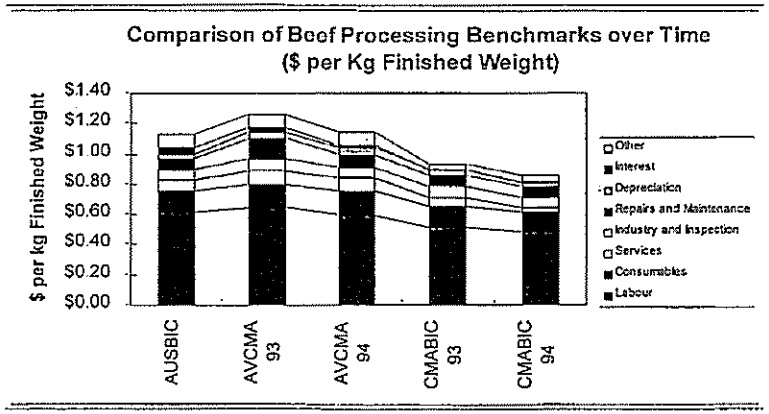
- Domestic beef slaughtering is less expensive than export due to lower labour and overhead costs.
- On a per kilogram basis beef enjoys a slaughtering cost advantage over sheep and poultry due primarily to the larger animal size.

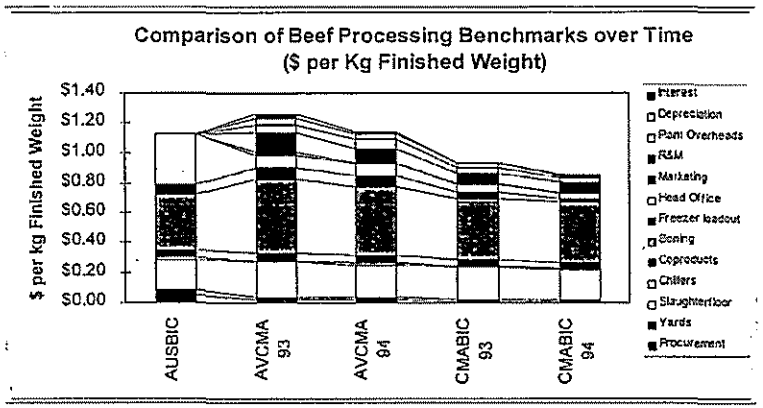
- Beef is disadvantaged against pork due primarily to reduced labour costs, related to the retention of the skin on pork carcases.
- On a boned out basis beef has a cost advantage over sheep, however beef costs are higher than pork.
- This disadvantage is primarily due to boneless pork being destined for further processing, which reduces consumables and other follow on costs. In labour cost alone, beef enjoys an advantage as would be expected due to the larger animal size.

4.2.4 Detailed Beef Processing Benchmarks

The following figures show the detail of Australian beef processing costs as determined in previous Benchmarking surveys. The costs are analysed by both expense type and functional area.

FIGURE 4.8 : AUSTRALIAN BEEF PROCESSING BENCHMARKS OVER TIME





Source: Various Benchmarking Studies.

Figure 4.8 shows:

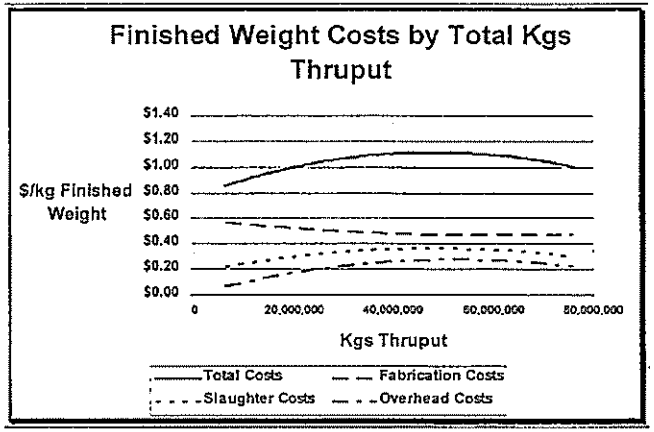
- The Australian beef processing industry has been able to reduce unit costs between 1992 and 1994.
- This reduction has been of the order of 5% to 10%.
- Most of the reduction has been in the area of overheads.
- Enterprises have been relatively unsuccessful in reducing the cost of processing labour. Averaged across enterprises for which data was collected, labour costs have actually risen from 50% to 55% of total unit cost.
- Even in the best in class comparisons labour costs have risen from 55% to 57% of total unit costs.

4.2.5 Analysis of Beef Processing Benchmarks

An analysis has been made of the beef industry benchmark data to explore the characteristics of the Australian beef processing industry. The data set contains export and domestic beef processing plants.

In the following charts domestic plants influence the shape of the lines in the lower throughput ranges due to lower labour and industry costs.

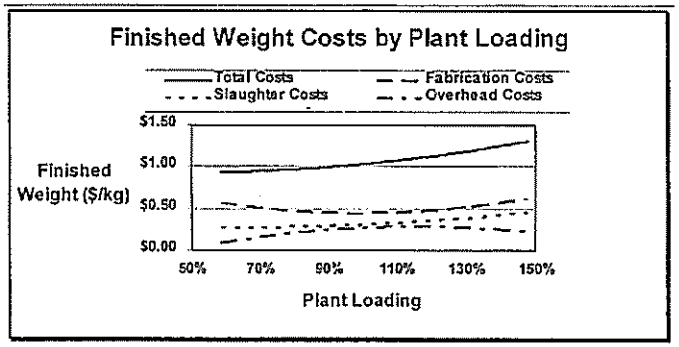
FIGURE 4.9 : FINISHED WEIGHT COSTS BY THROUGHPUT



Source: MRC Projects M.433, M433B.

- The analysis indicates that on an industry basis, there is little evidence of the benefits of economies of scale in the Australian *beef* processing sector.
- The data set shows that total processing costs, including slaughtering, fabrication and overhead costs, do not reduce significantly with increased throughput.
- This outcome is influenced by a labour payment system which can penalise higher throughputs due to the need to pay premiums for over tally production, overtime and shift work.
- This payment system generally gives abattoir management an incentive to minimise the actual time slaughter floor and boning room workers are kept on the plant.
- The implicit incentive for abattoirs to perform the day's work as quickly as possible has clearly contributed to the low utilisation of capacity – which is a feature of the Australian processing sector.

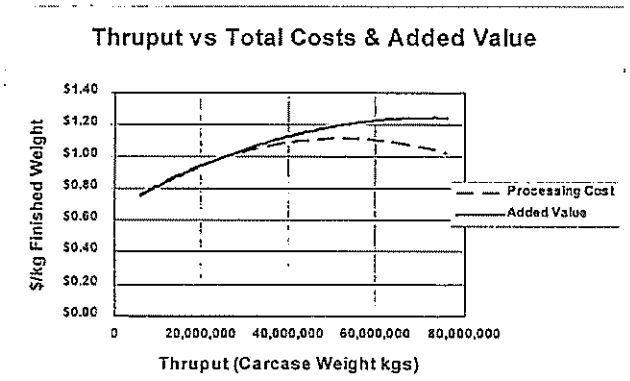
FIGURE 4.10 : FINISHED WEIGHT COSTS BY PLANT LOADING



Source: MRC Projects M.433, M433B.

- Plant loading is the actual throughput divided by the tally throughput. A plant working at tally has a plant loading of 100 percent. Many enterprises have labour agreements that allow over tally throughput, however this extra throughput incurs a labour payment penalty.
- Unit costs rise as plant loadings increase.
- The increase in cost is believed to be due to the effect of such items as over-tally payment systems.

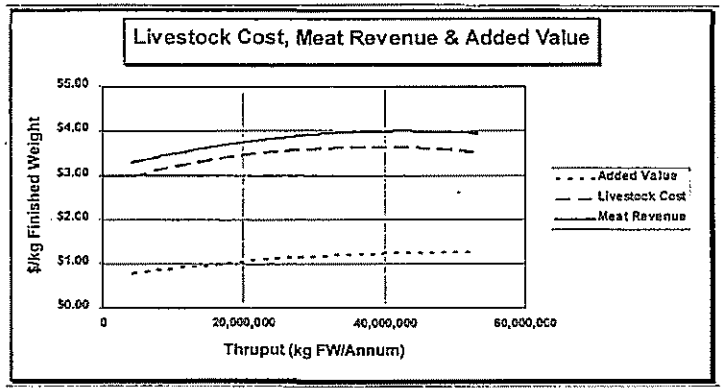
FIGURE 4.11 : RELATIONSHIP BETWEEN THROUGHPUT, TOTAL COSTS AND ADDED VALUE



Source: MRC Projects M.433, M433B.

- The gap between processing cost and added value (meat and coproducts) is the processing margin, it can taken as an indication of operating profit.
- The increase in added value in larger plants is considered due to the ability of the enterprise to economically recover a wider range of items; to process for specific markets and to more effectively market the larger volumes.
- Generally, an enterprise with larger throughput performs better in the Australian environment due to better revenue recovery, not through better cost performance.

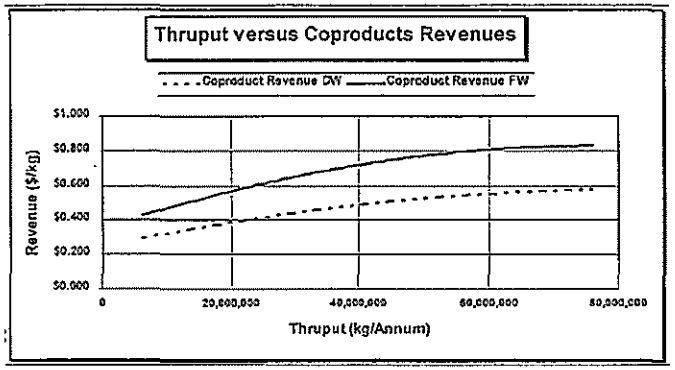
FIGURE 4.12 : RELATIONSHIP BETWEEN THROUGHPUT, LIVESTOCK COST, MEAT REVENUE AND ADDED VALUE



Source: MRC Projects M.433, M433B.

- Although the added value rises with increased throughput, the gap between meat revenue and livestock cost does not rise significantly.
- This indicates that the improvement in added value is due to improved revenue generated from coproducts.
- The conclusion is that at an industry level, bigger plants have an advantage due to improved coproduct returns rather than reduced processing costs or increased meat trading revenue.

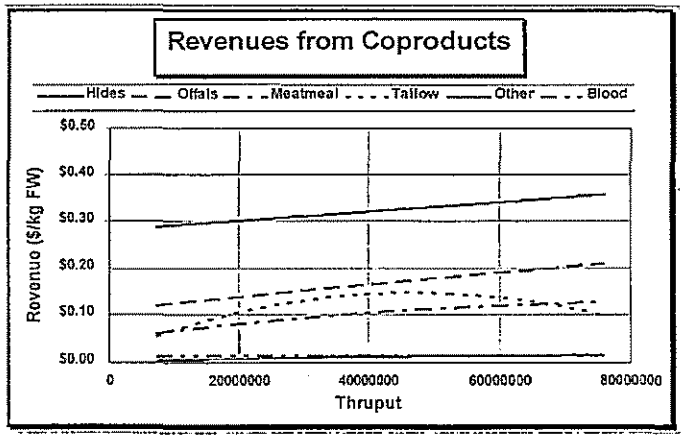
FIGURE 4.13 : RELATIONSHIP BETWEEN THROUGHPUT AND COPRODUCTS REVENUE



Source: MRC Projects M.433, M433B.

- The benchmark data confirms that coproduct revenues increase significantly with increased plant throughput.

FIGURE 4.14 : REVENUES FROM DIFFERENT COPRODUCTS IN RELATION TO THROUGHPUT

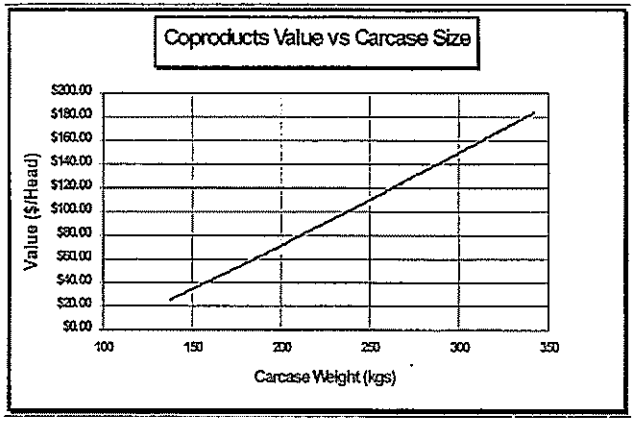


Source: MRC Projects M.433, M433B.

- All major coproduct items contribute to this rise in revenue which is due to the better ability of the larger plants to economically recover and market a regular supply of a wider range of items.

- The data is also influenced by improved returns from larger carcases, as the larger plants generally process heavier animals.

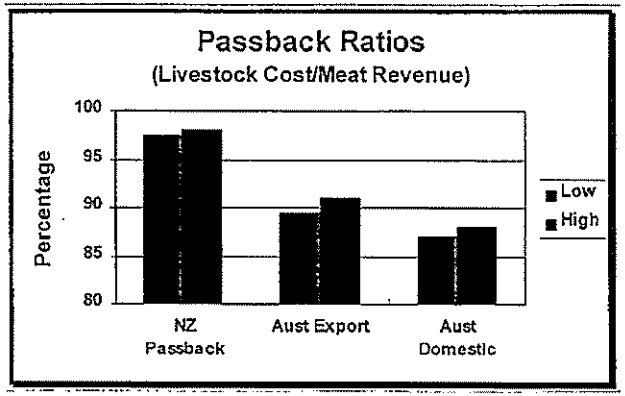
FIGURE 4.15 : RELATIONSHIP BETWEEN COPRODUCT REVENUE AND CARCASE SIZE



Source: MRC Projects M.433, M433B.

- The benchmark data demonstrates a significant increase in coproduct return as the animal size increases.
- In the 1994 study, Domestic type cattle returned $60 to $70 per head on average over 1992/93, compared to 350 kg animal returning $180 per head.

FIGURE 4.16 : PASSBACK RATIO BY ABATTOIR TYPE

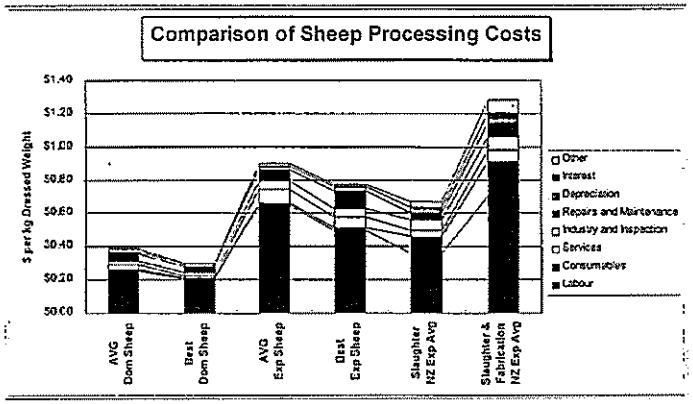


Source: MRC Projects M.433, M433B.

- The meat trading margin can be represented by a passback ratio (livestock cost divided by meat revenue) - this figure gives an indication of the percentage of meat revenue needed to purchase the live animal. A passback ratio of 100 percent indicates that the cost of the live animal is the same as the revenue generated from the sale of the meat (this excludes revenue generated by coproduct sales).
- The analysis indicates that the Australian domestic industry benefits from a lower passback ratio.
- Although previous analysis has shown that in 1993/94 New Zealand processing costs provided an advantage over Australian beef processors, the New Zealand passback ratio was extremely poor. New Zealand processors were paying proportionally more for their livestock than Australian enterprises. Hence the poor financial performance of the New Zealand beef industry at the time of the study(1993-94).
- The performance of the processing sector is clearly a critical balance between processing costs, coproducts returns, and trading margins.
- The main driver in processing costs in Australia is the cost of labour. The analysis indicates that the current payment structure contains rigidities which result in similar costs throughout the industry regardless of plant size.
- Coproducts returns are dominated by the issues of export or domestic plants, animal size and plant throughput.
- Livestock values and export prices are well revealed in Australia and therefore the opportunity to improve enterprise performance in this area is limited.
- The structure of the industry, particularly the issues of concentration and over-capacity are therefore critical to enterprise performance.
- Any rigidities that constrain performance at an enterprise level therefore need to be addressed if the industry is to move forward to improved efficiency and performance.

4.3 BENCHMARKING RESULTS - SHEEP PROCESSING

FIGURE 4.17 : SHEEP PROCESSING COSTS BY ABATTOIR TYPE



Source: AT Kearney, 1994.

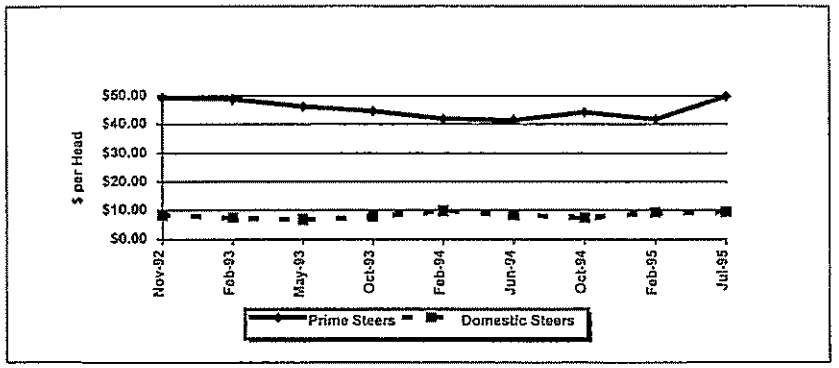
- The Australian sheep processing industry is in fact two industries:
  - the lamb processing industry, that is dominated by domestic registered abattoir operations that simply slaughter and chill and dispatch product in a chilled carcase form; and
  - the mutton sector, that is characterised by integrated export registered plants that slaughter, fabricate and produce sheepmeat in a frozen carcase or carton form.
- NZ is the principal international competitor for Australian sheepmeat and a report completed in 1994 by AT Kearney (ATK) investigated the processing cost benchmarks for the two industries.
- Significantly the NZ industry differs from Australia in that the dominant sector is fully integrated, export registered lamb slaughter and fabrication plants, producing shelf-stable, frozen products.
- The ATK study showed that both slaughtering and fabrication costs are higher in NZ than in Australia.
- In Figure 4.17 Australian domestic slaughtering costs are compared to a NZ export plant. However, the NZ industry obtains significant advantages from coproduct revenue. Extra coproduct recovery costs are some $1 per head ($06.6 per kg carcase). The extra cost of co-product recovery largely explains the slaughtering labour cost difference.
- Additionally, a significant amount of NZ lamb is produced in retail ready form, which requires both additional materials and labour. It is likely that this accounts for the large difference in NZ consumables costs compared to Australia.

- Processing costs in the Australian sheepmeat sector appear more internationally competitive than the beef sector.
- Coproducts play a highly significant role in the sheep sector contributing up to 40% of the total revenue generated per animal.

Domestic vs Export Coproduct Returns

Figure 4.18 demonstrates the differences in potential offal returns for a prime steer processed in an export plant versus a domestic steer processed in a domestic plant. The data has been sourced from a Coproducts Monitor conducted by the MRC.

FIGURE 4.18 : COMPARISON OF OFFAL RETURNS FROM EXPORT AND DOMESTIC STEERS



Source: MRC Co-products Monitor.

- There is a potential revenue difference of $30 to $40 per head. Some of this is explained by different animal weights but the majority of the gap is due to lack of access to export market prices, after all yearling offal is likely to fetch a premium price per kg.
- Smaller domestic plants can also be coproduct revenue disadvantaged due to lack of rendering facilities.
- In this disadvantaged revenue position it is imperative that the domestic processing sector has lower processing costs or higher livestock to meat trading margins to be competitive.

A Recent History of Changes in the New Zealand Beef Processing Industry

- The steps followed by the NZ beef processing industry to achieve an internationally competitive sector with improved financial performance appear to have been:

Period	Year	Result
Industry deregulation	1988	Construction of some new plants taking advantage of more relaxed constraints on approval processes
Labour deregulation	1990-1992	Construction of more new plants to take advantage of the opportunity to reduce processing costs
Poor performance	1992-1994	Resulting over capacity in the industry lead to poor trading margins and increasing pressure on non competitive enterprises
Shake out	1994-1995	Vesteys plants bought out by the rest of the beef processing industry and removed from the total productive capacity
Improved performance	1995-1996	Reduction in capacity led to improved processor trading margins with internationally cost competitive plants

Sheep Industry Structure

- The sheep processing industry has a "leader" in the form of Fletcher International which is demonstrating to the sector how to control costs by operating extended hours in a sound labour relations environment, while aggressively pursuing improved returns from coproducts and concurrently improving the trading margin.
- No clear benchmark figures are available however it is highly apparent that the meat industry loses potential revenue from the inability of the domestic registered lamb sector to supply coproduct items (particularly offals) to more markets than Australia.

4.4 RECOMMENDATIONS FOR ENTERPRISE BENCHMARKING OF MEAT PROCESSORS

4.4.1 Benchmarking Benefits Both Enterprises and Industry

The beef industry benchmarking that has been conducted to date has provided benefits at two levels:

- Enterprises have been able to examine their performance compared with both national and international best practices. The benchmark information has allowed decision makers at the enterprise level to focus on improving practices and costs in the areas of poorer performance.
- Benchmarking at the industry level has allowed the characteristics of this sector to be analysed and discussed More importantly, it allows the international competitiveness

to be rated. The international competitiveness of the beef industry needs to be addressed at an industry level as well as at the enterprise level.

The Booz-Allen Hamilton study assessed that while some improved performance could be achieved at the enterprise level, the major disadvantages for the Australian beef sector were structural and needed to be addressed at an industry level.

Benchmarking in the Australia meat industry has advantages at both the enterprise and industry levels, therefore it is considered appropriate that both enterprise and industry contribute to the cost of further benchmarking.

The cost of conducting benchmarking at the enterprise level is currently $5000 per enterprise that has previously participated in the 1994 or 1995 studies.

The cost for new participants is approximately $7500 per enterprise due to the need to spend time ensuring that the data is supplied in a form that complies with the study format and definitions. Travel and expenses incurred in conducting the studies would be extra to the fees detailed above.

The participant fee covers data input (including an initial site visit for a new participant), participant report, report presentation and model software for plants to make more regular comparisons. The extra $2500 for new participants is to allow for an initial site visit plus access to the software model.

It is considered appropriate that industry funding be available for processing benchmark studies in order to obtain access to an industry summary of the data. The industry summary will assist in identifying and implementing activities to improve the performance of this sector.

The MIC/MRC provision of funding support for the continuing meat processing benchmarking is recommended for a number of reasons:

1. Rating of the industries international competitiveness is important at the industry level. Individual enterprises are less interested in international comparisons than in national comparisons.
2. An industry performance monitor is required. This is currently even more relevant as the industry is likely to enter a period of change in the industrial relations environment.
3. At the enterprise level actions can be taken to improve individual performance as a result of knowledge of competitive performance that will in itself improve industry performance.
4. The improvement in average performance between the 1993 and 1994 Benchmarks showed a benefit to the industry of $0.12 per kg FW. Across the total finished weight represented by the plants included in the benchmarking this represents an

improvement in overall industry costs of in excess of $30 million. If only 5% of this was somehow due to response to the benchmark data this would represent an industry saving eighteen times the value of the benchmark project.

It is most likely that the Australian industry level funding contribution would need to be higher for international meat processing companies than for Australian companies in order to encourage participation. International competitors, particularly USA and NZ, consider that Australia has something to learn from them but that they have little to learn from the Australian industry.

Australian processors are very interested in intra country comparisons and it is considered that sufficient companies will participate.

Individual plant data will of necessity need to be kept confidential.

Assuming ten plants (Australian and International) from each of the four categories are included in each year the cost of the project would be in the order of $200,000 for fees plus travel and expenses.

4.4.2 Australian Comparisons

The following recommendations are made for comparisons between Australian meat processors. Meat processors should be benchmarked within four broad industry groupings, these being:

- export beef;
- domestic beef;
- export mutton (boneless); and
- domestic lamb (carcase).

As the studies develop it may be appropriate to further split the export beef category into two groups:

- Japanese grain fed beef processors and
- Others.

It is recommended that:

1. A minimum of five participants per sector is included in order to generate average and best in class figures for the period of the study and to maintain confidentiality.
2. Data period to be 12 month financial performance.
3. Data to be collected as shown in attached templates (Annex 3).
4. Both cost and revenue stream data to be collected and analysed.

5. Collection of productivity information to be improved by collecting plant staffing and working hours for each functional area.

4.4.3 International Comparisons

For the beef processing sector international comparisons should be with NZ and US performance. South America should be considered for future inclusion.

The US should be targeted to include plants representative of "Choice" beef operations and manufacturing (cow) beef operations.

For sheep and lamb processors the comparisons should be with NZ participants.

International participants should be invited to be included in the Benchmarking on the basis that their involvement is at the expense of the Australian industry (fees and expenses paid by the Australian industry).

Over a period of time the intention would be that at least 5 participating plants from each of the competing countries would be included in the study. Once this was achieved then a comparison of say a US company performance against the average and BIC of other US plants could be conducted, and consequently Australian industry funding reduced.

The methodology and outputs would be the same as for the Australian participants.

4.4.4 Industry Margins & International Industry Comparisons

Australia should look to developing a consistent price series similar to that available in the USA in order to track:

- Gross Farm Returns.
- Net Farm Returns (Gross Farm minus coproduct credits).
- Wholesale (export fob) value.
- Retail value (where appropriate).

The data should be collected and analysed for:

Beef
Domestic yearlings
Korean Steers
Manufacturing Cows
Japanese Steers
Grain Fed Beef

Sheep
Lamb
Wethers
Ewes

The gross farm value is generally available for these categories (AMLC - ABARE).

Coproduct credits are not available (some data on potential returns, very little information on actual returns by livestock type).

Wholesale values are not available but some may be able to be derived by calculation from cutout models using Form 4 data or similar.

Domestic retail values are available (ABS - ABARE).

The data would allow observation over time of the trends in margins for production, processing, coproduct returns and retail.

Investigations should be made to discover whether similar price series can be compiled for:

USA
Choice Beef
Manufacturing Beef

NZ
Prime Beef
Manufacturing Beef
Lamb
Mutton

Europe
Prime Beef
Manufacturing Beef
Lamb
Mutton

South America
Prime Beef
Manufacturing Beef

5. POST PROCESSING BENCHMARKING

5.1 INTRODUCTION

The post processing sector is defined as the wholesale, retail and export sectors including food service and live exporting.

At the enterprise level, our objective was to categorise industry segments within the overall post processing sector. In addition, we have attempted to develop a framework to allow individual enterprises to incorporate benchmarking practices into their management practices.

5.2 METHODOLOGY

The post processing sector in the study included wholesaling and distribution, food service, retail (both supermarkets and butchers) and exporting.

5.2.1 Wholesale Segment

Following a review of available information on the wholesale segment it was clear that there was virtually no published information on cost benchmarks in this sector. A series of interviews were then carried out, all in Sydney, to collate cost benchmark information. Prior to the interviews, general outlines of the interview procedure were laid down as well as a standard cost template and a questionnaire.

Unfortunately, wholesalers were reluctant to divulge financial information and the questionnaire could not be used. Wholesalers provided general information about the size of their operations, volume of product by meat type and general costs of distribution. It was therefore not possible to provide the cost benchmarks in any detail. Some financial information was provided by two companies but insufficient data meant it could not be combined with other financial information and was used only as a reference.

The wholesalers interviewed included an abattoir/wholesaler, a carcase wholesaler and a carton meat distributor.

5.2.2 Retail and Food Service Segments

After interviews with MATFA, it was decided to use the MATFA (1995) Leading Edge benchmark document. In addition, the Financial Management Research Centre (FMRC) benchmark information was purchased for both the retail and food service segments.

As mentioned in the report, both MATFA and FMRC use the gross margin method of collating cost benchmarks. The gross margin method is an industry standard in the downstream segment of most products.

5.2.3 Export Segment

Interviews were conducted with Sydney based exporters to obtain cost benchmark information. These included three types of exporters: the small non aligned export segment without facilities, a niche exporter with agency ties to a meat packer and a large multinational exporter with a marketing agreement with a large meat export packer.

There was also a great reluctance to participate and provide information. General financial and cost data were provided and these were converted to gross margin and cost percentages to allow comparison with the other post processing segments.

5.3 WHOLESALE SECTOR BENCHMARKS

This section of the report looks at both the industry level and individual enterprises in an effort to determine the enterprise's operations and the ability of enterprises to incorporate cost benchmarking techniques into their operations. In addition, it examines current costs within each of the segments from wholesaling through to retailing and exporting.

One of the major gaps in the cost study with respect to cost benchmarks was the wholesale sector. There was virtually no published data available and thus it was necessary to interview a number of wholesalers to gather data. As is the case with most businesses, companies are reluctant to share company financial data but we have established that the best method of showing the cost benchmarks is by calculating costs in relation to the sales dollar.

Cost plus pricing is widely used by retailing and wholesaling middlemen in most product categories. However, in the meat industry, cost plus pricing is strongly influenced by market structure and market power. Most sectors in the meat industry are price takers rather than price makers.

Meat wholesalers do not actually set the price of meat products but only add a percentage to the price already set by the abattoir. Abattoir wholesalers set prices but in the case of the beef industry, these prices are set by export supply and demand with such a large proportion of beef being exported.

Retailers in the meat industry, in particular butchers, pay a certain price for carcases or cuts and have them delivered to their stores. The retailer then adds a mark up to cover costs and allow a profit.

The analysis of meat marketing margins over the years has looked at the share of the consumer dollar accruing to various sectors from producers through to wholesalers and retailers. Thus we have used the gross margin method of examining costs within the post processing sector. This method of cost benchmarking also facilitates comparisons with the wholesale, retail and export segments. International comparisons of gross margins from meat retailing are now available and have been included at the end of the retail sections.

A small sample of wholesalers in the following categories were interviewed:

- abattoir wholesaler delivering carcases to metropolitan wholesale/distributor;
- wholesale/distributor delivering carcases to butcher shops; and
- wholesale/distributor storing and marketing carton meat to supermarkets, butchers, distributors, food service and smallgoods manufacturers.

The wholesalers interviewed are generally believed to be in the larger size bracket with sales in excess of $20 million each.

Gross margins, that is the difference between meat sales and cost of sales (including meat and freight inwards) is in the range of 8-17%, which compares with the "Value Chain" model estimate of 21% (1991-94 data).

A standardised cost breakdown has been developed for the wholesale, export and retail sectors and the wholesaler cost items are shown in the following charts and tables.

TABLE 5.1 : WHOLESALER COST/SALES DATA

	Wholesalers Cost/Sales Data		
% Of Sales Dollar	Abattoir Wholesaler 1995	Wholesale Distributor Carcases 1995	Carton Meat Distributor 1995
Meat Sales	100.0	100.0	100.0
Cost of Sales	92.0	88.0	83.0
Gross Margin	8.0	12.0	17.0
Property/Occupancy	0.4		6.5
Labour			2.0
Food Processing/Storage			
Transport/Freight	3.6		
Marketing/Selling			
Admin/Other			0.5
EBIT			
Finance/Interest			
Pre-Tax Profit (Loss)	4.0	4.0	8.0

Source: Consultant Interviews.

As expected one of the largest cost items for the abattoir wholesaler is transport and freight. It is estimated to be around 3-4% of the sales dollar and this is due to the relatively high cost of freighting carcase beef, lamb, veal and pork from country locations to metropolitan areas and regional centres. Carcase freight rates are generally around 7-8 cents per kg by semi trailer

due the stowage factor for beef quarters and carcase lamb according to wholesalers interviewed.

A large proportion of Victorian and lately NSW domestic abattoirs fall into the category of abattoir/wholesalers. The balance are either service killing for supermarkets or supplying local regional areas as well as service killing for local butchers. Wholesalers interviewed stated that there had been an increasing trend toward domestic abattoirs selling carcases to distributors rather than service killing.

In the case of the wholesale/distributors of carton meat, which is mainly carton beef, boneless mutton, veal and manufacturing pork, there is a high cost of storing carton product in public cold stores or warehouses. Carton beef is divided into primals which are packed in either domestic or export abattoirs and held in chilled form or limited quantities of frozen carton beef trimmings. These distributors often lease their own space and use their own staff to put together orders and also make sales. Our indicative figures show that storage/processing and occupancy costs are the largest cost item at around 6-7% of sales. A large quantity of frozen boneless mutton for smallgoods and pie manufacturing and further processing is also stored and distributed by the distributor. The wholesaler/distributors interviewed by the consultants confirmed the trend toward specialised carton meat distribution.

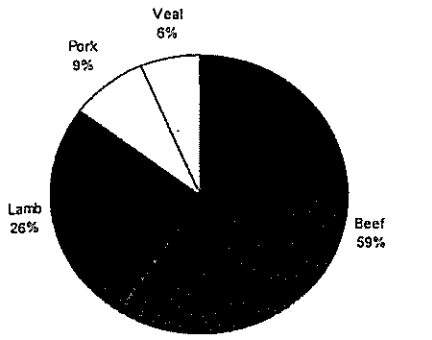
The wholesale/distributor of carcase beef, lamb, veal and pork is a specialised role and is more common in Sydney and Brisbane. Due to shorter distances, Victorian abattoir/wholesalers supply more product directly to Victorian metropolitan centres.

The wholesale/distributor of carcase meat interviewed advised that he operated on a unit cost basis. That is, product is costed on arrival at the metropolitan depot and then sold on a cost plus basis to butcher shops. This type of operator also typically owns and operates his own fleet of delivery vehicles. Unlike semi trailers that hold say 15,000 kgs, the delivery van is generally around 8,000 kgs. We were not able to obtain a cost allocation for a typical wholesale/distributor of carcase meat but indicative figures provided showed that direct distribution cost is around 30 cents per kg overall. This would include freight to the retail butcher shop, depot rent and labour cost and exclude overheads.

The wholesaler interviewed stated that: "carcase meat is costed and sold on a fixed unit cost, whereas meat boned out for food service has to be costed on percentages". This is borne out by figures kept by the company and gross margins are all shown in cents per kg. In the period reviewed in our survey, gross margins ranged from 34 cents per kg for beef to 40 cents per kg for veal and down to 24 cents per kg for lamb. The wholesaler stated that beef in the domestic market is governed primarily by export market conditions while lamb exports are much smaller and prices and markets are governed directly by supply and demand. We have calculated the average gross margin to be around 12% for comparison purposes with other wholesale operators.

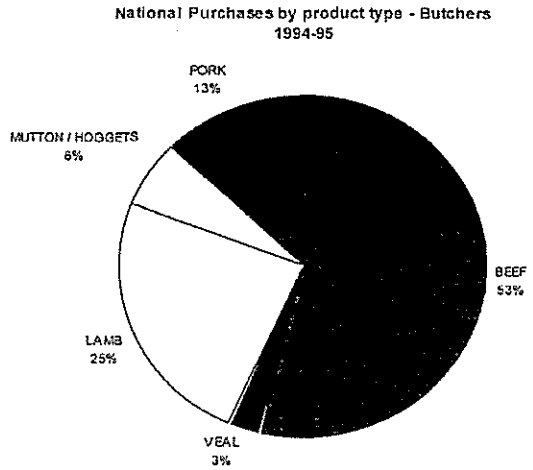
In the period surveyed (February 1996), the breakdown of the wholesale/distributor of carcase meat by type of meat is shown in Figure 5.1.

FIGURE 5.1 : RELATIVE PROPORTIONS OF PRODUCT SOLD FOR CARCASE MEAT WHOLESALERS



Source: Consultant interviews.

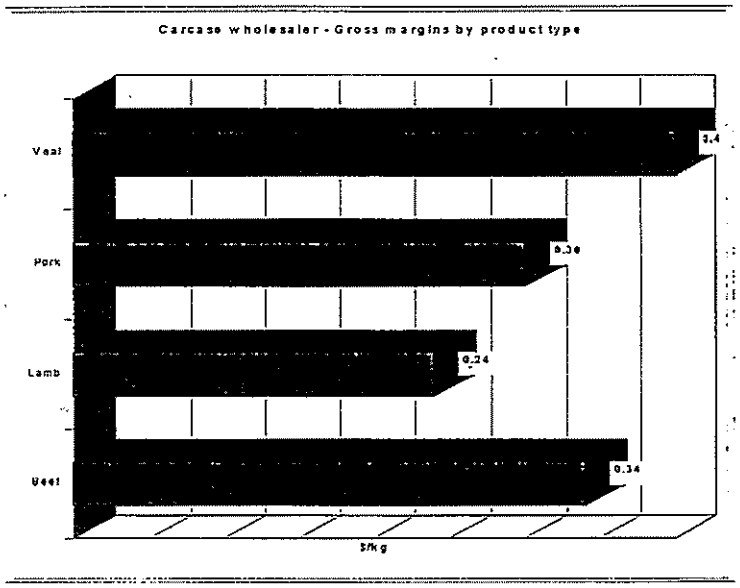
FIGURE 5.2 : BUTCHER CARCASE PURCHASES BY PRODUCT TYPE



Source: A.C. Nielsen for MRC/AMLC.

Figure 5.2 indicates the annual wholesale purchase composition by volume, which is fairly close to the wholesaler of carcases we interviewed.

FIGURE 5.3 : GROSS MARGINS BY PRODUCT TYPE FOR CARCASE WHOLESALERS



Source: Consultant interviews.

5.4 FOOD SERVICE SECTOR BENCHMARKS

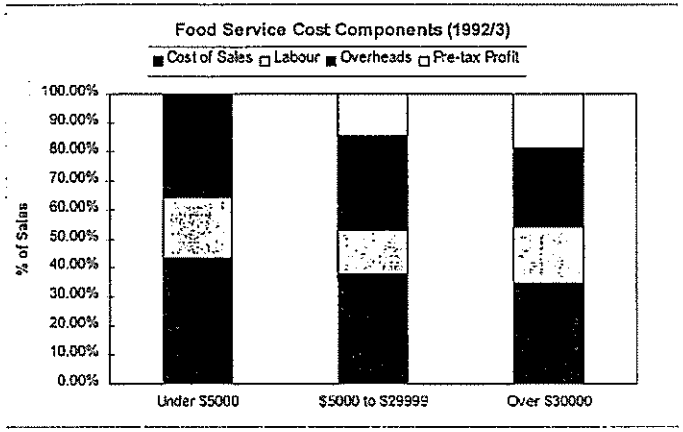
Food service operators are typically boning rooms and storage facilities who bone out beef and fabricate lamb and then portion cut the product for food service outlets. We have not obtained cost benchmarks separately for these operators but have included them in the wholesale cost benchmarks. The FMRC survey in 1992 produced the cost benchmarks provided in Table 5.2 and Figure 5.4.

TABLE 5.2 : COST BENCHMARKS FOR THE RESTAURANT SECTOR

	Averages grouped by Net Profit per Owner		
	Under $5,000	$5,000-29,999	$30,000 +
Income	100%	100%	100%
Cost of Sales	(43%)	(38%)	(35%)
Gross Profit	57%	62%	65%
Wages and Salaries	(21%)	(15%)	(19%)
Rent/Lease Premises	(11%)	(8%)	(8%)
Other Overheads	(25%)	(21%)	(20%)
Net Profit	0%	14%	18%

Source: FMRC 1992/93.

FIGURE 5.4 : FOOD SERVICE COST COMPONENTS



Clearly, there is a significant level of fixed cost associated with the operation of food service outlets, which results in higher profit margins for the high turnover outlets. Table 5.2 and Figure 5.4 indicate that food costs are the most significant cost item. To keep costs low, food outlets are increasingly expecting meat to be prepared into cuts which require the least amount of additional kitchen handling.

5.5 RETAIL SECTOR BENCHMARKS

As mentioned earlier, we have used the gross margin approach to look at cost benchmarks within the retail sector. This approach is traditionally used in the retail sector for most products as the retailer is looking to add a margin to cover costs and a profit across a range of individual product items. Moreover, the meat industry has continually tracked the marketing

margins of each sector to monitor the retailers share of the consumer dollar. With current reduced returns to the production sector marketing margins are again the focus of interest by industry groups.

In order to collate appropriate cost benchmarks, the approach was to look at published material. The Financial Management Research Centre (FMRC) cover both supermarkets and retail butchers. In addition, we approached MATFA who have published the "Leading Edge" a series of benchmarks by cost item for a range of butcher models.

TABLE 5.3 : MATFA RETAIL BENCHMARKS

	<----------(MATFA Survey (1995)---------->			
% of Sales Revenue	Shopping Centre Butchers *($11000/week)*	Strip Butchers *($30000/week)*	Strip Butchers *($15000/week)*	Strip Butchers *($6500/week)*
Meat Sales	100.0%	100.0%	100.0%	100.0%
Cost of Sales	(56.5%)	(61.0%)	(55.0%)	(52.0%)
Gross Margin on Meat Sold	43.5%	39.0%	45.0%	48.0%
Property/Occupancy Costs	(10.0%)	(5.1%)	(8.4%)	(5.3%)
Labour Costs	(17.0%)	(16.0%)	(18.5%)	(13.9%)
Food Preparation/Packaging/Storage	(4.6%)	(4.8%)	(5.4%)	(3.7%)
Transport/Freight Costs				
Marketing/Selling Costs	(0.6%)	(0.2%)	(0.3%)	(0.2%)
Administration/Other	(3.9%)	(4.1%)	(5.4%)	(6.9%)
Earnings before Interest/Taxes (EBIT)	7.5%	8.8%	9.0%	16.0%
Finance Costs/Interest	(1.5%)	(0.8%)		
Pre-Tax Profit/(Loss)	6.0% before owner salary	8.0% before owner salary	9.0% before owner salary	16.0% before owner salary

Source: MATFA 1995 The Leading Edge.

Table 5.3 lists the FMRC benchmarks obtained for butchers and supermarkets as well as a chain of butchers shops in NSW:

TABLE 5.4 : FMRC RETAIL BENCHMARKS

	<----------FMRC Benchmarks---------->			Butcher Chain
% of Sales Revenue	Butchers *1994*	Supermarkets *1993*	Delicatessen *1994*	8 NSW Stores *1994*
Meat Sales	100.0%	100.0%	100.0%	100.0%
Cost of Sales	(69.5%)	(82.3%)	(69.7%)	(70.8%)
Gross Margin on Meat Sold	30.5%	17.7%	30.3%	29.2%
Property/Occupancy Costs	(5.0%)	(2.7%)	(10.2%)	(7.6%)
Labour Costs	(9.0%)	(7.0%)	(5.0%)	(19.7%)
Food Preparation/Packaging/Storage	(1.3%)	(1.2%)	(0.7%)	(1.5%)
Transport/Freight Costs	0.0%	0.0%	0.0%	
Marketing/Selling Costs	(0.8%)	0.0%	(0.7%)	(1.1%)
Administration/Other	(4.0%)	(2.7%)	(3.4%)	(1.6%)
Earnings before Interest/Taxes (EBIT)	10.4%	4.0%	10.2%	-2.3%
Finance Costs/Interest	(2.2%)	(0.8%)	(3.1%)	
Pre-Tax Profit/(Loss)	8.2% before owner salary	3.1%	7.2% before owner salary	-2.3%

Source: FMRC University of New England.

MATFA have adopted the gross margin approach in their Leading Edge benchmarking project to facilitate comparisons across the whole retail sector. They have recruited a number of progressive retail butchers into the project and routinely hold seminars and discussion groups of their members.

The MATFA benchmarks indicate the higher gross margin for smaller strip butchers compared to shopping centre butchers who trade on volume and price compared to the higher value adding and service component of smaller butchers. This type of cost benchmarking has proved useful individual members of the MATFA retail groups and allows them to focus on individual cost items on a percentage basis.

Interviews with senior supermarket management suggest that supermarket meat gross margins have fallen from 33% some years ago to around 20% currently. During a recent visit by executives of the United Kingdom Tesco supermarket chain for MRC retail ready presentations, a representative of Tesco stated that their gross margin for in store prepared meat had been 28% but they had actually lost money at that margin level. The FMRC benchmarks indicate supermarket gross margins of only about 18%.

The following tables for Japan retail and wholesale gross margins are provided for comparative purposes:

COMPARATIVE GROSS MARGINS - JAPAN
RETAIL SECTOR %

TYPE OF BEEF	SUPERMARKET	DEPT STORE	DISCOUNTER	BUTCHERS	COOPERATIVE	SUBTOTAL	SUPERMARKET NO
JAPANESE DOMESTIC							
WAGYU	24	31	22	27	14	25	13
DAIRY	24	29	18	24	13	23	17
AUSTRALIAN							
FROZEN GRASS FED	25	-	20	33	28	28	-
CHILLED GRASS FED	-	25	15	32	25	28	18
CHILLED GRASS FED	31	32	23	29	30	29	2
CHILLED GRAIN FED	28	32	24	27	18	27	23
USA							
FROZEN	32	-	20	30	28	28	19
CHILLED	29	28	28	28	13	28	21

SOURCE: RBC INC JAPAN DEC 1995, *DEVELOPMENT OF FUTURE STRATEGIES FOR AUSTRALIAN BEEF*

MIDDLE CHANNEL DISTRIBUTION %

TYPE OF BEEF	IMPORTERS	WHOLESALERS	PROCESSORS	SUBTOTAL
JAPANESE DOMESTIC				
WAGYU	8	22	20	19
DAIRY	4	21	23	19
AUSTRALIAN				
FROZEN GRASS FED	5	20	15	12
CHILLED GRASS FED	6	20	16	13
CHILLED GRASS FED	5	21	16	13
CHILLED GRAIN FED		19	18	13
USA				
FROZEN	6	17	16	12
CHILLED	6	18	17	12

SOURCE: RBC INC JAPAN DEC 1995, *DEVELOPMENT OF FUTURE STRATEGIES FOR AUSTRALIAN BEEF*

The above tables indicate that Japanese supermarkets are making in the order of 25-32% for a range of meat items stocked. Japanese butchers appear to have a lower gross margin than smaller strip butchers in Australia. However, margins in the middle channel in Japan (including importers and wholesalers) are relatively high compared to Australia.

5.6 EXPORT SECTOR BENCHMARKS

The cost benchmarks listed in Table 5.5 have been obtained via interviews with non packer exporters:

TABLE 5.5 : NON PACKER EXPORTER BENCHMARKS

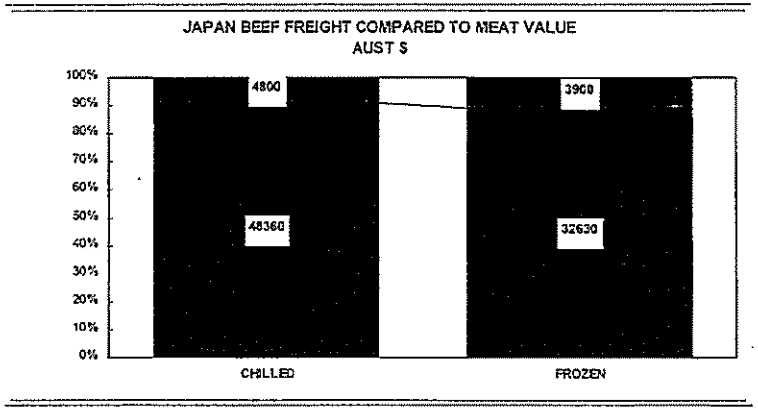
	Commodity Trader	Non Aligned Exporter	Export Contracts
Sales	100.00%	100.00%	100.00%
Cost of Sales	98.63%	93.77%	84.06%
Gross Profit	1.37%	6.23%	15.94%
Other Income	0.03%		
Profit Before Selling, Admin Expense	1.40%	6.23%	15.94%
Selling Expense	0.11%	3.70%	1.62%
Admin Expense (including salaries)	0.43%	6.32%	3.61%
Corporate/General Overhead Expense	0.05%	2.49%	1.50%
Other Expenses	0.00%	0.18%	0.61%
Total Expenses	0.59%	12.69%	7.34%
Earnings Before Interest and Tax	0.81%	-6.46%	8.60%

Source: Consultant interviews.

Based on our interviews with exporters it is estimated that gross margins from meat exporting fall in the range of 3-4% of sales. With net margins of around 1%, cost items such as rent, salaries, communications and financing account for around 2-3% of the sales dollar.

Ocean freight and land freight to ports is a significant cost of export sales. Based on the Japanese market, ocean freight accounts for about 10% of the chilled FOB beef value and about 12% for frozen beef FOB value. Figure 5.5 highlights this point.

FIGURE 5.5 : COMPARISON BETWEEN FREIGHT COST AND MEAT VALUE FOR BEEF EXPORTS TO JAPAN



Source: AMLC market reports.

Based on chilled beef and veal exports of 241,000 tonnes in 1994-95, chilled ocean freight is estimated to be $96 million compared to frozen ocean freight of $257 million. Marine and credit insurance would average 1% of gross sales or around $35 million.

The other cost items for meat exporting is land freight to ports and port charges. We have estimated that land freight averages around 7 cents per kg, which amounts to a total of $77 million based on total meat exports of 1,098,612 tonnes shipped weight in 1994-95. This amounts to about 1.8% of FOB unit beef values and about 3% of FOB unit sheepmeat values.

Assuming port service charges of about $70 per container, we estimate that port service charges amount to some $5 million based on about 1 million tonnes of meat exported in about 71,000 containers.

Based on the ACIL report *Meat Freight Arrangements and Rates from Australia and New Zealand* published in 1994, Australian exporters enjoy a freight advantage of 13% on bulk pack cartons, based on scheduled shipping conference tariffs. For quarter beef to Korea, Australia enjoys a slight advantage of 4%. The report also concluded that the benefits of waterfront reform in New Zealand had been far greater than Australia, especially for conventional shipping.

5.7 RECOMMENDATIONS FOR ENTERPRISE BENCHMARKING

Existing benchmarking systems were examined within three broad groups within the post processing sector. Our recommendations for on-going benchmarking work within each of these groups are:

1. Wholesaler and Food Service Sector.

   Many meat wholesaler operations are part of a meat processing enterprise and are therefore subject to being benchmarked within that sector. Other meat wholesaler operations are primarily trading organisations with low overhead costs. They are extremely reluctant to provide cost information and the industry benefit and individual enterprise benefit likely to be obtained via benchmarking would be limited.

2. Retail Sector.

   Established benchmark systems already operate through MATFA and FMRC. We do not recommend any change to the established systems nor the manner in which they operate.

3. Export Sector.

   This sector is made up of non packer exporters and as discussed for meat wholesalers little benefit is likely to be achieved through establishment of an enterprise benchmarking system.

ANNEX 1

ON FARM BENCHMARK FINDINGS

ANNEX 1 : ON FARM BENCHMARKING FINDINGS

Codes Used:

HRS-BIC	-	High Rainfall South-Low cost producer
HRS-AV	-	High Rainfall South-Average
HRN-BIC	-	High Rainfall North-Low cost producer
HRN-AV	-	High Rainfall North-Average
WSS-BIC	-	Wheat Sheep South-Low cost producer
WSS-AV	-	Wheat Sheep South-Average
WSN-BIC	-	Wheat Sheep North-Low cost producer
WSN-AV	-	Wheat Sheep North-Average
PS-BIC	-	Pastoral South-Low cost producer
PS-AV	-	Pastoral South-Average
PN-BIC	-	Pastoral North-Low cost producer
PN-AV	-	Pastoral North-Average

1. BEEF ENTERPRISES

Row	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Livestock numbers at 30 June (DSE)										
SHEEP	0	105.22	0	0	319.94	254.58	0	383.44	123.22	0
CATTLE	2341.5	3578.6	10344.3	8416.3	3458.7	2898.4	7717.1	5770.6	24093.5	32004
TOT DSE	2341.5	4044.02	10344.3	8416.3	3773.64	3182.98	7717.1	6134.04	24216.72	32004
Livestock sales (DSE)										
adult sheep sold no	0	38	0	0	270.5	82.1	0	89	0	0
lambs sold no	0	42.16	0	0	27.92	43.2	0	64.15	24.32	0
beef cattle sold no	1874	2160	15256	3777	1383	1815	4471	3324	7355	14540
TOT DSE	1874	2240.16	15256	3777	1681.42	1940.3	4471	3477.15	7379.32	14540
Reproductive rates										
beef cattle branding rate	77.7	62.2	47.2	66.4	87.3	76.1	74.9	72.1	79.9	56.7
lambs marked	0	61.9	0	0	30.6	83.1	0	121.4	22.5	0
Wool										
sheep/lambs shorn no	0	154.7	0	0	45.6	270.5	0	337.8	111.8	0
wool production	0	644.3	0	0	175.9	1246.5	0	1305.2	717.8	0
Area operated										
area operated	319.9	632.4	15342.2	7344.1	585.7	817.8	4594.9	4167	205078.6	3115424
Grazing land	309	621.8	15028.9	7331.8	537.5	603.9	4557.1	4127.6	205078.5	3115474
area cropped	3.7	28.9	40.2	37.4	145.2	42.1	114.5	119.5	12.9	0
Fertiliser										
Area crops fertilised	0	7.5	0	10.7	0	12.3	6.1	12.6	6.9	0
area pasture fert	3.2	220.1	0	5.3	147.1	167.1	153.9	46.4	0	0
Quantity fert applied to crops	0	3.1	0	3.4	0	2.1	0.5	1.2	0.6	0
npk applied pasture	5.5	30.6	0	1.1	15.7	22.5	12.3	7.8	0	0
Irrigation										
total area irrigated	2.4	5.8	0	4.3	97.8	36.6	11.3	2.3	6.9	0
area grazing land irrig	2.4	5.2	0	1.5	45.9	35.4	3	1.1	0	0
water used irrigation direct	0.1	6.4	0	78.4	293.4	133.5	93.5	9.2	0	0
water used/sold to others	0	0	0	0	0	0	42.5	4	0	0
Labour										
No of family members work on farm	2.2	2.5	2	3	2.9	2.2	2.7	3.1	2.8	2.1
Op & spouse wk worked off farm	0	12.1	0	5.1	1.5	5.1	15.5	18.6	0	0
No of perm labour work on farm	0.2	0.2	1	0.4	0	0.3	0.3	0.3	1.5	1.3
permanent weeks worked	0	5.4	52.8	17.1	0	6.2	4	11.9	58	37
casual weeks worked	3	2.3	4.7	6.2	3.4	3.3	7	3	54	19.2
Sheep physical										
Lambs marked per ewe joined		1			0.9	0.9		0.8	0.7	
Prime lambs sold per ewe joined		0.5			1.1	0.5		0.4	0	
Ewes joined per ram		31.5			3.7	25.9		39.1	20.1	
wool cut per head	0	0.9	0	0	1.7	1.7	0	3	1	0
Sheep death rate		9			0	0		0	0	
Beef physical										
Calves branded per cow joined	0.5	0.1	0.1	0.2	0.6	0.6	0.2	0.3	0.1	0
percent females bred herd	62	53	34.1	34.3	63	52.2	33.4	57	33.2	66.7
Cows mated per bull	28.5	16.2	104.5	11.5	23.6	14.6	16.1	13.6	18.6	20.3
beef cattle growth rate	0.5	4.9	0.1	3.3	0.6	12.4	0.1	21.1	0.5	0.1
beef cattle turnoff rate	53.3	32.2	88.7	33.6	34.4	54.3	50.1	56.3	25.5	41.2
beef cattle death rate	1.5	1.7	2.2	3.4	0.8	1.7	2.8	3.2	3.9	2.4
PFEDON	0	0.5	0	0	0	0	0	4.8	0	0
PFEDOF	0	0	0	4.2	0	0	0	7.4	0	0
Sales of all livestock (% total dse sold)										
Proportion paddock sales	0	12.4	0	0	31.7	7.3	0	3.2	3.4	25.7
Proportion over the hooks sales	52.8	16.7	0	0	21.8	25	5.4	1.2	3.2	0
Proportion auction sales	12.1	34.3	0	0	38.1	39.8	16.7	15.4	24.8	26.6
Proportion over scales (incl lwt)	0	0.5	0	0	5.3	2	0	0	0	0
Proportion CALM sales	0	9.3	0	0	0	0.2	0	9.9	0	0
Proportion other sales	35.1	31.4	0	0	2.2	25.9	4.2	9.7	69.5	5.3

Row	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Receipts ($ per dse turned off)											
[illegible] receipts per dse turned off	0	0.5	0	0	0.5	1.9	0	0.8	0	0	0
Beef receipts per dse turned off	34.5	47.8	38	53.3	41.2	44.8	39.8	46.3	41.3	28.2	39.8
Crop receipts per dse turned off	0	7.3	0	14.7	7.6	2.1	0.1	3.3	0	0	8.2
Sheep receipts per dse turned off	0	0.2	0	0	4.8	0.7	0	0.5	0	0	0
Wool receipts per dse turned off	0	0.7	0	0	0.1	13.4	0	1.4	0.4	0	0.4
Agistment receipts per dse turned off	0	0.9	0	0.1	0	1.9	0	3.2	0	0.3	0.7
[illegible] per dse turned off	0	0	0	0.9	0	0.1	1.6	1.5	0	0	1.2
Off farm contract receipts per dse turned off	0	0.3	0	0.3	0	2.8	0.9	19.4	1	0	0.3
Livestock transfer [illegible] per dse turned off	0	0.3	0	1.6	0	0	0	1.3	0	0	12.6
Other cash receipts per dse turned off	0.4	2.2	0	4.5	3.7	2.6	6.4	6.1	2.2	0	14.3
Total cash receipts per dse turned off	35	59.1	38	74.7	57	70.3	42.5	85.7	48.2	28.3	87.8
RECEIPTS/DSE RUN	37.21	27.97	6.06	33.52	23.06	42.53	24.50	49.56	13.23	13.04	17.43
RECEIPTS/Ha	232.05	191.34	45.22	38.42	151.84	220.79	41.85	71.31	1.21	1.27	4.18
Costs ($ per dse turned off)											
Sheep purchased per dse turned off	0	2.1	0	0	0.3	0.2	0	0.3	0.1	0	0
Beef purchased per dse turned off	0.4	8.8	0	2.3	7.2	7.2	0.1	7.3	1.5	0.2	10.3
Freight paid on stock purch per dse turned off	0	0	0	0	0	0.1	0	0.2	0	0	0.2
Freight paid on stock sold per dse turned off	0.4	0.3	0.1	0.7	0.3	0.3	0.4	0.5	1.5	0.7	1.7
[illegible] & marketing costs per dse turned off	1.2	2.3	1.8	2.1	1.5	4.3	1.3	2.6	2.5	1.7	1.8
Fodder costs per dse turned off	0.7	1.5	0.6	7.2	0.2	1.5	1.1	4.6	0.5	2.5	1
Agistment costs per dse turned off	0	0.4	0	0.8	0	0.3	0	0.7	0	0	1.3
Veterinary costs per dse turned off	0	0.3	0	0	0	0.2	0	0.1	0	0	0
Livestock [illegible] per dse turned off	0.1	1	0.2	1.2	0.3	1.6	0.7	1.3	0.3	0.2	0.7
Shearing costs per dse turned off	0	0.3	0	0	0	0.5	0	0.5	0.1	0	0.1
Administration costs per dse turned off	0.1	1.7	1	3.3	3.1	2.7	1.4	4.2	1.1	0.3	2.1
Livestock contract per dse turned off	0.2	0.1	1.4	0.1	0	0.1	0.1	0.2	0.3	0.2	1.3
Cropping services per dse turned off	0.1	0.3	0	1.3	1.2	0.8	0.3	0.6	0	0	0
Crop & pasture chemicals per dse turned off	0.4	0.5	0	0.5	0.8	0.5	0	0.3	0	0	0.2
Fertiliser cost per dse turned off	0.6	3.5	0	2.5	0.7	4.2	0.6	2.1	0	0	0.1
Fuel cost per dse turned off	1	2.2	0.7	3.4	2.7	6.2	1.9	9.8	4.2	1.4	4.3
Wages paid to permanent labour per dse turned off	0	0.8	0.7	0.9	0	0.3	0.1	1.2	1.5	3.5	2.5
Wages paid to casual labour per dse turned off	0	0.3	0.2	1	3.4	0.7	0.9	1.1	2.1	3.5	3.5
Rates & taxes per dse turned off	1	2.2	1.3	3.5	2.6	6.3	1	1.3	0.9	6.5	3.1
[illegible] costs per dse turned off	0.1	0.8	0.3	1.2	0.3	1.4	0.3	0.7	0	0.1	0.2
Repairs & maintenance per dse turned off	0.8	2.4	2.3	6.3	2.7	7.8	2.3	14.4	3.1	1.5	8.5
TFICH	0	3.5	0	9.8	0	9.1	0	3.4	0	0	8.6
Other cash costs per dse turned off	3.5	7.3	7.8	14.6	6.4	12.4	5.8	21.4	6.2	2.8	25
Total cash costs per dse turned off	11.2	38	17.1	54	34.3	62.9	19	80.8	26.6	11.4	81.9
CASH COST PER DSE RUN	7.26	17.94	21.25	24.23	8.65	38.74	11.01	45.80	12.02	5.07	23.44
COST/HA	69.52	127.32	14.40	27.77	31.91	137.55	18.49	67.42	0.52	0.53	4.90
Financial performance											
Farm cash income per dse turned off	52541.4	43089.1	241552.5	84554.8	44018.3	23324.7	199658.5	16210	142218.9	311254.7	204566.4
Build up in trading stocks per dse turned off	-23858.4	-7169.8	-1041232.2	-46590	-7161.8	-6189.2	-25067.4	11259.9	15568.8	-101309.3	-23848.3
depreciation	8055.3	15717.2	27197	13014.5	4902.5	6254.4	16917.1	13046.3	37792.5	23019.1	41220.2
operator labour costs	22422.4	29717.6	13618.8	36532.9	24646.4	27446.8	24124	29332.3	29124.2	25226.5	24299.5
farm business profit	1845.5	-1175.3	-2900648.5	-23802.9	21765.4	-15574.7	22534.1	-15095.2	90403.1	140935.7	842422
interest paid	13723.3	9261.8	9569.8	12606.8	2711.1	3444.5	10510.2	20978.4	140022	15784.3	211762
profit at equity	-22565	8692.2	-2471137.8	-38465.7	22264.3	-12037.2	-44742.3	8068.5	106915	106271.2	1206882
cap appreciation	828.5	5413.8	-2226	2434.8	6128	7363	-15271.8	1756.6	3749	2811.9	-4165.7
profit at equity cg	59733.5	30777.6	-54326.2	77378.6	559263	12171.4	100242.5	430442.7	170001	232615	3511233
total capital	653111	1169943.3	25508038.5	1516943.8	725294.7	815241.2	7662030	1225308.3	1962290.8	1561127.3	26097242
total farm debt	27457	85143.8	0	125640.1	1358	32068.8	1279645	224808.7	73324.8	145283.5	2409627
total equity	6830852	1068095.7	25508858.4	1626425.8	724608.1	723297.8	15428982	992585.3	8548274	1799813.3	12323799.5
farm equity ratio	99.5	92.5	100	79.7	99.8	93.5	81.3	84	72.5	84.3	64.9
COST	11358	3554.4	12103	5322.4	11974.2	6066	7898	7942	3078.6	11435	7307.8
Rate of return (cap)	3.5	0.8	-11.7	4.3	3.2	-1.6	3.5	0.7	6.1	13.4	2.4

2. SHEEP-BEEF ENTERPRISES

REG	HRS-BIC	HRS-AV	HRN-BIC	HRN-AV	WSN-BIC	WSN-AV	PS-BIC	PS-AV
Livestock numbers at 30 June (DSE)								
SHEEP	558.7	2652.84	1965.12	2487.34	2469.94	2824.76	4767.23	7703.04
CATTLE	1585.2	2135.5	1976.7	2105.7	3814.7	1884.8	10003.2	4742.2
TOT DSE	2143.9	4788.34	3941.82	4593.04	6284.64	4709.56	14770.43	12445.24
Livestock sales (DSE)								
adult sheep sold no	296.9	448.7	532.9	635.5	499	520.2	2453.5	1183.2
lambs sold no	399.76	301.92	291.04	263.35	321.35	188.8	0	175.25
beef cattle sold no	1274	950	1697	1026	3551	867	3895	1559
TOT DSE	1970.66	1700.62	2520.94	1924.85	4371.35	1576	6348.5	2917.45
Reproductive rates								
beef cattle brand rate	94	86.6	90.6	80.2	89.6	64.8	53.8	64.5
lambs marked	204.6	764.2	803.9	740	573.2	480.2	790.7	1602.7
Wool								
sheep lambs shorn no	870	2429.6	1572.7	2302.8	1729.6	2263.9	6322.5	6721.6
wool production	2170.7	10219.6	6436.3	10639.1	8430.2	9547.6	23411.1	32944
Area operated								
area operated cl	327.3	860.4	1272.4	1187.4	1921.8	2903.1	34523.6	48538.2
Grazing area	322.8	849	1257.4	1167.4	1892.7	2864.9	34523.6	48526.3
area cropped	13.6	34.5	45.6	60.6	116.6	55.1	0	6
Fertiliser								
Area crops fertilised	0	11	38	42.4	14.8	9.4	0	0.5
area pasture fert	101.2	254.3	128	198.6	20.1	81.8	0	0
Quantity fert applied to crops	0	1.8	2.2	3.6	6.9	1.3	0	0
npk applied pasture	13.4	31.9	14.2	21	1	8.4	0	0
Irrigation								
total area irrigated	0	2.5	12	33.1	0	0.7	0	0
area grazing land irrg	0	2.3	12	33	0	0.7	0	0
water used resold direct	0	1.7	35.4	101.5	0	2.5	0	0
water disp to others	0	0	0	0.7	0	0	0	0
Labour								
No of family members work on farm	1.8	3.1	3.9	3.3	2.5	3.2	4.3	3.5
Op & spouse wk worked off farm	0	16.9	22.5	7.9	0	12.6	0	11.4
No of perm labour work on farm	0	0.3	0	0.2	0.5	0.2	0.3	0.3
permanents weeks worked	0	9.6	0	6.1	0	5.9	13.2	6.9
casuals weeks worked	0.1	2	10.8	3.1	4.4	2.5	0.2	7.5
Sheep physical								
Lambs marked per ewe joined	0.9	0.9	0.9	0.8	1	0.7	0.7	0.6
Prime lambs sold per ewe joined	2.1	0.4	0.3	0.3	0.7	0.3	0	0
Ewes joined per ram	20.8	35.5	35.9	35.9	36.3	31.1	32.5	35.5
wool cut per head	1.9	4.1	4.1	4.8	4.8	4.1	3.7	5
Sheep death rate	0	0	0	0	0	0	0	0
Beef cattle physical								
Calves branded per cow joined	0.9	0.8	0.7	0.8	0.5	0.7	0.1	0.3
percnt females beef herd	79.1	55.7	42.8	47.4	62.6	52.9	56.4	55.8
Cows mated per bull	35.8	16.2	20.6	19.6	17	10.2	29.8	27.9
beef cattle turnon rate	2.8	13.9	3.6	15.4	60.5	47.1	0.4	7.9
beef cattle turnoff rate	76.9	45.9	73.1	42.6	97.8	56.8	30.3	30.6
beef cattle death rate	11.4	2.9	1.4	2.2	2	1.8	2.1	3.3
PFEDON	0	0	0	0	0	0	0	0
PFEDOF	0	0	4	0.3	0	0	0	0
Sales of all livestock (% total dse sold)								
Proportion paddock sales	4.1	19.1	26.8	15.7	0.7	15.6	21.9	38.6
Proportion over the hooks sales	34	7.3	4.6	16.7	0	3.4	32.4	3.2
Proportion auction sales	61.9	43.4	44.6	41.6	50.1	59.4	0	18.8
Proportion over scales (excl hw)	0	1.9	0	1.9	0	0.2	0	0.2
Proportion CALM sales	0	0.9	0	0.6	0	0	0	0.6
Proportion other sales	0	23.7	24	23.5	49.2	12.4	0	15.1

REG	HRS-BIC	HRS-AV	HRN-BIC	HRN-AV	WSN-BIC	WSN-AV	PS-BIC	PS-AV
Receipts ($ per dse turned off)								
Lamb receipts per dse turned off	9.1	4.7	6.2	4	4.9	5.3	0	0.6
Beef receipts per dse turned off	19.6	25.9	27	26.8	27.1	16.9	20.3	19.7
Crop receipts per dse turned off	0	1.4	1.2	5.3	2.2	2.7	0	0.4
Sheep receipts per dse turned off	2.2	3.9	2.2	4.6	1.4	4.3	3.8	4.7
Wool receipts per dse turned off	1.4	32.7	10.3	21.4	7	46.6	13.7	56
Agistment receipts per dse turned off	0.2	0.2	0	0.1	0	3.1	0	3.1
Government assistance per dse turned off	0	0.4	0	0.2	0	0.5	0	1.2
Off farm contract receipts per dse turne	0	0.4	0	11.3	0	5.7	0	1.4
Livestock transfer out per dse turned of	0	1	0	0	0	1.6	0	0.6
Other cash receipts per dse turned off	1.3	3.5	1.5	1.6	0.6	8.2	0.6	5.1
Total cash receipts per dse turned off	34	74.1	48.4	75.1	43.3	94.8	33.5	92.7
Receipts/dse run	1.19	1.24	0.96	0.67	0.42	2.74	0.26	1.20
Receipts/ha	7.83	6.92	2.97	2.59	1.36	4.45	0.11	0.31
Costs ($ per dse turned off)								
Sheep purchased per dse turned off	5	3.2	0.6	2.5	0.3	3.8	0.4	1.3
Beef purchased per dse turned off	0.6	7.4	1.7	5.6	11.2	7	0.5	4.6
Freight paid on lstock purch per dse tur	0.2	0.2	0	0.1	0.2	0.2	0	0.1
Freight paid on lstock sold per dse turn	0.3	0.3	0	0.3	0.6	0.5	0.5	0.8
Hand & marketing costs per dse turned of	2.1	6.3	2.6	5.1	3.1	7.7	3.3	9.4
Fodder costs per dse turned off	0.7	1.6	1.6	1.2	0.7	3.6	0.6	1.1
Agistment costs per dse turned off	0	0.3	0.1	0.4	1.3	2.3	0.8	0.2
Veterinary costs per dse turned off	0.1	0.1	0.1	0.2	0	0.1	0	0
Livestock materials per dse turned off	0.3	3.1	1.4	2.2	1	3.6	0.2	1.4
Shearing costs per dse turned off	0.5	4.4	1	2.6	1.3	5.6	2.9	11
Administration costs per dse turned off	1.2	2.7	1.1	3.4	0.7	5.1	0.7	3.8
Livestock contracts per dse turned off	0	0.1	0	0.1	0	0.1	0.1	1
Cropping contracts per dse turned off	1.3	0.9	0	0.9	0.2	0.6	0	0
Crop & pasture chemicals per dse turned	0.2	0.3	0.5	0.5	0.1	0.6	0	0.2
Fertiliser cost per dse turned off	1.1	5.2	2.2	4.2	0.8	3	0	0.1
Fuel cost per dse turned off	2.2	3.8	1.3	8.2	1.9	6.6	1.8	5.3
Wages paid to permanent labour per dse t	0	0.9	0	0.5	0	1.3	0.7	0.4
Wages paid to casual labour per dse turn	0	0.5	1.4	0.4	0.3	0.5	0	1.5
Rent and rates per dse turned off	1.2	3.7	1.4	3	0.7	3.1	0.7	2.6
Electricity costs per dse turned off	0.3	0.8	0.3	0.9	0.2	1.6	0.1	1.3
Repairs & maintenance per dse turned off	2.5	4.9	3.4	6.7	1.3	8.6	1.5	7.1
TFRIN	0.5	0.1	0	0.1	0	0.2	0	1.4
Other cash costs per dse turned off	2.6	12.4	4.6	13.1	6.8	20.5	1.5	20.1
Total cash costs per dse turned off	22.9	63.6	25.3	62	32.5	86.3	16.2	74.9
Costs/dse run	2.39	4.40	2.94	5.49	4.73	6.86	0.54	4.71
Costs/ha	15.65	24.61	9.11	21.24	15.47	11.13	0.28	1.21
Int/dse sold	0.04	5.37	2.07	4.87	2.91	6.07	0.17	5.46
Financial performance								
Farm cash income per dse turned off	25813	23312.5	65832.9	29195	41780.7	10117.7	153470.6	52538.3
Buildup in trading stocks per dse turned	-14154	4073	-25031.6	5932.1	4388.9	2720	-58690.5	430.2
Depreciation exp	5393.2	11091.2	4719.3	13525.8	24295.5	14414.6	19602.2	19647.2
tot imput labour cost	34670.6	28394.8	24771.7	28138.4	42538.9	30268.9	32007.7	34706.6
farm business profit	-27404.7	-12100.4	1310.3	-6537.1	-20655.9	-31845.8	43170.1	-1285.4
interest paid	75.7	9140.1	5222.9	9372.7	12701.9	9580	1053.9	15918
profit full equity	-27314	-1793.7	6582.6	3276.9	-7574.1	-21258.5	45185.5	15461.6
cap apprec plant	594.4	1284.8	798.2	2316.1	3709.3	1784.6	2970.7	2130.1
profit full equity ca	-103.1	44793.6	101405.7	64091.6	21751.9	7844	97322.9	102988.7
total cl cap	771098.4	1153775.6	716040.3	954931	878477.4	7802323	968509.8	948234.6
total farm debt cl	480.9	79267.4	31946	93346.4	100500.9	100254.5	58641.5	173621.1
farm equity cl	770617.5	989179	684094.3	861230.6	777976.5	6736214	909368.3	731573.7
farm equity ratio cl	100	91.3	95.8	91	86.7	86.6	93	81.1
COST	2239.2	8033.1	2530.2	6150.2	3245.5	8613.7	1624.2	7346.2
Rate of return (excl ca)	-3.5	-0.2	0.9	0.4	-0.9	-2.8	4.3	1.8

3. SHEEP-BEEF - PRIME LAMB ENTERPRISES

REG	HRS-BIC	HRS-AV	HRN-AV	WSN-AV	PS-AV
Livestock numbers at 30 June (DSE)					
SHEEP	439.2	3802.86	3575.52	2661.16	10059.76
CATTLE	1295.8	3525.9	2876.5	2304.9	6358.8
TOT DSE	1735	7328.76	6452.02	4966.06	16418.56
Livestock sales (DSE)					
adult sheep sold no	50.4	507.8	573.2	477.2	703
lambs sold no	529.44	896.32	907.6	777.36	947.28
beef cattle sold no	1102	1802	1399	1081	3357
TOT DSE	1681.84	3206.12	2879.8	2335.56	5007.28
Reproductive rates					
beef cattle brand rate	93.8	90.3	92.3	88.6	74.3
lambs marked	230.7	1521.4	1384	1049.7	3981.8
Wool					
sheep lambs shorn no	816.9	3227.3	3262.6	1843	8494.2
wool production	1778.6	13497.5	12903.8	8281.7	47913.2
Area operated					
area operated cl	149.1	1046	1686	1230.3	38432
Grazing area	142	1027.2	1671.9	1222.5	38432
area cropped	21.7	57.2	42.8	23.7	0
Fertiliser					
Area crops fertilised	0	21.7	16.3	0	0
area pasture fert	63	475	384.6	192.5	0
Quantity fert applied to crops	0	4.1	1.8	0	0
npk applied pasture	11.3	55.5	36.6	21.1	0
Irrigation					
total area irrigated	0	2.6	93.7	3.4	0
area grazing land irrig	0	2.2	93.7	3.4	0
water used resold direct	0	0	218.7	14.5	0
water disp to others	0	0	0	0	0
Labour					
No of family members work on farm	1.2	2.7	4.4	3.4	3.9
Op & spouse wk worked off farm	0	8.3	4.8	0	31.1
No of perm labour work on farm	0	0.6	0.3	0	0
permanents weeks worked	0	19.2	13.7	0	0
casuals weeks worked	0	3.6	3.9	0	4.3
Sheep physical					
Lambs marked per ewe joined	0.9	0.9	0.9	1	0.8
Prime lambs sold per ewe joined	2.6	0.7	0.7	0.9	0.2
Ewes joined per ram	52.9	37.7	42.6	39.1	50.9
wool cut per head	2.1	3.9	3.8	4.6	5.8
Sheep death rate	0	0	0	0	0
Beef cattle physical					
Calves branded per cow joined	1.1	0.5	0.6	0.8	0.2
percnt females beef herd	86.8	64	46.7	54.9	57.6
Cows mated per bull	45	14.1	18	27.6	40.9
beef cattle turnon rate	0	5.7	13.5	17.4	0.2
beef cattle turnoff rate	78.1	54.7	47.9	42.7	42.5
beef cattle death rate	18.1	5.2	2	2.9	1.5
PFEDON	0	0	0	0	0
PFEDOF	0	0	0	0	0
Sales of all livestock (% total dse sold)					
Proportion paddock sales	0	18.5	27.9	15.1	35
Proportion over the hooks sales	53	20.1	4.5	19	0.9
Proportion auction sales	47	41.8	43.2	43.2	0
Proportion over scales (excl lwt)	0	3.2	3.4	1.1	0
Proportion CALM sales	0	0.5	1	0	0
Proportion other sales	0	10.7	20	21.6	54.3

REG	HRS-BIC	HRS-AV	HRN-AV	WSN-AV	PS-AV
Receipts ($ per dse turned off)					
Lamb receipts per dse turned off	13	12	12.6	13.1	3.9
Beef receipts per dse turned off	17.2	24.8	22	24.1	27.9
Crop receipts per dse turned off	0	0.7	2.2	0.2	0
Sheep receipts per dse turned off	0.5	1.7	1.9	2.1	1.8
Wool receipts per dse turned off	0.3	12.9	10.9	11.7	32.9
Agistment receipts per dse turned off	0	0.1	0.3	0.5	0.1
Government assistance per dse turned off	0	0	0.3	0.5	0
Off farm contract receipts per dse turne	0	0.3	0.2	0	0.1
Livestock transfer out per dse turned of	0	0	0	0	0
Other cash receipts per dse turned off	1.8	1.9	2.3	1.4	3.3
Total cash receipts per dse turned off	32.7	54.4	52.6	53.6	70
RECEIPTS/DSE RUN	1.74	0.83	1.03	0.66	1.01
RECEIPTS/Ha	20.30	5.82	3.93	2.66	0.43
Costs ($ per dse turned off)					
Sheep purchased per dse turned off	7.5	3.7	3.5	4.3	1
Beef purchased per dse turned off	0.1	2.3	3.9	4.8	0.9
Freight paid on lstock purch per dse tur	0.3	0.1	0.1	0.2	0
Freight paid on lstock sold per dse turn	0.4	0.2	0.1	0.6	1.2
Hand & marketing costs per dse turned of	1.9	3.6	2.9	3.2	5.4
Fodder costs per dse turned off	0.4	1.1	0.6	2.7	0.1
Agistment costs per dse turned off	0	0.3	0.1	0.4	0
Veterinary costs per dse turned off	0.1	0.1	0	0.1	0
Livestock materials per dse turned off	0.3	1.6	1.7	1.8	0.4
Shearing costs per dse turned off	0.5	2.1	2.2	1.6	5.3
Administration costs per dse turned off	1.1	1.6	1.3	1.8	4.6
Livestock contracts per dse turned off	0	0.1	0	0	0
Cropping contracts per dse turned off	2.1	0.9	0.4	0.2	0
Crop & pasture chemicals per dse turned	0.2	0.2	0.6	0.4	0.2
Fertiliser cost per dse turned off	0.3	4.3	2.8	4.2	0.1
Fuel cost per dse turned off	2.7	2.6	2.1	2.1	2.6
Wages paid to permanent labour per dse	0	1.6	1	0	0
Wages paid to casual labour per dse turn	0	0.4	0.4	0	0.3
Rent and rates per dse turned off	1.3	2.1	2.7	1.2	0.9
Electricity costs per dse turned off	0.3	0.4	0.4	0.4	0.1
Repairs & maintenance per dse turned off	3.2	4.3	3.3	3.3	3.7
TFRIN	0	0	0	0	0
Other cash costs per dse turned off	2.2	6.6	6.7	7.9	8.9
Total cash costs per dse turned off	24.9	40.2	36.9	41.1	35.7
COSTS/DSE RUN	2.13	2.89	2.99	3.72	2.71
COSTS/HA	24.82	20.23	11.44	15.00	1.16
INT/DSE SOLD	0.07	3.18	3.73	4.53	4.77
Financial performance					
Farm cash income per dse turned off	17879.9	56324.3	45037	21886	177670.8
Buildup in trading stocks per dse turned	-16820.3	-4873.5	7579.3	14811.2	-4857.7
depreciation exp	4213.2	15179.8	16678.9	16574.9	20767.5
tot imput labour cost	39983.8	36914.9	30659.6	35177	38755.1
farm business profit	-45137.3	-644	5267.8	-15054.7	113290.4
interest paid	118.6	10185.8	10755.2	10572.8	23902.6
profit full equity	-45013.4	13039	16457.2	-4397.6	138774.3
cap apprec plant	501.4	1863	2706.9	2295.7	2230
profit full equity ca	-18931.8	104441.3	74741.5	33490.2	254099.6
total cl cap	871102.1	1679613.5	1082871.7	884522.9	1128931
total farm debt cl	754.1	120492.2	98414	101601.8	240268.2
farm equity cl	870348	1485729.3	986457.7	782921.2	880083.5
farm equity ratio cl	99.9	92.2	90.1	86.9	73.9
COST	2490.6	4024.8	3685	4107.4	3574.3
Rate of return (excl ca)	-5.1	0.8	1.6	-0.5	13.5

4. SHEEP ENTERPRISES

REG	HRS-BIC	HRS-AV	HRN-BIC	HRN-AV	WSN-AV	PS-BIC	PS-AV
Livestock numbers at 30 June (DSE)							
SHEEP	2290.52	3296.16	1760.54	3487.84	2821.34	8391.1	11077.74
CATTLE	364.1	354.3	0	293.7	473.6	3746.2	1829
TOT DSE	2654.62	3650.46	1760.54	3781.54	3294.94	12137.3	12906.74
Livestock sales (DSE)							
adult sheep sold no	856.4	998.6	1213.5	689.7	429.9	2244.2	1699.3
lambs sold no	600.24	219.76	154.64	158.24	34.08	709.84	224.24
beef cattle sold no	325	184	0	111	205	2513	638
TOT DSE	1791.64	1002.36	1368.14	958.94	663.98	5487.01	2811.54
Reproductive rates							
beef cattle brand rate	89.3	93.1	0	21.9	44.7	53.6	25.3
lambs marked	682.1	768.8	186.7	801.4	240.8	2934.5	2982.7
Wool							
sheep lambs shorn no	2856.5	3166	1739.7	3351.7	2470.4	8978.7	10516.7
wool production	10144	13665.1	8109.7	14658.7	11023.1	49759.3	47458.8
Area operated							
area operated ol	908.2	672.4	2430.2	1193	4450.3	86527.4	68580.1
Grazing area	901.7	657.6	2422.8	1175.5	4437.2	86527.4	68578.8
area cropped	19.7	44.9	22.4	52.9	39.7	0	4.1
Fertiliser							
Area crops fertilised	0.7	25	15	42	11.8	0	3.2
area pasture fert	116.8	144.2	12.4	96.1	3.1	261.7	23
Quantity fert applied to crops	1.2	3.4	1.5	5.8	1.1	0	0.3
npk applied pasture	11.1	15.9	1.7	10.4	0.2	18.7	1.6
Irrigation							
total area irrigated	2.1	4.7	37.8	16.1	10.4	0	0
area grazing land irrig	1.7	3.8	34.1	14.5	5.7	0	0
water used recsld direct	5.6	1.9	102.7	117.4	36.4	0	0
water disp to others	0	0	0	47.7	3.1	0	0
Labour							
No of family members work on farm	2.8	3.6	4	2.6	3.1	3.6	2.5
Op & spouse wk worked off farm	3.2	19.4	28	15.5	31.3	0	3.9
No of perm labour work on farm	0	0.2	0	0.3	0.1	0.4	0.7
permanents weeks worked	1.9	4.4	0	3.9	2.5	0	25.1
casuals weeks worked	0.7	2.7	0.6	3.9	3.6	16.9	12.3
Sheep physical							
Lambs marked per ewe joined	0.8	0.7	1	0.7	0.6	0.9	0.7
Prime lambs sold per ewe joined	0.7	0.2	1	0.1	0.1	0.2	0
Ewes joined per ram	48.2	41.8	67.5	31.1	28.4	26.9	35.9
wool cut per head	3.2	4	4.5	4.6	4.4	5.6	4.4
Sheep death rate	0	0	0	0	0	0	0
Beef cattle physical							
Calves branded per cow joined	1.8	2.3		1.9	2.1	0.3	0.3
percnt females beef herd	38.8	27.2	0	14.7	62.1	30.5	19.7
Cows mated per bull	19.1	8.3		11	32	43.1	25
beef cattle turnon rate	11.6	27.5	0	6.7	26.8	1.3	3.9
beef cattle turnoff rate	67	33.3	0	9.3	26.4	111.9	16.9
beef cattle death rate	10.9	2.2	0	0.5	3.9	4.5	3
PFEDON	0	0	0	0	0	0	0
PFEDOF	0	0	0	0	0	0	0
Sales of all livestock (% total dse sold)							
Proportion paddock sales	52.1	29.6	64.9	38.7	56.2	36.7	55.9
Proportion over the hooks sales	7.7	4	0	0.4	0	0	0
Proportion auction sales	34.6	57.5	35.1	57.2	9.4	55.3	39.4
Proportion over scales (excl fwt)	0.1	0.8	0	0.3	0.8	0	0
Proportion CALM sales	0	0.8	0	0.7	0	0	2
Proportion other sales	4.3	6.1	0	2.7	23.7	0	2.9

REG	HRS-BIC	HRS-AV	HRN-BIC	HRN-AV	WSN-AV	PS-BIC	PS-AV
Receipts ($ per dse turned off)							
Lamb receipts per dse turned off	12.8	6.5	7.1	4.3	0.3	2.9	0.3
Beef receipts per dse turned off	6.1	5.1	0	3.8	15.4	17.7	5.7
Crop receipts per dse turned off	0.9	10.3	1.2	5.7	7.3	0	0.1
Sheep receipts per dse turned off	4	6	5.6	10.1	5.1	6	11.3
Wool receipts per dse turned off	19	71.9	23.5	87.6	116.8	31	95.6
Agistment receipts per dse turned off	1.8	1.3	0	0.5	0.8	1.5	6.3
Government assistance per dse turned off	1.1	1.3	0	3.8	3.2	1.7	8
Off farm contract receipts per dse turne	0.1	3.2	0	2.2	5.6	0	1.6
Livestock transfer out per dse turned of	0	0	0	0.2	19.7	0	0.3
Other cash receipts per dse turned off	3.1	6.5	0.6	8.3	33.2	1.3	7.1
Total cash receipts per dse turned off	48.9	114.2	38	126.2	207.4	62.2	136.3
Receipts/dse run	2.09	1.78	0.47	2.10	6.74	0.59	1.44
Receipts/ha	6.12	9.69	0.34	6.67	4.99	0.06	0.21
Costs ($ per dse turned off)							
Sheep purchased per dse turned off	11.1	5.4	11.9	5.4	9.1	0.9	1.9
Beef purchased per dse turned off	0.9	1.6	0	1.8	12.9	0.4	1.1
Freight paid on livstock purch per dse tur	0.4	0.2	0.4	0.1	0.5	0	0.2
Freight paid on livstock sold per dse turn	0.1	0.3	0.1	0.4	0.3	0.2	0.9
Hand & marketing costs per dse turned of	4	11.1	2.8	13.2	16.7	6.2	10.4
Fodder costs per dse turned off	0.7	2.5	0.1	2.7	10.1	0.2	0.5
Agistment costs per dse turned off	0	0	0.1	0	0.3	0	0.2
Veterinary costs per dse turned off	0.1	0.3	0.1	0.1	0.1	0	0.1
Livestock materials per dse turned off	1.4	4.9	0.4	4.3	8.4	0.9	2.2
Shearing costs per dse turned off	2.3	7.6	0.2	13.1	8.4	6.7	23.8
Administration costs per dse turned off	2.1	4.8	0.8	6.5	24.7	1.8	6.8
Livestock contracts per dse turned off	0.2	0.1	0	0.1	0.2	0	0.6
Cropping contracts per dse turned off	0.2	2.3	0	0.8	0.9	0.1	0
Crop & pasture chemicals per dse turned	0.2	1.4	0	0.8	1.1	0.1	0
Fertiliser cost per dse turned off	0.9	4.9	0.1	6.9	1.4	0.7	0.1
Fuel cost per dse turned off	2.1	7.9	2.7	7.3	13.7	2	8.2
Wages paid to permanent labour per dse t	0.4	1.2	0	0.5	0.4	0	2.6
Wages paid to casual labour per dse turn	0.1	1	0.4	2.2	1.3	1	2.3
Rent and rates per dse turned off	1.4	0.7	2.3	0.7	12	1.3	5.6
Electricity costs per dse turned off	0.5	1.5	0.4	1.8	5.7	0.9	1.1
Repairs & maintenance per dse turned off	2.4	9	2.7	9.1	20.4	3	10.4
TFRIII	0	0	0	0	3.6	0	0
Other cash costs per dse turned off	8.1	28.7	8.1	34.6	75	7.6	52.8
Total cash costs per dse turned off	39.6	104.4	33.7	117.8	227	34	137.9
Costs/dse run	5.47	7.88	6.29	8.77	15.23	3.42	10.68
Costs/ha	15.98	42.78	4.36	27.81	11.27	0.48	1.56
Inl/dse sold	4.97	10.76	3.41	10.95	20.75	1.37	16.89
Financial performance							
Farm cash income per dse turned off	15958.9	11005.4	370.4	14341.7	6375.4	147738.8	10709.5
Buildup in trading stocks per dse turned	-3243.1	-100.4	-1654.3	1838.9	-6030.4	-27409.3	-7858.9
depreciation exp	5974.9	10416.3	4210.6	9530.4	16137.	27788.6	25583.2
fol imput labour cost	19350.7	27003.7	16680.1	23697	27942.6	50127.6	31657.5
farm business profit	-12609.8	-26514.9	-22174.6	-17155.9	-45784.7	-42413.4	-54390.1
interest paid	8904.4	10786.5	4666.2	10496.8	13878.7	7496.6	44110.1
profit full equity	-4545.3	-14110.6	-17494.7	-5500.3	-30248.5	52903.4	-6732.1
cap apprec plant	1025.4	1432.5	819.9	1487.6	1849	2297.4	2183.1
profit full equity ca	-3575.6	-14292.1	-4160.6	14283.3	-5201.2	106803.3	101954.7
total cl cap	667074.8	881722.8	178762	754402.2	6213914.4	1363617.5	1150467.2
total farm dcbf cl	96237.7	102638.6	40124.7	110003.2	146722.3	72630.4	448888.6
farm equity cl	495942.3	724043.2	139537.2	510821.7	471451.4	1290987.1	637031.5
farm equity ratio cl	77.1	82.7	88.5	65.7	85.6	92.3	47.8
COST	3956.2	10443.3	3356.6	11778.1	22345.8	3395.7	13785.2
Rate of return (excl ca)	-0.7	-1.6	-10.2	-0.8	-5	3.9	-0.6

5. SHEEP ENTERPRISE - PRIME LAMB

Description of estimate	Mean	Mean	Mean	Mean	Mean
Region	HRS-BIC	HRS-AV	HRN-BIC	HRN-AV	PS-AV
Livestock numbers at 30 June (DSE)					
SHEEP	1629.14	3488.6	8505.26	7778.52	9833.04
CATTLE	83.4	1135.7	0	402.9	348.9
TOT DSE	1712.54	4624.3	8505.26	8181.52	10181.94
Livestock sales (DSE)					
adult sheep sold no	3191.3	3191.3	708.8	1821.1	2368
lambs sold no	642.72	901.12	2558.32	1350.16	831.04
beef cattle sold no	343	494	0	131	425
TOT DSE	4177.02	4586.42	3267.12	3302.26	3624.04
Reproductive rates					
beef cattle brand rate	1.9	34.2	0	2.7	16.9
lambs marked	633.8	1102.8	3214	3128.3	3235.7
Wool					
sheep lambs shorn no	3634.9	3849.5	6068	6865.3	10883.5
wool production	12305.3	15365.3	23879.3	28506	51109.9
Area operated					
area operated cl	266.8	909.6	942	3087.2	84643.5
Grazing area	266.5	883.2	933.2	3062.1	84643.5
area cropped	0.7	79.9	26.7	76	0
Fertiliser					
Area crops fertilised	0	39.4	9.2	61.5	0
area pasture fert	125.8	232.3	260	127.2	0
Quantity fert applied to crops	0	6.6	0.9	11	0
npk applied pasture	14.7	32.2	27.5	12.8	0
Irrigation					
total area irrigated	0	24.2	93.6	87.9	0
area grazing land irrig	0	21.5	84.4	68.5	0
water used resold direct	0	7.2	254.3	305.5	0
water disp to others	0	0	0	0	0
Labour					
No of family members work on farm	6	2.9	3.5	3.8	3.2
Op & spouse wk worked off farm	7.9	22	32.4	8.7	0
No of perm labour work on farm	0	0.6	0.7	0.6	0
permanents weeks worked	0	9.4	29.8	27.5	0
casuals weeks worked	0	6.5	11.2	10.9	17.9
Sheep physical					
Lambs marked per ewe joined	0.9	0.8	0.7	0.8	0.7
Prime lambs sold per ewe joined	1	0.8	0.7	0.4	0.2
Ewes joined per ram	53.9	28.1	39.9	49.1	44.8
wool cut per head	3.4	3.4	3.3	3.9	4.8
Sheep death rate	0	0	0	0	0
Beef cattle physical					
Calves branded per cow joined	2.3	0.9		0.2	0.8
percnt females beef herd	1.3	34.6	0	1.6	9.3
Cows mated per bull	47	3.6		24.7	30
beef cattle turnon rate	28.1	28.9	0	14.9	0.2
beef cattle turnoff rate	159.9	44.8	0	10.4	89
beef cattle death rate	0	2.7	0	0.2	2.4
PFEDON	0	0	0	0	0
PFEDOF	0	0	0	0	0
Sales of all livestock (% of dse sold)					
Proportion paddock sales	75.7	44.5	11	20.2	75
Proportion over the hooks sales	0	3.2	11.6	4.3	0
Proportion auction sales	17.7	41.3	77.4	67.4	25
Proportion over scales (excl lwt)	0.5	0.6	0	0	0
Proportion CALM sales	0	1.5	0	8	0
Proportion other sales	6	8.1	0	0.1	0

Region	HRS-BIC	HRS-AV	HRN-BIC	HRN-AV	PS-AV
Receipts ($per dse sold)					
Lamb receipts per dse turned off	4.6	17.3	22.5	15.8	3.5
Beef receipts per dse turned off	2.7	9.7	0	1.3	5.5
Crop receipts per dse turned off	0	8.2	2.9	7.8	0
Sheep receipts per dse turned off	8.1	3.4	2.6	9.4	7
Wool receipts per dse turned off	9.7	18.6	15.7	28.4	38
Agistment receipts per dse turned off	0	5.5	0	0.4	1.4
Government assistance per dse turned off	0	0.9	0	1.7	1.7
Off farm contract receipts per dse turne	0.6	0.4	0	21.3	0
Livestock transfer out per dse turned of	0	0	0	0	0
Other cash receipts per dse turned off	0.5	4.9	2.1	3	2.3
Total cash receipts per dse turned off	26.1	68.9	45.8	89	59.4
Receipts/dse run	1.22	4.86	0.81	1.21	0.82
Receipts/ha	7.83	24.71	7.28	3.21	0.10
Costs ($ per dse turned off)					
Sheep purchased per dse turned off	10.7	10.7	1.7	8.6	0.7
Beef purchased per dse turned off	0.3	3	0	1.1	0.1
Freight paid on lstock purch per dse tur	0.6	0.4	0	0.8	0
Freight paid on lstock sold per dse turn	0.2	0.4	0.6	0.3	0.5
Hand & marketing costs per dse turned of	1.5	4.4	3.2	6.3	6.6
Fodder costs per dse turned off	0.5	1.2	0.5	2.6	0.1
Agistment costs per dse turned off	0	0	0.4	0.1	1
Veterinary costs per dse turned off	0	0.2	0.3	0.1	0
Livestock materials per dse turned off	1	1.9	1.2	1.2	0.9
Shearing costs per dse turned off	0.8	2.4	1.3	6.8	9.4
Administration costs per dse turned off	1.1	2.7	2.1	2.6	1.8
Livestock contracts per dse turned off	0.6	0.1	0	0	0.7
Cropping contracts per dse turned off	0	1.7	0	0.8	0
Crop & pasture chemicals per dse turned	0	1.6	0	0.8	0
Fertiliser cost per dse turned off	0.7	2.6	0.3	1.7	0
Fuel cost per dse turned off	0.4	3.8	3.8	5.2	2.4
Wages paid to permanent labour per dse t	0	0.8	0.9	1.9	0
Wages paid to casual labour per dse turn	0	1.1	0.3	0.8	2
Rent and rates per dse turned off	0.2	2.6	6.2	3.6	0.8
Electricity costs per dse turned off	0.1	0.8	1.1	0.8	0.7
Repairs & maintenance per dse turned off	1.7	4.2	2.7	5.5	2.8
TFRIN	0	0	0	0	0
Other cash costs per dse turned off	5.2	19.5	9.5	18.2	8
Total cash costs per dse turned off	25.6	66.3	36.1	70	38.4
Costs/dse run	12.68	19.34	3.65	7.35	2.85
Costs/ha	81.41	98.32	32.95	19.47	0.34
Int/dse sold	4.96	6.06	4.05	7.43	3.18
Financial performance					
Farm cash income per dse turned off	2580	8827.1	72877.7	76540.2	85507.4
Buildup in trading stocks per dse turned	-10222.2	1734.3	-34470.6	-6958.4	-12978.3
depreciation exp	3198.1	10858.3	16106.9	25928.8	21831
tot input labour cost	7973	23436.1	19228.8	29286.4	31022.7
farm business profit	-18813.3	-23733	3071.4	14366.6	19675.3
interest paid	20714.8	27783	13233.5	24551.6	11524
profit full equity	1901.5	7193.9	21937.1	41514.2	32983.3
cap apprec plant	320.3	1530.5	1140.5	4390.1	1460.2
profit full equity ca	7539.5	14644.8	43991	95039.6	92517.4
total cl cap	352032.7	1007780	937886.1	1099260.5	723284.7
total farm debt cl	193878	234032.5	38535	185103.9	104065.3
farm equity cl	158154.6	526166.8	111298.4	361997.1	619219.3
farm equity ratio cl	44.6	58.7	57.2	37.3	84.6
Rate of return (excl ca)	0.5	0.7	2.3	4.1	4.8

ANNEX 2

FEEDLOT BENCHMARK TEMPLATE

ANNEX 2 : FEEDLOT BENCHMARK SURVEY TEMPLATE

Where possible data to be supplied for the 1994/95 financial year. Please indicate any variations to this.

Ownership structure: a. Corporate
b. Private

Type of Operation: a. Custom Feeder
b. Private
- if some custom feeding indicate proportion _____%

Estimated Capital Investment - Facilities and Equipment $_____

Feedlot Land Area: _____ ha (include any associated cropping/silage area).

Estimated Land Value: _____ $/ha

Feed Processing Method: a. Reconstitution
b. Steam Flaking
c. Dry roll/crack

Years Installed _____ years

Licensed Capacity (based on 600kg beast per 15m^2): _____ SCU

Practical Capacity (based on current feeding regimes, your estimate of feedlot capacity):

_____hd

No. Head on feed at 1/7/94 _____ hd

No. Head on feed at 30/6/95 _____ hd

Actual no. Cattle placed on feed 1/7/94-30/6/95 _____ hd

Actual no. Cattle sold 1/7/94-30/6/95 _____ hd

Staffing levels

Staff	Feedlot/Mill/Maint	Administration	Total
Permanent			
Casual			
Total			

Feed - Average Dry matter content expressed as % Actual weight fed: _____%

CLOSE OUT DATA FOR LOTS CLOSED-OUT BETWEEN 1/7/94 AND 30/6/95 - SEE SEPARATE CODING LIST

Close Out Date	Lot No	Breed	Sex	HGP	No. In (hd)	No. Out (hd)	Entry Wt (kg)	Exit Wt (kg)	Feed (kg)	Beast days	Target DOF	Av DOF per Hd	Health Cost ($)	Induction Cost ($)

FEEDLOT COST DATA

	$
1. Salary & Benefits	
Permanent	
Staff Dev & Training	
On-costs	
Work Comp/Ins	
Total	
2. Repairs/Maintenance	
Yards/Earthwork & Water	
Feedmill	
Rolling Stock	
Complex-Buildings	
Motor Vehicles	
Roads	
Total	
3. Insurance	
General	
Livestock	
Total	
4. Government/Industry Charges	
Rates	
Licences/ALFA	
Total	
5. Utilities	
Power	
Water	
Fuel-pumps, motor vehicles, engines, etc.	
Total	
6. Administration	
Telephone/Facsimile	
Promotion/Advertising	
Postage/Stationery/Couriers	
Other	
Total	
7. Professional Services - Consultants	
8. Contract Services	
10. Lease/Interest/Depreciation	
Interest on Capital Investment	
Lease Payments (Equip hire)	
Mortgage Payments	
Bank Charges	
Depreciation	
Total	
11. Waste Disposal	
Manure Disp (net of manure sales)	
Pest Control	
Total	
12. Commodity Testing	
13. Other	
TOTAL OVERHEAD	

MEAT PROCESSING BENCHMARK TEMPLATE

ANNEX 3

Plant Information

Please enter data in blue

Australian Meat Marketing
ProAnd Associates Australia

General Information

Plant	ABC
Address	ABC
Town	ABC
Postcode	ABC
Telephone	ABC
Facsimile	ABC
Establishment Number	ABC
Contact	ABC

Tally Information

Slaughter Tally per Man	1
Slaughter Tally per Day	1
Boning Tally per Man	1
Boning Tally per Day	1

Plant Information

Days Worked Slaughter	1
Days Worked Boning	1
Covered Yards Head	1
Open Yards Head	1
Slaughter Head/Hr	1
Chillers Head	1
Boning Bodies per Day	1
Carton Freezing Cins	1
Cold Storage Tonnes	1
Rendering Capacity TnsRM/Hr	1
Tallow Storage Tonnes	1
Meatmeal Storage Tonnes	1

Meat Research Corporation

Production Information

Please enter data in blue

Australian Meat Marketing
ProAnd Associates Australia

Slaughter

Service Kill	
Service Head	0
Service Kgs	0
Own Kill	
Korean head	0
Korean Kgs	0
Domestic Head	0
Domestic Kgs	0
Steers & Heifers Head	0
Steers & Heifers Kgs	0
Japanese Ox Head	0
Japanese Ox Kgs	0
Cows head	0
Cows Kgs	0
Manufacturing Cows head	0
Manufacturing cows Kgs	0
Bulls head	0
Bulls Kgs	0
Own Kill Head Slaughtered	0
Own Kill Kgs Slaughtered	0
Total Head Slaughtered	0
Total Kgs Slaughtered	0
Average Carcase Slaughtered Kgs	#DIV/0!

Boning

Carcase Output Kgs ex Works	0
Beef Boned Head	0
Beef Boned Kgs Input	0
Chilled Beef Output Kgs FW	0
Frozen Beef Output Kgs FW	0
Boning Percent	#DIV/0!

CoProducts

Edible Offal Prod Tonnes	0
Petfood Prod Tonnes	0
Meatmeal Prod Tonnes	0
Tallow Prod Tonnes	0
Bloodmeal Prod Tonnes	0
Hides	0
Other Coproducts tonnes	0
Rendering Intake Tonnes	0
Total Head Boned	0
Total Kgs Boned	0
Average Carcase Boned Kgs	#DIV/0!

Meat Research Corporation

Slaughter Function Costs

Please enter data in blue

Australian Meat Marketing
ProAnd Associates Australia

Buyers Wages inc LMgr	$0
Buyers Oncosts	$0
Commission Costs	$0
Buyers Vehicle Expenses	$0
Buyers Other Costs	$0
Yards Wages	$0
Yards Oncosts	$0
Yards Other Costs	$0
Slaughter Wages	$0
Slaughter Oncosts	$0
Slaughter Consumables	$0
Slaughter Services (Water & Fuel)	$0
Slaughter Levy	$0
Production Levy	$0
Slaughter Inspection	$0
Chiller Wages	$0
Chiller Oncosts	$0
Coproduct Wages	$0
Coproduct Oncosts	$0
Coproduct Other	$0
	$0

Slaughter Functional Area Costs

Procurement Cost	$0
Yards Cost	$0
Slaughter Cost	$0
Chiller Cost	$0
Coproducts Cost	$0
	$0

Slaughter Function by Expense

Slaughter Labour	$0
Govn Charges & Inspection	$0
Slaughter Other	$0
Slaughter Consumables	$0
Slaughter Services	$0
	$0

Meat Research Corporation

Fabrication Costs

Please enter data in blue

Australian Meat Marketing
ProAnd Associates Australia

Boning Wages	$0
Boning Oncosts	$0
Boning Consumables	$0
Boning Inspection	$0
Boning Services (Electricity)	$0
Freezer Wages	$0
Freezer Oncosts	$0
	$0

Fabrication Functional Area Costs

Boning Cost	$0
Freezer Cost	$0
	$0

Fabrication Function by Expense

Fabrication Labour	$0
Govn Charges & Inspection	$0
Boning Consumables	$0
Boning Services	$0
	$0

Meat Research Corporation

Overhead Costs

Please enter data in blue

Australian Meat Marketing
ProAnd Associates Australia

Head Office Fees	$0
Overhead	$0
Depreciation	$0
Interest	$0
Office Expenses	$0
Vehicle Expenses	$0
Insurance	$0
Marketing Wages	$0
Marketing Oncosts	$0
Marketing Travel	$0
Marketing Expenses	$0
Works Admin Wages	$0
Works Admin Oncosts	$0
Vet Officer Costs	$0
R&M Wages	$0
R&M Oncosts	$0
R&M Materials	$0
R&M Other	$0
	$0

Overhead Functional Area Costs

Head Office	$0
Marketing	$0
Works Administration	$0
R&M	$0
Other	$0
	$0

Fabrication Function by Expense

Overhead Labour	$0
Govn Charges & Inspection	$0
Overhead Other	$0
R&M	$0
Interest	$0
Depreciation	$0
	$0

Meat Research Corporation

Livestock Costs & Revenues

Australian Meat Marketing
ProAnd Associates Australia

Please enter data in blue

Livestock Cost	$0
Inwards Freight	$0
Export Meat Sales	$0
Domestic Meat Sales	$0
Service Fees	$0

Total Livestock Cost	$0
Total Meat Revenue	$0
Nett Meat Revenue	$0

Added Value	$0

CoProducts

Offal Sales	$0
Petfood Sales	$0
Meatmeal Sales	$0
Tallow Sales	$0
Bloodmeal Sales	$0
Other Coproducts	$0
Hide revenue	$0
Total Coproduct Revenue	$0

Meat Research Corporation