

## **Appendix 3**

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# **Regional Vineyard Benchmarking Report**

# Regional Vineyard Benchmarking Report

Prepared for : WGGA

By : Scholefield Robinson Horticultural Services Pty Ltd

Date : June 2008

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# INTRODUCTION

In 2007, the Department of Agriculture, Fisheries and Forestry (DAFF) provided funding for a project entitled 'Capacity Building for Australian Wine Grape Growers', administered through Wine Grape Growers Australia (WGGA). Scholefield Robinson Horticultural Services (Scholefield Robinson) was the successful tenderer for the management and implementation of the project which started in January 2008.

The project was divided into four sub-projects, one of which was developing a Vineyard Development Program which included a component entitled 'Vineyard Performance Benchmarking'. Firstly, this required a review of wine grape financial performance benchmarking studies that had been undertaken in Australia in the past and to evaluate the outcomes of these studies.

However, the primary objective of this part of the sub-project was to collect up-to-date income and production costs data from wine growing regions in Australia and develop some industry benchmarks for wine grape businesses in 2008.

Once the benchmarks were calculated for each region, they were to be integrated into the VineBiz Financial Ready Reckoner, which is a tool designed to help grape growers analyse the performance of their business in the context of similar grape enterprises in the same region.

This report contains a summary of the income and cost data collected and collated for nine wine growing regions, as follows:

## **Warm Irrigated Regions**

North West Victoria – Mildura VIC & NSW  
Lower Murray – Riverland SA  
Big Rivers – Riverina NSW

## **Temperate and Cooler Regions**

Barossa  
Fleurieu  
Clare  
King Valley  
Mount Lofty Ranges  
Limestone Coast

As part of this benchmarking process, Scholefield Robinson was also required to review production costs in some other key wine producing countries to provide an international context to the comparative analysis process.

This report therefore has three components:

1. Review of Past Benchmarking Studies
2. Regional Wine Grape Benchmarking Study 2008
3. Wine grape production costs in other wine producing countries.

The past benchmarking studies reviewed for this report included:

- Victorian DPI and RMCG - Sunraysia Victoria 1998-2002.
- Riverina Winegrape Marketing Board, MIA, NSW 2002.
- PIRSA and Riverland Winegrape Growers Association, Riverland, SA 2005.

# **REVIEW OF PAST BENCHMARKING STUDIES**

## VICTORIAN DPI AND RMCG – SUNRAYZIA, VIC 1998-2002

### Introduction

A benchmarking study into wine grape production was funded by the Victorian Department of Primary Industry and managed by Rendell McGuckian Consultants (RMCG) for a five year period from 1998 to 2002.

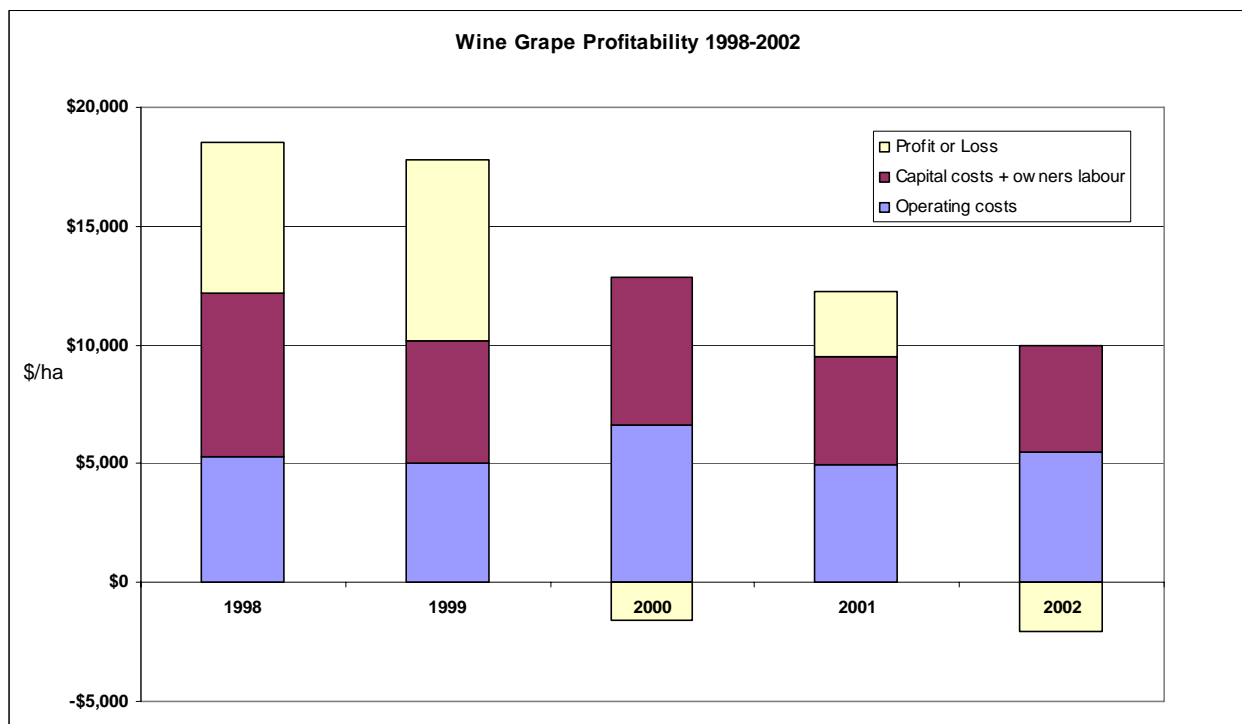
The studies included 30-40 vineyards each year and were originally centred in the Sunraysia region, but extended to Central Victoria in the latter years.

Cost of production data were taken from tax returns and entered into a financial model. In order to capture the full cost of wine grape production, imputed costs for owner's salary, depreciation and other capital costs were incorporated in the model.

Average figures for each cost category were generated and costs associated with high performance and low performance enterprises were used to describe the variation of costs within the data set.

Figure 1 summarizes the average values (\$/ha) of operating costs, and capital costs + owner's labour, and profit/loss across the five year period.

**Figure 1: Summary of wine grape benchmarking data in \$/hectare (1998/2002)**

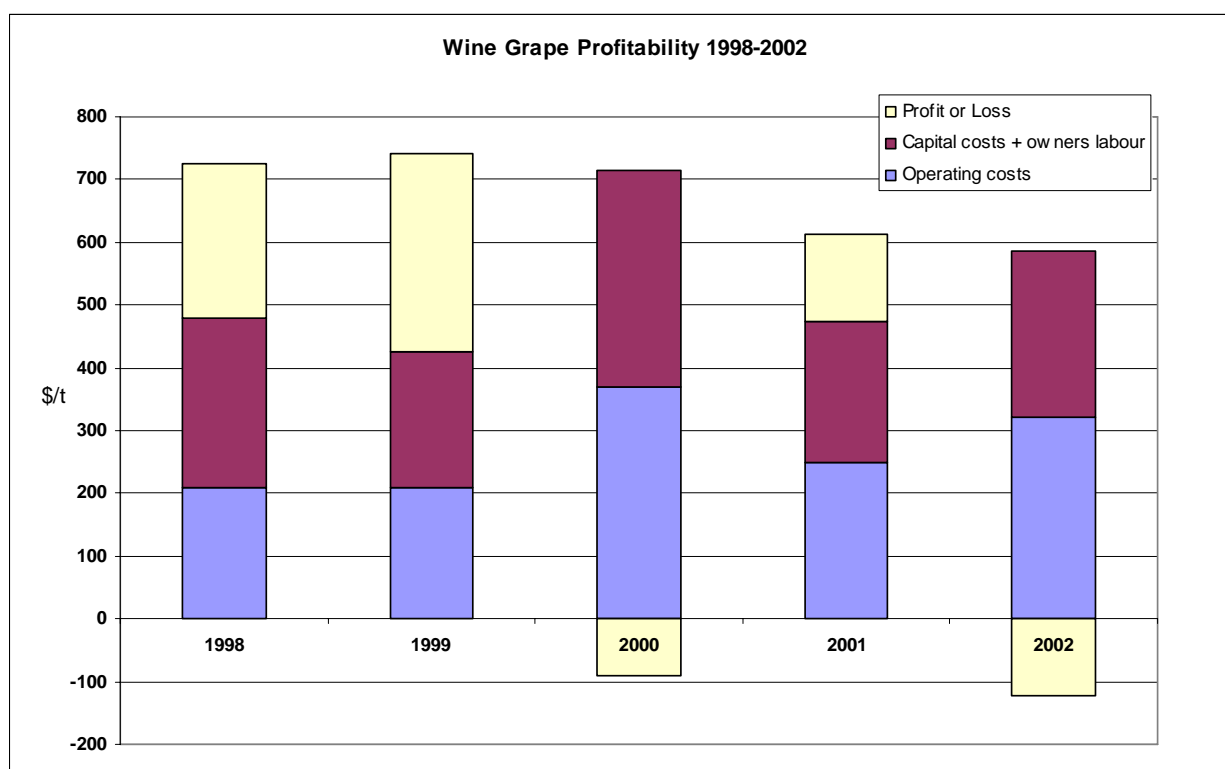


Profits from wine grapes were high in 1998 and 1999 and much of this profit was re-invested back into vineyard development and upgrading infrastructure in the region. Over time, the production costs stabilized and there were some years when a loss was made, which would have temporarily cut in to the returns on capital and owner's salary.

In general, the average profitability over a number of years, shown as a snap shot in Figure 1, is sustainable as profitable years can carry the non-profitable years and growers can handle the fluctuations in returns.

Figure 2, below is based on the same data for the five year period but is calculated as \$/tonne of fruit. This presents a slightly less optimistic picture of the profitability because the actual yields (t/ha) have steadily declined from 25.5t/ha in 1998 to 17t/ha in 2002. As unit costs of inputs did not change substantially between 1998 and 2002, the costs to produce a tonne of fruit have increased largely due to the decline in per hectare yields.

**Figure 2: Summary of wine grape benchmarking data in \$/tonne (1998-2002)**



Declining yields have been a result of a number of factors. Initially, in the late 1990s, growers saw the benefits in controlling canopies and lowering yields (from high levels), and improving irrigation and nutrition to enhance fruit quality, particularly fruit colour in red varieties.

After that change, some wineries either actively encouraged further yield reduction to (apparently) lift grape quality even higher, or they imposed yield caps on varieties that were starting to come into oversupply.

These factors led to a reduction in grape yields which, coupled with sliding grape prices in the early 2000s, compounded the decline in the profitability of wine grape growing and viability of wine grape businesses in the region.



## RIVERINA WINE GRAPES MARKETING BOARD - MIA, NSW 2002

In 2002, the Riverina Wine Grapes Marketing Board (RWGMB) engaged local consultants Booth Associates Pty Ltd to undertake a study of wine grape profitability in the Riverina region in NSW.

The sample consisted of 49 growers across a range of property sizes and management practices.

The model used to process the raw data, similar to the RMCG model, allocated costs to variable and overhead categories. It also assigned costs to owner's salary, depreciation, vineyard renewal and other capital items, to capture the full cost of growing grapes for a sustainable vineyard enterprise.

The major outcomes of this study were as follows:

- For vineyard enterprises to supply grapes to wineries and maintain a viable and sustainable businesses, then;
  - Total vineyard costs would be \$11-17,000 per hectare
  - Vineyard yields would need to be 16-19t/ha
  - Wine grape prices would have to be \$650-\$930 per tonne
- For a wine grape business to just survive in the short term in the 2002 economic climate, the costs of production were calculated at \$6,513/ha, or around \$320-450/tonne.

## PIRSA & RWGA – RIVERLAND, SA 2005

In 2005, PIRSA was contracted to prepare a report on the impact of current grape pricing trends on the Riverland region. As part of this study, data was collected from Riverland vineyards to assess the total costs of production across a range of vineyard sizes.

The following Table summarizes the outcomes of this study:

**Table 1: Costs of production for Riverland vineyards (2005)**

Production Cost Type	Per hectare costs			Per tonne costs		
	Vineyard size			Vineyard size		
	10ha	50ha	170ha	10ha	50ha	170ha
Total variable costs	\$5,789	\$5,317	\$3,291	\$252	\$231	\$121
Total overhead costs *	\$6,473	\$4,237	\$2,961	\$281	\$184	\$129
Total vineyard costs	\$12,262	\$9,553	\$6,253	\$533	\$415	\$272

\* includes depreciation

The per tonne figures were calculated on a yield of 23t/ha which is high for an average yield figure, year-in year-out, across varieties and across a whole region.

Table 1 demonstrates that as vineyard size increases, costs decrease. Note that this was not a finding in the benchmarking analyses in this WGGGA report. The 170ha vineyard is a single entity, rather than an average. In our experience, it is not always evident in benchmarking studies

for wine grapes that larger vineyards have lower total costs. Often their variable costs are higher than average but savings are made with low per hectare overheads.

The variation in production costs between vineyards seems to be more closely associated with management practices and enterprise structure, than vineyard size, *per se*.

# **REGIONAL BENCHMARKING STUDY, 2008**

## **INTRODUCTION TO BENCHMARKING STUDY - 2008**

### **Method of Collecting Vineyard Data**

A simple Excel template was developed for growers to enter their income and cost data, either from tax returns or from farm records. An updated version of the data collection template has been developed and is also included in Appendix 1.

The template had the capacity for five years of data (2002-2007). The 2008 taxation returns were not available at the time of this study. The cost categories in the template were broadly divided into operating (variable) costs and overhead (fixed) costs.

Simple terminology was used to describe each cost category, for example, chemicals, fertilizer, water, labour, repairs and maintenance, insurance and debt servicing. Growers used their judgement to allocate their vineyard costs to these cost categories but had guidelines provided to them in the template.

Non-cash costs, such as depreciation, were not included in this stage of the study but have been considered in the final Ready Reckoner tool.

Many growers in the benchmarking study did not declare an owner's salary, particularly the smaller vineyards. The data for these enterprises therefore does not include this component. Scholefield Robinson has, however, developed a simple calculator tool integrated into the Ready Reckoner to allow growers to estimate a fair owner's salary for the business, thus capturing all costs of growing grapes.

Vineyard businesses were coded for:

- The region where the grapes were grown;
- The management structure of the business;
- The source of water for irrigation purposes.

On receiving data from grape growers and other data providers, Scholefield Robinson consolidated the data sets into a more comprehensive template developed for each region. The larger template had the ability to provide average values for each cost input from the individual enterprise data.

The average figures were automatically graphed to provide a visual summary of the income and costs for growing wine grapes, over the past five seasons.

At the completion of the project Scholefield Robinson provided a final summary page for each grower who contributed data to the benchmarking study, detailing their own income and production costs alongside the regional benchmark data.

### **Terminology Used in the Analysis**

Before discussing the outcomes of the WGGGA 2008 benchmarking study, it is appropriate to clarify the terminology used in data collection and the analysis.

The calculation of vineyard profitability or business return is defined as follows (Table 2):

**Table 2: Description of the terminology**

Financial Analysis Sequence	Description
<b>GROSS VINEYARD INCOME</b>	Grape payments (less levies) paid into growers' bank accounts (3 times/yr). Plus other vineyard income, for example leasing out excess water
<i>less</i> VINEYARD OPERATING COSTS	Costs that directly contribute to the growing of the grapes and vary with levels of production; for example labour directly related to vineyard operations, contractors, water, fertilizer, chemicals, fuel.
<i>equals</i> VINEYARD GROSS MARGIN	The Gross Margin is calculated by subtracting operating costs from income. This provides an initial indication of the level of profitability of the vineyard.
<i>less</i> VINEYARD OVERHEAD COSTS	These costs are required to maintain the running of the business regardless of the area in production; for example permanent management/owners labour, insurance, administration.
<i>equals</i> VINEYARD RETURN	Vineyard Gross Margin less Vineyard Overhead Costs. It is the amount left over for financial and capital costs and owner's salary.
<i>less</i> DEBT SERVICING	This is the cost of servicing all loans in a particular year but does not include principal (capital) repayments.
<i>less</i> CAPITAL OBLIGATIONS	Include principal repayments on loans and capital purchases to allow for replacement of machinery and equipment necessary for efficient farm operation.
<i>Equals</i> BUSINESS RETURN	Required for personal drawing and income tax unless funded from elsewhere

### **Vineyard Profitability - Implications of Not Capturing All Costs**

Grape growers, like most farmers, are at the start of the produce value chain and they are not always able to pass on all of the production costs to the next level in the chain – in the case of grapes, to the winery.

When times are good (high demand and high prices) growers are likely to be able to pay all their bills, draw a salary, reduce their debt and have a reasonably healthy return on their assets.

When times are not so good (over supply and low prices), the following adjustments often occur within the vineyard business, some very quickly (top of the list, below) and some more slowly (further down the list). They are;

- Owner/managers don't draw any salary from the business; spouse's off-farm income is increased;
- No principal repayments are made to reduce debt; loans are converted to interest only, overdraft facilities are increased;
- No new machinery or equipment is purchased, old plant is kept going, increasing repairs and maintenance costs;
- No new re-development occurs to rejuvenate plantings, repairs and maintenance to the vineyard, plant & equipment and irrigation infrastructure are minimized;
- Owner reduces vineyard inputs such as labour, water, fertilizers, and professional advice. This may, in turn, adversely impact on vine yields and vineyard profitability;

- In recent times with drought conditions and water restrictions, growers may opt to not lease water and stop maintaining some blocks in the vineyard; and,
- With reduced profitability, the value of the vineyard assets decline, impacting on the owner's equity and ability to exit the business at retirement.

Often the grower continues to produce grapes and supply the winery at a loss, because a perennial crop in a poor economic climate provides the grower with little choice. The production costs for growing the grapes become subsidised by off-farm income and the capital assets of the business decline. This position is not sustainable.

## RESULTS & DISCUSSION OF 2008 STUDY

### Warm Irrigated Regions

The warm irrigated regions from which data were received were Sunraysia, Riverland and Riverina with financial data received from 19, 27, and 20 grape businesses respectively.

### North West Victoria (Sunraysia) – VIC and NSW

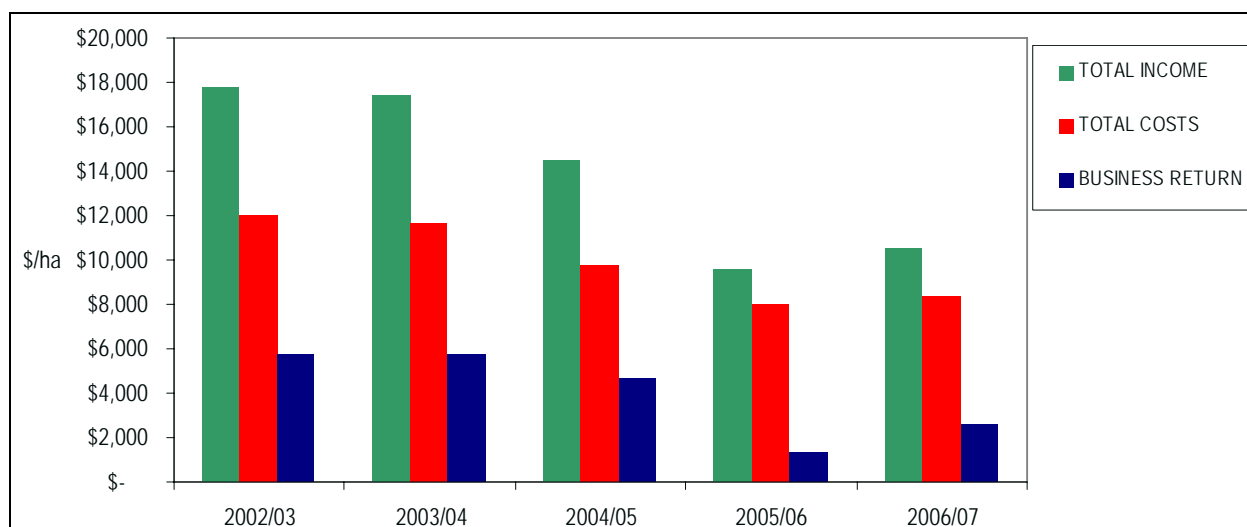
#### *Participating Vineyards*

**Table 3: Description of vineyards providing data from Sunraysia**

Description		Number
Total number of vineyards		19
Average size of vineyard		48ha
Vineyard size range		5ha – 180ha
Proportion of vineyards in each size category	<20 ha	42%
	20-50 ha	32%
	50-100 ha	5%
	>100 ha	21%
Water source - Private diverters		10
Water source - Pumped districts		9
<b>Management Category</b>		
<i>Owner Manager with little or no external labour inputs</i>		5
<i>Owner Manager with permanent employees</i>		4
<i>Owner with full time Manager</i>		2
<i>Corporate/Investor vineyard with Manager and corporate overheads</i>		8

**Performance of Sunraysia Vineyards 2002-2007**

**Figure 3: Sunraysia Vineyard Average Income and Costs**



NOTE: The Total Cost figures include debt servicing (interest) BUT DO NOT include owner's salary, depreciation or any allowance for return on vineyard assets.

The performance of 19 Sunraysia vineyards between 2002 and 2007 is summarised in Figure 3. The figure highlights that:

- Total income (\$/ha) has steadily declined due to reduced grape prices and vine yields.
- Total expenditure has also declined, even though unit costs for production inputs have increased.
- Business return has been reduced to a point where the enterprise has limited capacity to cover any capital repayments, owner's salary or renewal of vineyard plant and equipment.

**Changes in Total Expenditure, 2002 to 2007**

**Figure 4: Sunraysia Vineyard Average Total Costs**

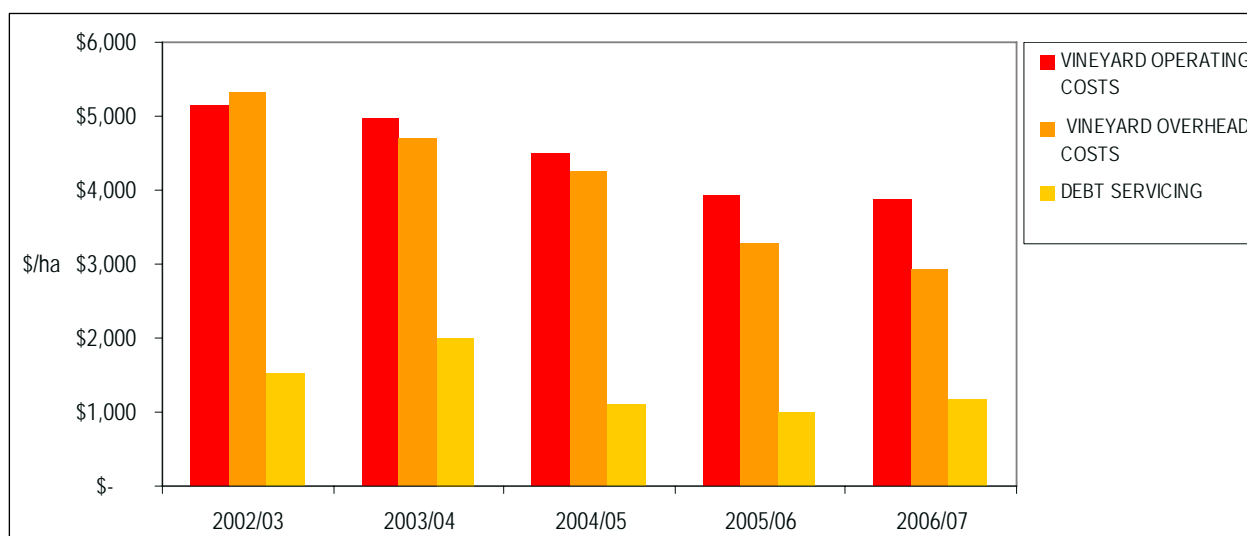


Figure 4 highlights that:

- Operating costs (expenditure) have fallen by approximately 20%, despite increases in vineyard input costs such as water, fuel, fertilizers and chemicals during this period. The trend shown in the graph would suggest that the quantity of vineyard inputs has declined and/or cheaper inputs have replaced more expensive inputs.
- Overhead costs (expenditure), excluding debt servicing, have also declined over the five years; insurance, leasing of equipment, professional services and permanent labour are examples where expenditure on overhead items has been reduced or dropped off completely from the vineyard expenses.
- Debt servicing has apparently decreased since the 2003/04 season, although it is not clear whether this reflects reduced payments or changes to loan arrangements.

### ***Operating Cost Details for 2006/07***

The costs of each component of operating have been averaged across the 19 participating Sunraysia vineyards for the 2006/07 season.

The average expenditure on each category at the 19 vineyards is shown in Table 4, with the lowest and highest values, and presented graphically in Figure 5.

The right hand column indicates how many Sunraysia vineyards provided data for each of the categories; the higher the numbers (up to 19), the more reliable the average figures are, as a true indication of the typical expenditure in the region.

- For example, the average cost of harvesting is \$1,053/ha according to all 19 participants, however only 1 participants entered a cost for canopy management at \$683/ha.

**Table 4: Operating costs for Sunraysia vineyards 2006/07**

<b>OPERATING (VARIABLE) COSTS (2006/07)</b>				
<i>Sub Unit</i>	Average (\$/ha)	Low (\$/ha)	High (\$/ha)	Number of data sets
Canopy Management	\$ 683	\$ 683	\$ 683	1
Chemicals	\$ 342	\$ 89	\$ 670	17
Fuel, Oil, Gas and Grease	\$ 292	\$ 48	\$ 777	19
Harvesting	\$ 1,053	\$ 296	\$ 2,160	19
Labour Hire Costs	\$ 1,150	\$ 66	\$ 6,011	12
Levies	\$ 65	\$ 10	\$ 110	12
Machinery, Plant & Equipment Hire	\$ 115	\$ 50	\$ 190	4
Nursery	\$ 366	\$ 366	\$ 366	1
Nutrition / Fertiliser	\$ 260	\$ 17	\$ 678	15
Pruning	\$ 457	\$ 31	\$ 1,517	13
Sundry Materials & Supplies	\$ 110	\$ 3	\$ 373	11
Vineyard Floor Management	\$ 44	\$ 0	\$ 131	6
Water and Drainage Costs	\$ 631	\$ 69	\$ 1,552	19
Water Lease	\$ 570	\$ 84	\$ 1,160	5
<b>TOTAL OPERATING COSTS/ha (median)</b>	<b>\$ 3,862</b>			

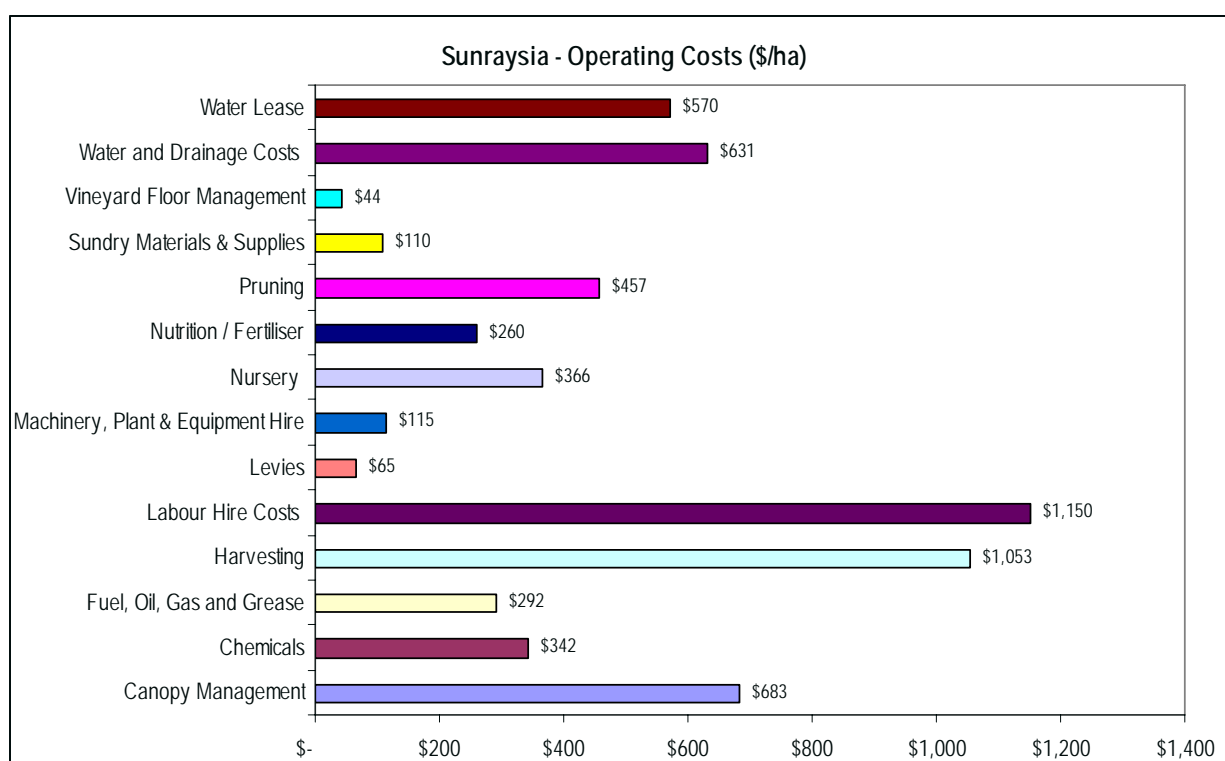
NB: This will differ from the sum of averages



The data in Table 4 shows that:

- The median operating cost in 2006/07 was \$3,862/ha (note that this is not the sum of the average figures in the column above).
- The greatest average expenditure was on labour hire. Of the 12 vineyards reporting labour hire costs, the expenditure ranged 100-fold from \$66 to \$6000/ha.
- The second greatest cost, listed by all participating vineyards, was harvesting.
- Water and drainage costs, reported by all 19 vineyards, averaged \$631/ha. Only five vineyards leased water in the 2006/07 season.

**Figure 5: Graphical representation of operating costs (\$/ha) in Sunraysia vineyards**



### ***Overhead Cost Details for 2006/07***

Each overhead cost has been averaged across the 19 participating Sunraysia vineyards for the 2006/07 season.

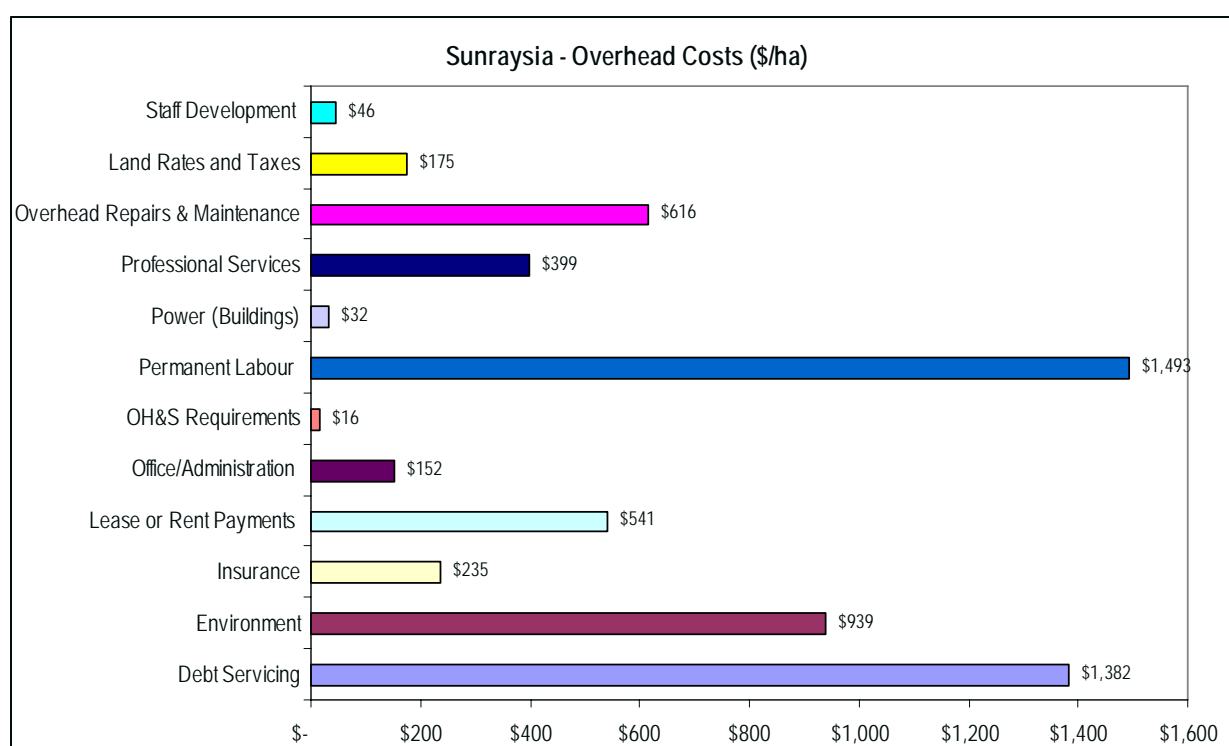
The average expenditure on each overhead category at the 19 vineyards is shown in Table 5, with the lowest and highest values, and is also presented graphically in Figure 6.

**Table 5: Overhead costs for Sunraysia vineyards 2006/07**

<b>OVERHEAD (FIXED) COSTS (2006/07)</b>				
<i>Sub Unit</i>	Average	Low	High	Number of data sets
Debt Servicing	\$ 1,382	\$ 40	\$ 4,878	16
Environment	\$ 939	\$ 172	\$ 1,705	2
Insurance	\$ 235	\$ 31	\$ 793	18
Lease or Rent Payments	\$ 541	\$ 58	\$ 1,160	10
Office/Administration	\$ 152	\$ 37	\$ 659	18
OH&S Requirements	\$ 16	\$ 1	\$ 44	8
Permanent Labour	\$ 1,493	\$ 375	\$ 3,816	12
Power (Buildings)	\$ 32	\$ 12	\$ 75	8
Professional Services	\$ 399	\$ 16	\$ 1,483	19
Overhead Repairs & Maintenance	\$ 616	\$ 60	\$ 1,389	19
Land Rates and Taxes	\$ 175	\$ 15	\$ 343	19
Staff Development	\$ 46	\$ 4	\$ 137	12
<b>TOTAL OVERHEAD COSTS/Ha (median)</b>	<b>\$ 3,240</b>	NB: This will differ from the sum of averages		

The data in Table 5 shows that:

- The median expenditure on overhead items for the 19 vineyards is \$3,240/ha, a little higher than the Riverland figure of \$3,064/ha (see Table 8).
- In 2006/07, 16 of the 19 vineyard enterprises had expenditure on debt servicing, with an average of \$1,382. In 2002/2003 only 9 of the 19 had debt servicing, but with similar levels of debt around \$1500/ha.
- The ratio of Vineyard Return to Debt Servicing (see Table 2) is calculated at 244% for the consolidated 2007 data; this is considered to be 'Good'.

**Figure 6: Graphical representation of overhead costs in Sunraysia vineyards in 2006/07**

### ***Gross Margins and Business Returns in Sunraysia Vineyards in 2006/07***

Analysis of the Gross Margins (\$/ha - Income less operating costs) shows a wide range in profitability of the Sunraysia vineyards in the 2006/07 season, from a loss of \$1,021/ha (<20ha size category) to a positive \$18,000/ha (also <20ha category). Of the 19 Sunraysia vineyards providing data, two (10%) did not break even based on their Gross Margin in season 2006/07, i.e. operating costs exceeded income.

Analysis of the Business Return \$/ha (Income less operating and overhead costs) similarly shows a wide range, from the lowest Business Return a loss of \$10,017/ha (20-50ha size category) to a positive \$15,000/ha (<20ha). Eight of the 19 vineyards (42%) did not break even based on their Business Return in season 2006/07, i.e. operating plus overhead costs exceeded income.

The lack of correlation between vineyard size and gross margin shows that larger vineyards in the Sunraysia region were not advantaged by economy of scale. This is reinforced by the greatest Business Returns being from a relatively small vineyard.

### **Lower Murray (Riverland) – SA**

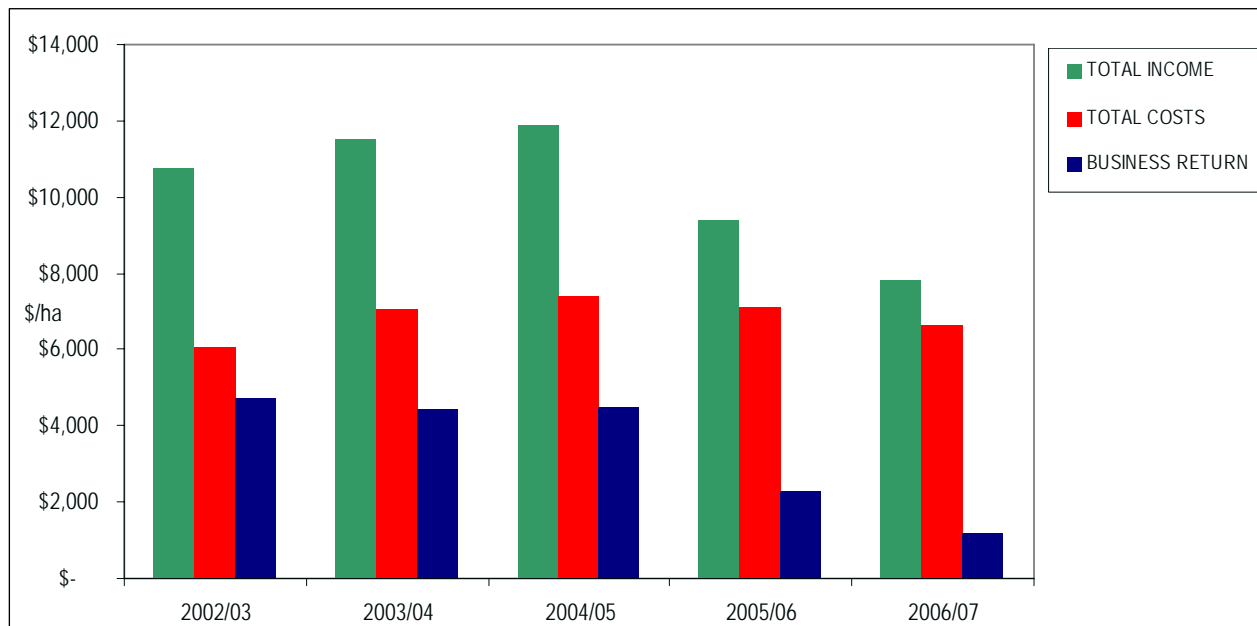
#### ***Participating Vineyards***

**Table 6: Description of vineyards providing data for Riverland**

Description		Number
Total number of vineyards		27
Average size of vineyard		24 ha
Vineyard size range		5 ha – 70 ha
Proportion of vineyards in each size category	<20 ha	59%
	20-50 ha	33%
	50-100 ha	7%
	>100 ha	0%
Water source - Private diverters		1
Water source - Pumped districts		26
<b>Management Category</b>		
<i>Owner Manager with little or no external labour inputs</i>		19
<i>Owner Manager with permanent employees</i>		7
<i>Owner with full time Manager</i>		0
<i>Corporate/Investor vineyard with Manager and corporate overheads</i>		1

## Performance of Riverland Vineyards 2002-2007

**Figure 7: Riverland Vineyard Average Income and Costs**



NOTE: The Total Cost figures include debt servicing (interest) BUT DO NOT include owner's salary, depreciation or any allowance for return on vineyard assets.

The performance of 27 Riverland vineyards between 2002 and 2007 is summarised in Figure 7 (above). The figure highlights that:

- Total income (\$/ha) of Riverland vineyards increased between 2003 and 2005 but has declined steadily over the past 3 seasons. This is attributed to reduced grape prices and vine yields.
- Total costs have followed a similar pattern to income, with total vineyard expenditure declining over the last 3 years even though unit costs for production inputs have increased. This suggests that growers are reducing vineyard inputs as grape prices fall.
- Business Return has steadily fallen to a point where the enterprises cannot cover any capital repayments, owner's salary or renewal of vineyard plant and equipment.

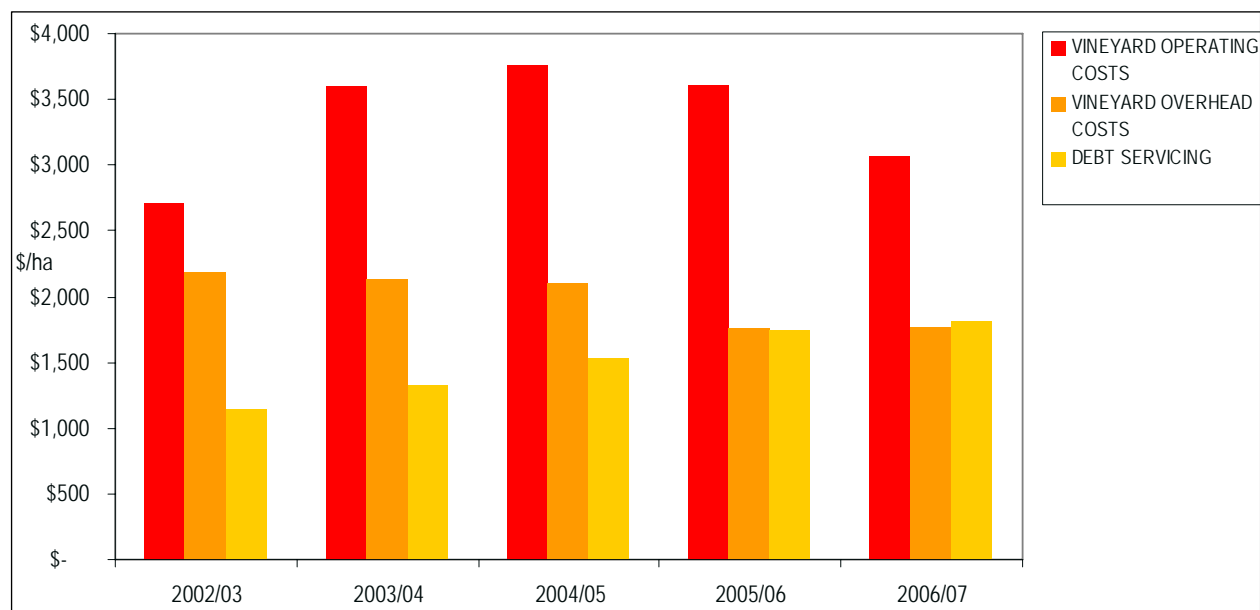
**Changes in Total Expenditure, 2002 to 2007****Figure 8: Riverland Vineyard Average Total Costs**

Figure 8 highlights that:

- Operating costs (expenditure) increased up to 2004/05 but then declined with vineyard revenue in the last two seasons. Despite the fact that vineyard input costs, such as water, fuel, fertilizers and chemicals, have all increased in this period, the trend shown in the graph would suggest that the quantity of other vineyard inputs has declined and/or cheaper inputs have replaced more expensive inputs in the last two seasons.
- Overhead costs (expenditure), excluding debt servicing, have gradually declined over the five year period from \$2,183/ha in 2003 to \$1,762/ha in 2007; insurance, leasing of equipment, professional services and permanent labour are examples where overhead costs have been reduced or dropped off completely from the vineyard expenses.
- Debt servicing has increased over time, from \$1,146/ha in 2003 to \$1,807/ha in 2007, a 58% increase.

**Operating Cost Details for 2006/07**

The costs of each component of operating have been averaged across the 27 participating vineyards for the 2006/07 season in the Riverland.

The average expenditure on each category at the 27 vineyards is shown in Table 7, with the lowest and highest values, and presented graphically in Figure 9.

The right hand column indicates how many vineyards volunteered data for each of the categories; the higher the numbers (up to 27) the more reliable the average figures are, as a true indication of the typical expenditure in the region.

- For example, the average expenditure on nutrition/fertilizer is \$231/ha according to 24 participants, however only 3 participants entered a cost for water lease.

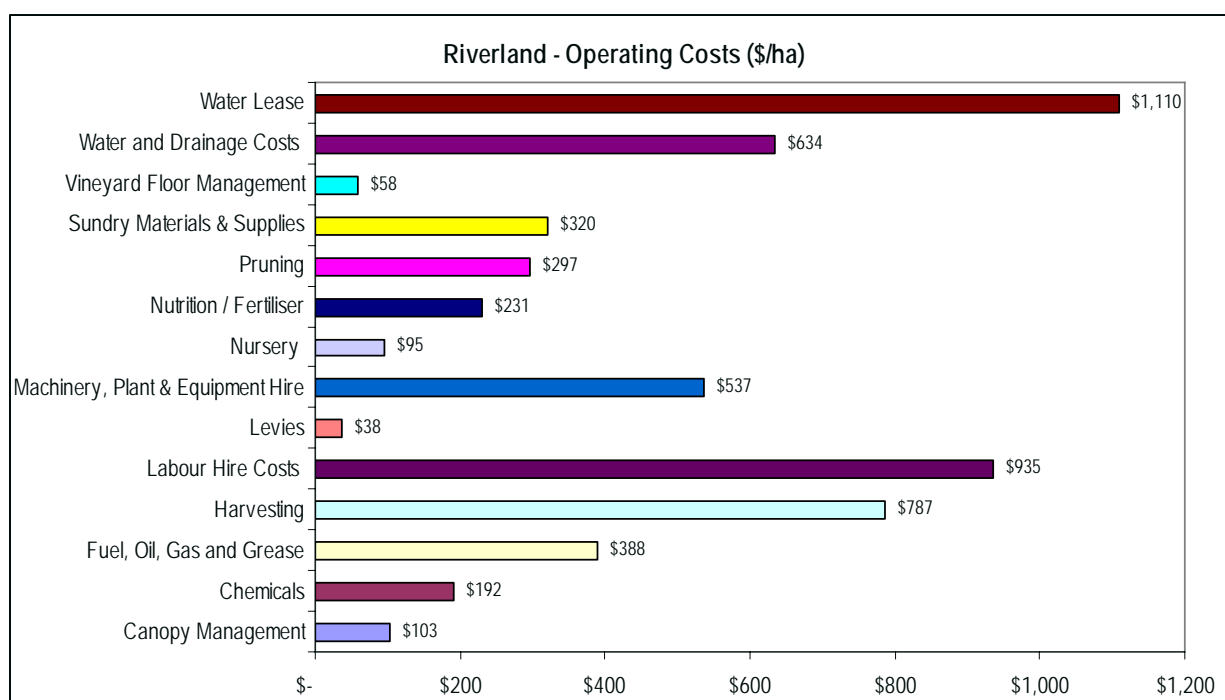
**Table 7: Operating costs for Riverland vineyards 2006/07**

OPERATING (VARIABLE) COSTS (2006/07)				
Sub Unit	Average	Low	High	Number of data sets
Canopy Management	\$ 103	\$ 83	\$ 205	4
Chemicals	\$ 192	\$ 24	\$ 396	12
Fuel, Oil, Gas and Grease	\$ 388	\$ 38	\$ 965	24
Harvesting	\$ 787	\$ 101	\$ 1,716	22
Labour Hire Costs	\$ 935	\$ 7	\$ 2,720	21
Levies	\$ 38	\$ 17	\$ 48	3
Machinery, Plant & Equipment Hire	\$ 537	\$ 25	\$ 1,580	5
Nursery	\$ 95	\$ 83	\$ 103	3
Nutrition / Fertiliser	\$ 231	\$ 49	\$ 642	24
Pruning	\$ 297	\$ 70	\$ 732	4
Sundry Materials & Supplies	\$ 320	\$ 5	\$ 1,381	23
Vineyard Floor Management	\$ 58	\$ 4	\$ 106	4
Water and Drainage Costs	\$ 634	\$ 9	\$ 1,438	24
Water Lease	\$ 1,110	\$ 484	\$ 2,331	3
<b>TOTAL OPERATING COSTS/Ha (median)</b>	<b>\$ 2,903</b>	NB: This will differ from the sum of averages		

The data in Table 7 shows that:

- The median operating expenditure by Riverland vineyards is \$2,903/ha (note that this is not the sum of the average figures in the column above). This is less than the Sunraysia average figure of \$3,862/ha but greater than the Riverina average of \$2,032/ha.
- The right hand column indicates how many vineyards volunteered data for each of the categories; the higher the number (up to 27), the more reliable the average figure is, as a true indication of the average expenditure.
- Labour hire and harvesting were the two greatest operating costs in the majority of Riverland vineyards in the 2006-07 season. On the three vineyards that leased water in 2006-07, this became a very significant cost (\$1,110/ha).

**Figure 9: Graphical representation of operating costs**



**Overhead Cost Details for 2006/07**

The costs of each overhead cost have been averaged across the 27 participating Riverland vineyards for the 2006/07 season

The average expenditure on each overhead category at the 27 vineyards is shown in Table 8, with the lowest and highest values, and presented graphically in Figure 10. The number of data sets per category is shown in the right hand column.

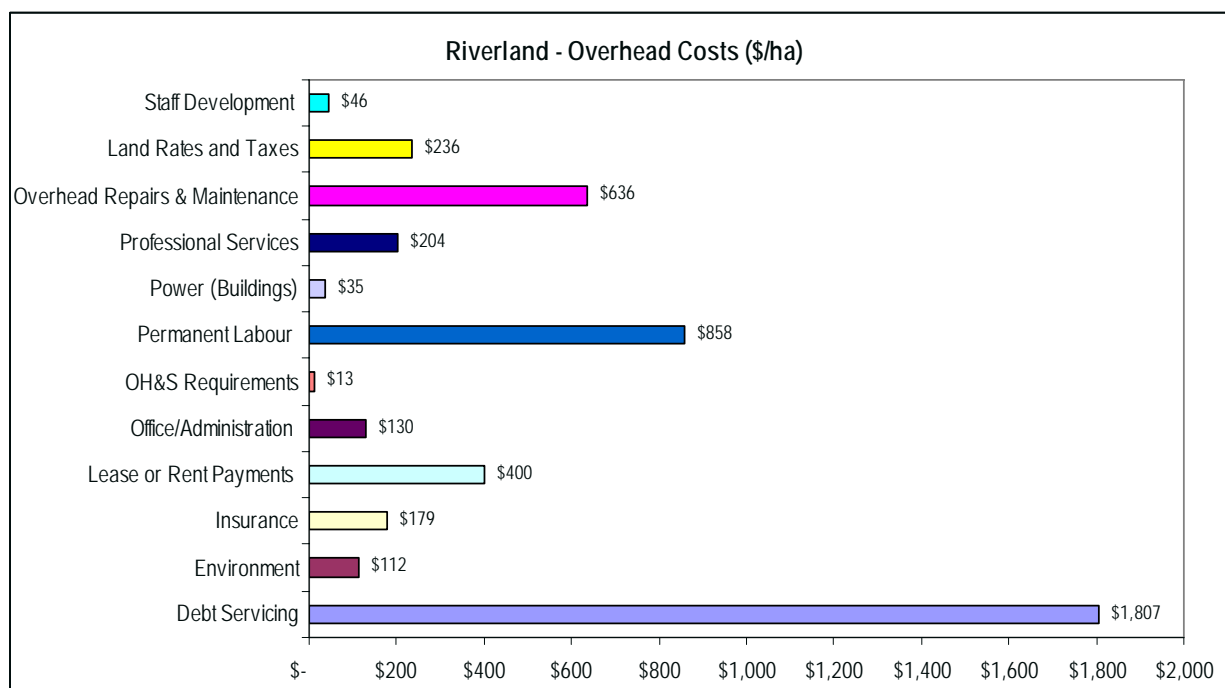
**Table 8: Overhead costs for Riverland vineyards 2006/07**

<b>OVERHEAD (FIXED) COSTS (2006/07)</b>				
<i>Sub Unit</i>	Average \$/ha	Low	High	Number of data sets
Debt Servicing	\$ 1,807	\$ 39	\$ 5,213	27
Environment	\$ 112	\$ 26	\$ 199	2
Insurance	\$ 179	\$ 38	\$ 612	27
Lease or Rent Payments	\$ 400	\$ 5	\$ 1,101	13
Office/Administration	\$ 130	\$ 36	\$ 285	26
OH&S Requirements	\$ 13	\$ 4	\$ 27	4
Permanent Labour	\$ 858	\$ 281	\$ 1,414	5
Power (Buildings)	\$ 35	\$ 4	\$ 169	24
Professional Services	\$ 204	\$ 50	\$ 490	26
Overhead Repairs & Maintenance	\$ 636	\$ 88	\$ 1,576	27
Land Rates and Taxes	\$ 236	\$ 46	\$ 1,718	26
Staff Development	\$ 46	\$ 1	\$ 123	6
<b>TOTAL OVERHEAD COSTS/ha (median)</b>	<b>\$ 3,064</b>	NB: This will differ from the sum of averages		

The data in Table 8 shows that:

- The median expenditure on overhead items for the 27 vineyards is \$3,064/ha, a little lower than the Sunraysia figure of \$3,240/ha.
- In 2006/07, all 27 vineyard enterprises had expenditure on debt servicing, with an average of \$1,807/ha. In 2002/2003 only 5 of the 27 had debt servicing with an average of \$1,150/ha.

The ratio of Vineyard Return to Debt (see Table 2) is calculated at 184% for the consolidated 2007 data; this is considered to be 'Good' - once it gets to 125% then the business is considered to be in a 'Adequate' position, and at 100% in a 'Poor' position.

**Figure 10: Graphical representation of overhead costs**

### ***Gross Margins and Business Returns in Riverland Vineyards***

Analysis of the 27 Riverland vineyards shows a range in the Gross Margins (\$/ha - Income less Operating Costs). The lowest gross margin was \$1,357/ha and the highest was \$12,934/ha. Both of these vineyards were less than 20 hectares.

All of the 27 vineyards in the Riverland data had a positive Gross Margin in the 2006/07 season, i.e. income from fruit sales exceeded their operating costs.

Analysis of the Business Return \$/ha (Income less operating and overhead costs) similarly shows a wide range, from the lowest Business Return of a loss of \$-5,411/ha (Enterprise 17; <20 ha category) to a positive \$6,424/ha (Enterprise 12, <20ha). Nine of the 27 vineyards providing data (33%) did not break even based on their Business Return in season 2006/07, i.e. operating plus overhead costs exceeded income.

The lack of correlations between vineyard size and gross margin or business return shows that larger vineyards in the Riverland region were not advantaged by economy of scale.



## Big Rivers (Riverina) – NSW

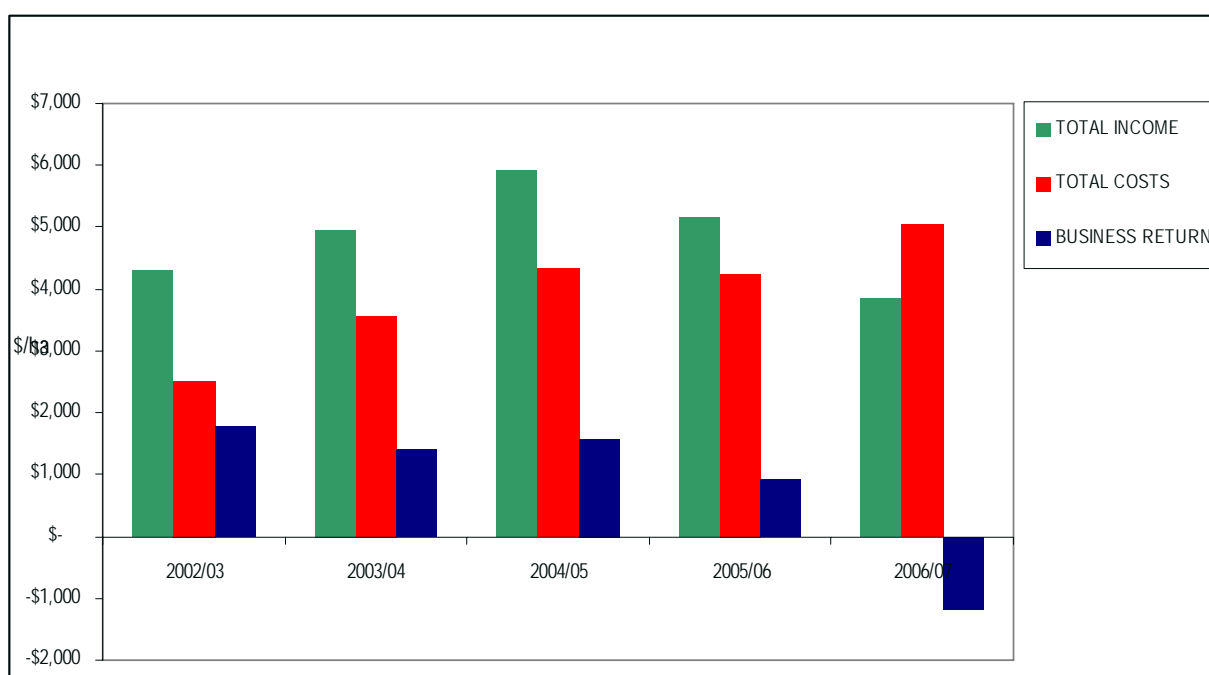
### Participating Vineyards

**Table 9: Description of vineyards providing data for Riverina**

Description		Number
Total number of vineyards		20
Average size of vineyard		35 ha
Vineyard size range		5 ha – 101 ha
Proportion of vineyards in each size category	<20 ha	42%
	20-50 ha	37%
	50-100 ha	16%
	>100 ha	5%
Water source - Private diverters		0
Water source - Pumped districts		20
<b>Management Category</b>		
<i>Owner Manager with little or no external labour inputs</i>		7
<i>Owner Manager with permanent employees</i>		2
<i>Owner with full time Manager</i>		3
<i>Corporate/Investor vineyard with Manager and corporate overheads</i>		8

### Performance of Riverina Vineyards 2002-2007

**Figure 11: Riverina Vineyard Average Income and Costs**



NOTE: The Total Cost figures include debt servicing (interest) BUT DO NOT include owner's salary, depreciation or any allowance for return on vineyard assets.

The performance of 19 Riverina vineyards between 2002 and 2007 is summarised in Figure 11. The figure highlights that:

- Total income (\$/ha) increased between 2002/03 and 2004/05 but declined between 2004/05 and 2006/07. The decline is attributed to reduced grape prices and vine yields.
- Total expenditure on Riverina vineyards has increased steadily since 2002/03. The average total expenditure in the Riverina, even at its highest, remains well below average expenditure in the other regions included in this study. Regardless of low yields and poor returns, Riverina growers have not been able to further reduce vineyard inputs, and their expenditure partly reflects the increases in prices for inputs during the study period.
- Business Return has steadily reduced to a point where the enterprise cannot cover any capital repayments, owner's salary or renewal of vineyard plant and equipment.

### *Changes in Total Expenditure, 2002 to 2007*

**Figure 12: Riverina Vineyard Average Total Costs**

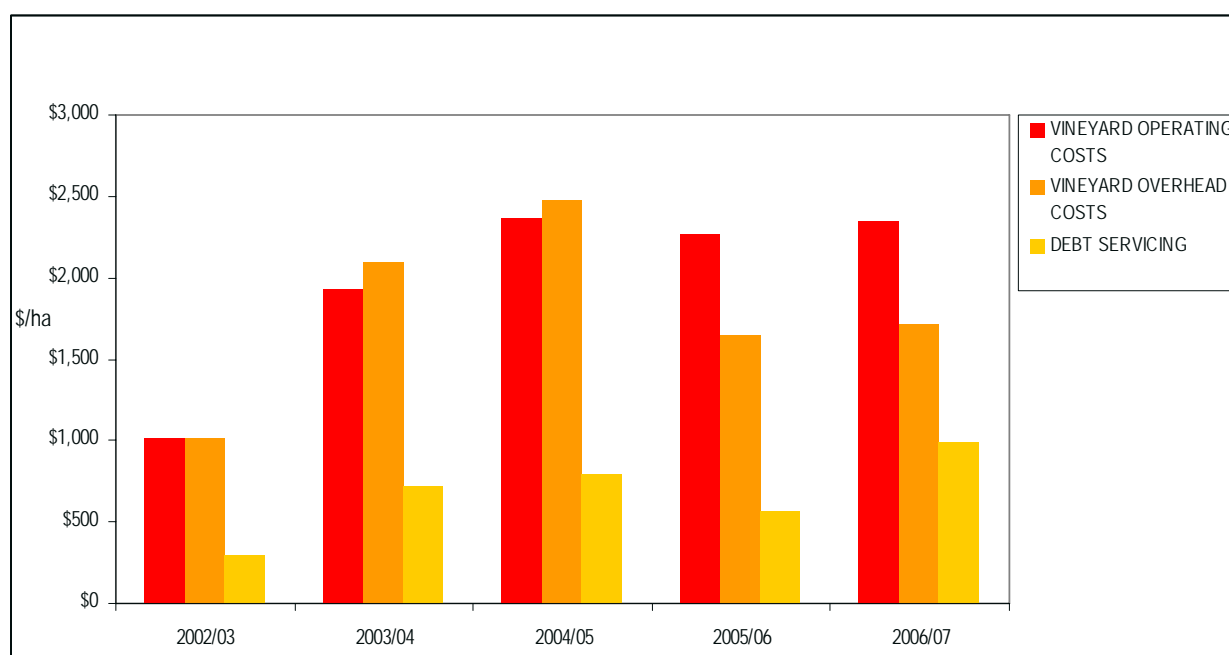


Figure 12 highlights that:

- Operating expenditure increased to 2004/05 and then was maintained to 2006/07. Vineyard input costs, such as water, fuel, fertilizer and chemicals have all increased during this period. The trend shown in the graph would suggest that the quantity of vineyard inputs has declined and/or cheaper inputs have replaced more expensive inputs in the last 2 seasons.
- Overhead expenditure, excluding debt servicing, also increased to 2004/05, but then declined in 2005/6 and 06/07; insurance, leasing of equipment, professional services and permanent labour are examples where overhead costs have been reduced or dropped off completely from the vineyard expenses.
- Debt servicing has increased over time, from \$295/ha in 2003 to \$993/ha in 2007, a 340% increase.

### ***Operating Cost Details for 2006/07***

The costs of each component of operating have been averaged across the 19 participating Riverina vineyards for the 2006/07 season.

The average expenditure on each category at the 19 vineyards is shown in Table 10, with the lowest and highest values, and presented graphically in Figure 13.

The right hand column indicates how many Riverina vineyards volunteered data for each of the categories; the higher the numbers (up to 19), the more accurately the average figures truly indicate the typical expenditure in the region.

- For example, the average of \$593 spent on harvesting was drawn from 19 vineyards, whereas the average value of leased water (\$102/ha) only represents data from two vineyards.

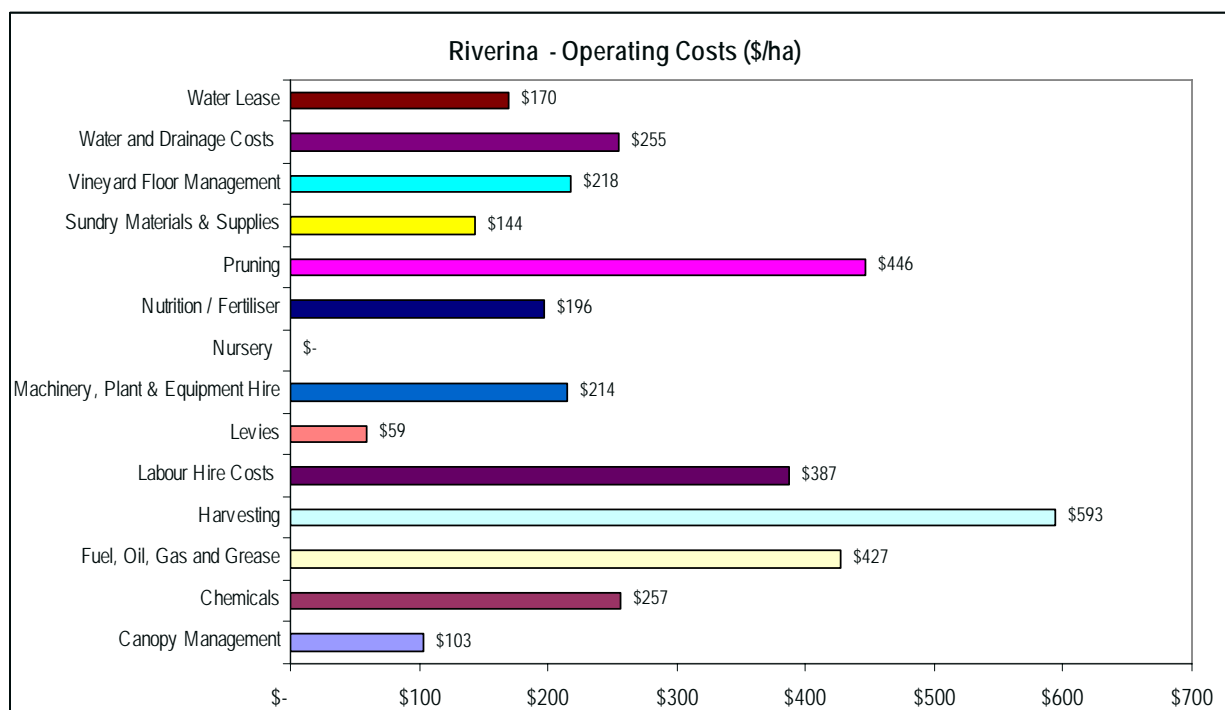
**Table 10: Operating costs for Riverina vineyards 2006/07**

<b>OPERATING (VARIABLE) COSTS (2006/07)</b>				
<i>Sub Unit</i>	Average	Low	High	Number of data sets
Canopy Management	\$ 103	\$ 19	\$ 344	10
Chemicals	\$ 257	\$ 77	\$ 945	19
Fuel, Oil, Gas and Grease	\$ 427	\$ 173	\$ 1,007	19
Harvesting	\$ 593	\$ 36	\$ 4,921	18
Labour Hire Costs	\$ 387	\$ 82	\$ 1,962	8
Levies	\$ 59	\$ 17	\$ 104	5
Machinery, Plant & Equipment Hire	\$ 214	\$ 13	\$ 615	3
Nursery	\$ -	\$ -	\$ -	0
Nutrition / Fertiliser	\$ 196	\$ 12	\$ 978	17
Pruning	\$ 446	\$ 22	\$ 780	17
Sundry Materials & Supplies	\$ 144	\$ 2	\$ 436	4
Vineyard Floor Management	\$ 218	\$ 18	\$ 511	10
Water and Drainage Costs	\$ 255	\$ 72	\$ 490	16
Water Lease	\$ 170	\$ 54	\$ 286	2
<b>TOTAL OPERATING COSTS/Ha (median)</b>	<b>\$ 2,032</b>	NB: This will differ from the sum of averages		

The data in Table 10 shows that:

- The median operating costs is \$2,032/ha (note that this is not the sum of the average figures in the column above). This is lower than the Sunraysia figure (\$3,862/ha) or Riverland (\$2,903).
- The greatest average expenditure was on harvest, followed by pruning, and fuel.

**Figure 13: Graphical representation of operating costs**



**Overhead Costs Details for 2006/07**

The costs of each overhead cost have been averaged across the 19 participating Riverina vineyards for the 2006/07 season.

The average expenditure on each overhead category at the 19 vineyards is shown in Table 11, with the lowest and highest values, and presented graphically in Figure 14. The numbers of data sets per category are shown in the right hand column.

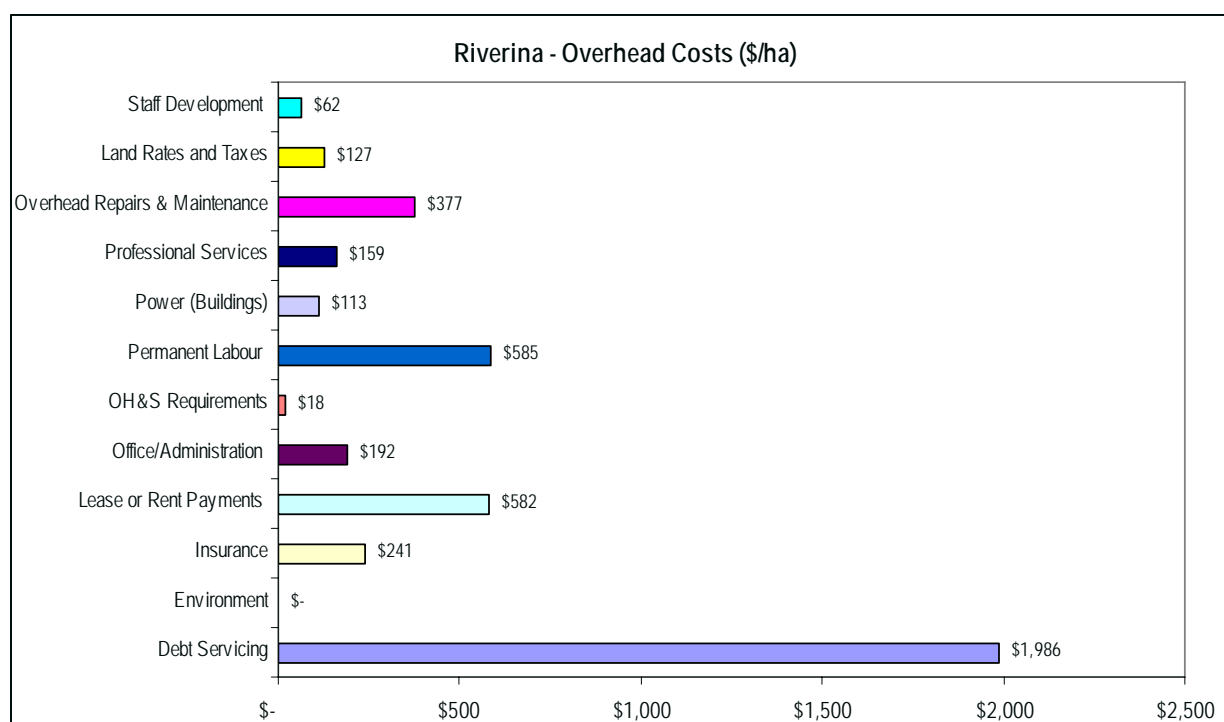
**Table 11: Overhead costs for Riverina vineyards 2006/07**

OVERHEAD (FIXED) COSTS (2006/07)				
Sub Unit	Average	Low	High	Number of data sets
Debt Servicing	\$ 1,986	\$ 212	\$ 6,749	10
Environment	\$ -	\$ -	\$ -	0
Insurance	\$ 241	\$ 1	\$ 803	10
Lease or Rent Payments	\$ 582	\$ 0	\$ 3,848	15
Office/Administration	\$ 192	\$ 7	\$ 729	18
OH&S Requirements	\$ 18	\$ 1	\$ 49	7
Permanent Labour	\$ 585	\$ 27	\$ 1,953	14
Power (Buildings)	\$ 113	\$ 15	\$ 270	9
Professional Services	\$ 159	\$ 27	\$ 479	10
Overhead Repairs & Maintenance	\$ 377	\$ 6	\$ 1,161	19
Land Rates and Taxes	\$ 127	\$ 15	\$ 273	9
Staff Development	\$ 62	\$ 2	\$ 210	7
<b>TOTAL OVERHEAD COSTS/Ha (median)</b>	<b>\$ 1,732</b>	NB: This will differ from the sum of averages		

The data in Table 11 shows that:

- The median expenditure on overhead items for the 19 vineyards is \$1,732/ha, markedly less than in Sunraysia (\$3,240/ha) or the Riverland (\$3,064) in the same season.
- In 2006/07, 55% of the 19 vineyard enterprises had expenditure on debt servicing, costing on average \$1,986/ha. Only eight Riverina vineyards provided data from 2002/2003, but 50% (4) of these had expenditure on debt, costing on average just \$369/ha. This represents a five-fold increase in debt servicing costs over 5 years.
- The ratio of Vineyard Return to Debt (see Table 2) is calculated at -39% for the consolidated 2007 Riverina data; this is considered to be 'Very Poor' - it needs to be at least 125% for a business to be considered to be in a 'Adequate' position.

**Figure 14: Graphical representation of Riverina overhead costs (\$/ha)**



### ***Gross Margins and Business Returns in Riverina Vineyards***

Analysis of the Gross Margins (\$/ha - Income less operating costs) shows a wide range in profitability of the Riverina vineyards, from a loss of \$2,149/ha (Enterprise 11, >100ha) to a positive \$6,738/ha (Enterprise 5, <20ha). Data from vineyards included in this study do not support the notion of economies of scale advantaging larger vineyards. A similar lack of correlation between vineyard size and Gross Margin was apparent in the Sunraysia and Riverland regions.

Of the 19 Riverina vineyards providing data, eight (42%) did not break even based on their Gross Margin in season 2006/07, i.e. operating costs exceeded income.

Analysis of the Business Return (\$/ha) in Riverina vineyards (Income less operating and overhead costs) similarly shows a wide range, from the lowest Business Return of a loss of \$7,051 (<20 ha size category) to a positive \$5,726 (<20ha size category).

Of the 19 vineyards, 13 (68%) did not break even based on their Business Return in season 2006/07, i.e. operating plus overhead costs exceeded income.

## Summary of Warm Irrigated Regions

The consolidated data from each of the three warm irrigated wine growing regions have been summarized in the following Table.

**Table 12: Summary of Vineyard Income, Costs and Returns for Warm Irrigated Regions**

<b>TOTAL INCOME (\$/ha)</b>	<b>2002/03</b>	<b>2003/04</b>	<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>
Riverland	\$ 10,766	\$ 11,500	\$ 11,878	\$ 9,392	\$ 7,857
Sunraysia	\$ 17,783	\$ 17,395	\$ 14,493	\$ 11,147	\$ 11,486
Riverina	\$ 4,308	\$ 4,958	\$ 5,908	\$ 5,165	\$ 3,857
<b>VINEYARD OPERATING COSTS (\$/ha)</b>	<b>2002/03</b>	<b>2003/04</b>	<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>
Riverland	\$ 2,719	\$ 3,595	\$ 3,761	\$ 3,611	\$ 3,066
Sunraysia	\$ 5,162	\$ 4,968	\$ 4,490	\$ 5,266	\$ 5,307
Riverina	\$ 1,016	\$ 1,935	\$ 2,367	\$ 2,274	\$ 2,342
<b>VINEYARD GROSS MARGIN (\$/ha)</b>	<b>2002/03</b>	<b>2003/04</b>	<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>
Riverland	\$ 8,047	\$ 7,905	\$ 8,117	\$ 5,781	\$ 4,791
Sunraysia	\$ 12,621	\$ 12,426	\$ 10,003	\$ 5,881	\$ 6,179
Riverina	\$ 3,292	\$ 3,024	\$ 3,542	\$ 2,891	\$ 1,515
<b>VINEYARD OVERHEAD COSTS (\$/ha)</b>	<b>2002/03</b>	<b>2003/04</b>	<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>
Riverland	\$ 2,183	\$ 2,138	\$ 2,100	\$ 1,762	\$ 1,767
Sunraysia	\$ 5,333	\$ 4,712	\$ 4,255	\$ 3,391	\$ 3,088
Riverina	\$ 1,013	\$ 2,098	\$ 2,480	\$ 1,642	\$ 1,712
<b>BUSINESS RETURN (\$/ha)</b>	<b>2002/03</b>	<b>2003/04</b>	<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>
Riverland	\$ 4,718	\$ 4,444	\$ 4,476	\$ 2,275	\$ 1,218
Sunraysia	\$ 5,763	\$ 5,725	\$ 4,650	\$ 1,421	\$ 1,826
Riverina	\$ 1,984	\$ 208	\$ 265	\$ 680	<b>-\$ 1,190</b>

Total vineyard income is substantially higher in both Riverland and Sunraysia compared to Riverina. The collected data sets do not allow us to separate the effects of crop yields and grape price in this trend. We have reviewed the data to try and determine the cause of the low income, operating and overhead costs for the Riverina without success. Further analysis is needed to more fully understand this anomaly.

Operating costs for Riverland and Riverina have increased and flattened out over the 5 year period, despite rising unit costs of inputs. Variable operating costs in Sunraysia have remained more or less stable.

Overhead costs in Sunraysia have steadily declined, while the other two regions have remained reasonable stable over the 5 years.

Business returns for Riverland and Sunraysia have steadily declined during the 5 year period, while Riverina returns have been marginal for all 5 seasons.

## Temperate and Cooler Climate Regions

**For the Barossa, Fleurieu, Clare, King Valley, Mt Lofty and Limestone Coast regions, which follow, the number of data sets provided was small resulting in concerns about how accurately the data reflects the region as a whole. We have presented the data in the same format as for the regions with a greater number of data sets but caution is needed in the way this data is interpreted.**

The temperate and cooler regions from which data was received were Barossa, Fleurieu, Clare, King Valley, Mt Lofty Ranges and Limestone Coast with financial data received from 10, 5, 6, 3, 5 and 3 grape businesses respectively.

### Barossa – SA

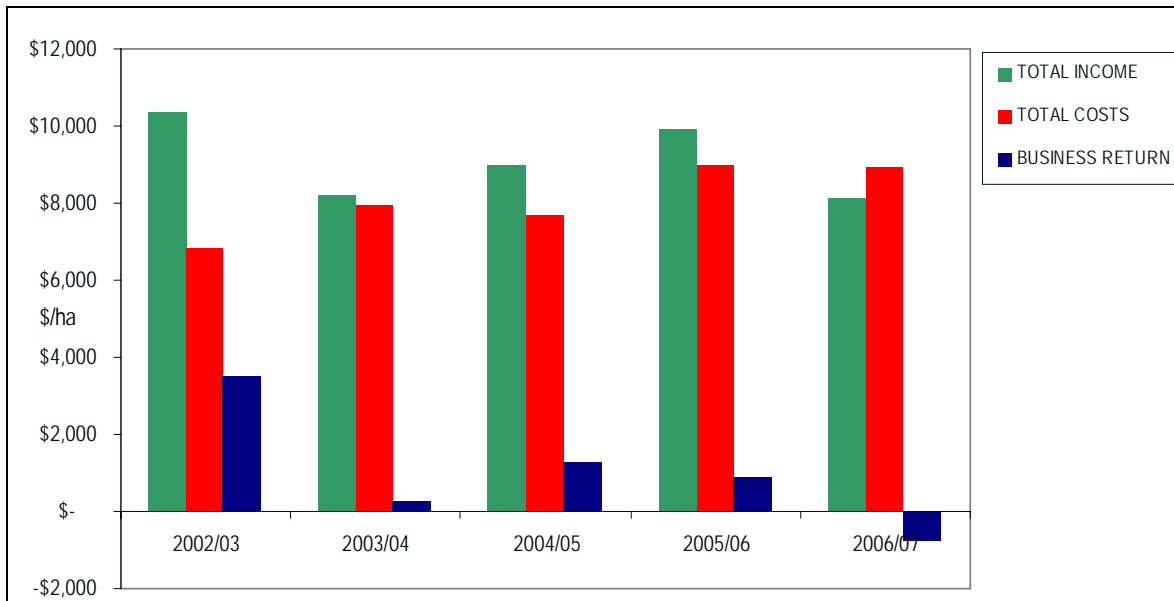
#### *Participating Vineyards*

**Table 13: Description of vineyards providing data for Barossa**

Description	Number	
Total number of vineyards	10	
Average size of vineyard	59 ha	
Vineyard size range	8 ha – 210 ha	
Proportion of vineyards in each size category	<20 ha	20%
	20-50	50%
	50-100 ha	10%
	>100 ha	20%
Water source - Private diverters	2	
Water source - Pumped districts	8	
<b>Management Category</b>		
<i>Owner Manager with little or no external labour inputs</i>	4	
<i>Owner Manager with permanent employees</i>	1	
<i>Owner with full time Manager</i>	1	
<i>Corporate/Investor vineyard with Manager and corporate overheads</i>	4	

**Performance of Barossa Vineyards 2002-2007**

**Figure 15: Barossa Vineyard Average Income and Costs**



NOTE: The Total Cost figures include debt servicing (interest) BUT DO NOT include owner's salary, depreciation or any allowance for return on vineyard assets.

The performance of 10 Barossa vineyards between 2002 and 2007 is summarised in Figure 15. The figure highlights that:

- Total income (\$/ha) has fluctuated during the 5-year period, finishing 20% lower in 2006/07 than in 2002/03.
- Total costs have increased over time, and in 2007 total costs exceeded income.
- Business Return has steadily reduced to a point where, in 2007, the average return was in deficit. Businesses in deficit could not draw an income or consider any renewal of plant of equipment.

**Changes in Total Expenditure, 2002 to 2007**

**Figure 16: Barossa Vineyard Average Total Costs**

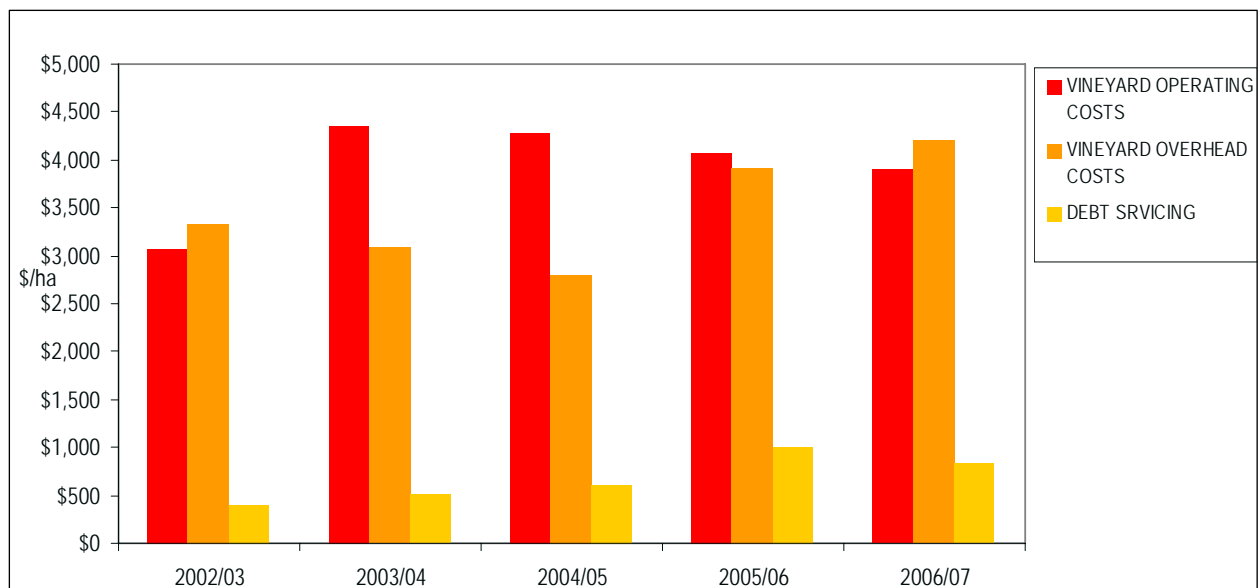




Figure 16 highlights that:

- Operating costs (expenditure) increased between 2002/03 and 03/04, then levelled out in the last 2-3 seasons, despite increases in the unit costs of many vineyard during those years.
- Overhead costs (expenditure excluding debt servicing) in 2006/07 were 25% higher than in 2002/03 and 50% higher than in 2004/05.
- Six of the ten Barossa vineyards included debt servicing in their costs. Overall, debt servicing increased from \$405/ha in 2003 to \$837/ha in 2007, a 100% increase.

### ***Operating Cost Details for 2006/07***

The costs of each component of operating have been averaged across the 10 participating Barossa vineyards for the 2006/07 season.

The average expenditure on each category at the 10 vineyards, with the lowest and highest value, is shown in Table 14, and presented graphically in Figure 17.

The right hand column indicates how many Barossa vineyards volunteered data for each of the categories; the higher the numbers (up to 10), the more reliable the average figures are, as a true indication of the typical expenditure in the region. For example, the average water and drainage cost \$925/ha, according to all 10 participants, whereas pruning, which averaged \$1,152, was only reported by four of the ten vineyards.

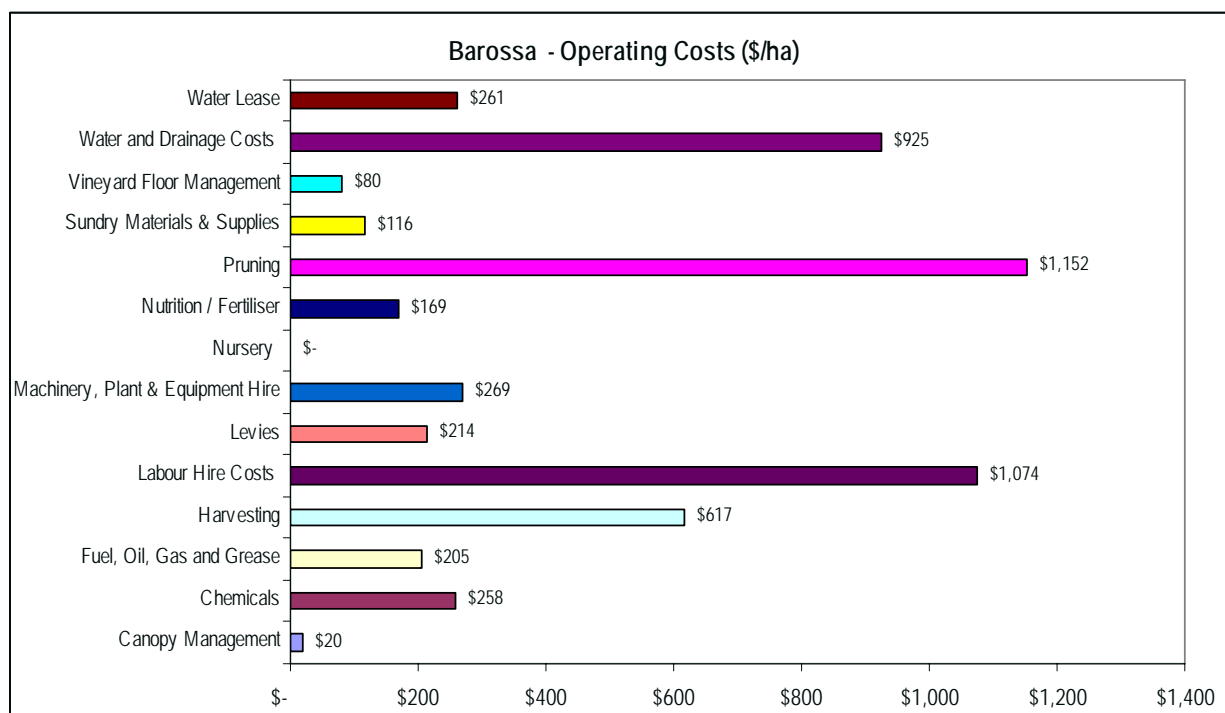
**Table 14: Operating costs for Barossa vineyards 2006/07**

<b>OPERATING (VARIABLE) COSTS (2006/07)</b>				
<i>Sub Unit</i>	Average (\$/ha)	Low (\$/ha)	High (\$/ha)	Number of data sets
Canopy Management	\$ 20	\$ 1	\$ 54	4
Chemicals	\$ 258	\$ 66	\$ 494	9
Fuel, Oil, Gas and Grease	\$ 205	\$ 58	\$ 522	9
Harvesting	\$ 617	\$ 65	\$ 1,715	9
Labour Hire Costs	\$ 1,074	\$ 376	\$ 2,712	8
Levies	\$ 214	\$ 9	\$ 1,259	7
Machinery, Plant & Equipment Hire	\$ 269	\$ 22	\$ 578	8
Nursery	\$ -	\$ -	\$ -	0
Nutrition / Fertiliser	\$ 169	\$ 11	\$ 278	7
Pruning	\$ 1,152	\$ 38	\$ 2,366	4
Sundry Materials & Supplies	\$ 116	\$ 5	\$ 531	8
Vineyard Floor Management	\$ 80	\$ 30	\$ 151	5
Water and Drainage Costs	\$ 925	\$ 182	\$ 3,204	10
Water Lease	\$ 261	\$ 67	\$ 455	2
<b>TOTAL OPERATING COSTS/Ha (median)</b>	<b>\$ 3,734</b>	NB: This will differ from the sum of averages		

The data in Table 14 (above) shows that:

- The median operating cost is \$3,734/ha (note that this is not the sum of the average figures in the column above).
- The greatest average expenditure was on pruning, although not all vineyards reported pruning as a separate cost. Pruning costs are presumed to have more often been absorbed into labour costs.
- Labour was the second highest expenditure, at \$1,074/ha.
- The third highest cost, reported by all ten vineyards, was for water and drainage.

**Figure 17: Graphical representation of operating costs**



**Overhead Cost Details for 2006/07**

The costs of each overhead cost have been averaged across the 10 participating Barossa vineyards for the 2006/07 season. The average expenditure on each overhead category at the 10 vineyards is shown in Table 15, with the lowest and highest values, and presented graphically in Figure 18. The numbers of data sets per category are shown in the right hand column.

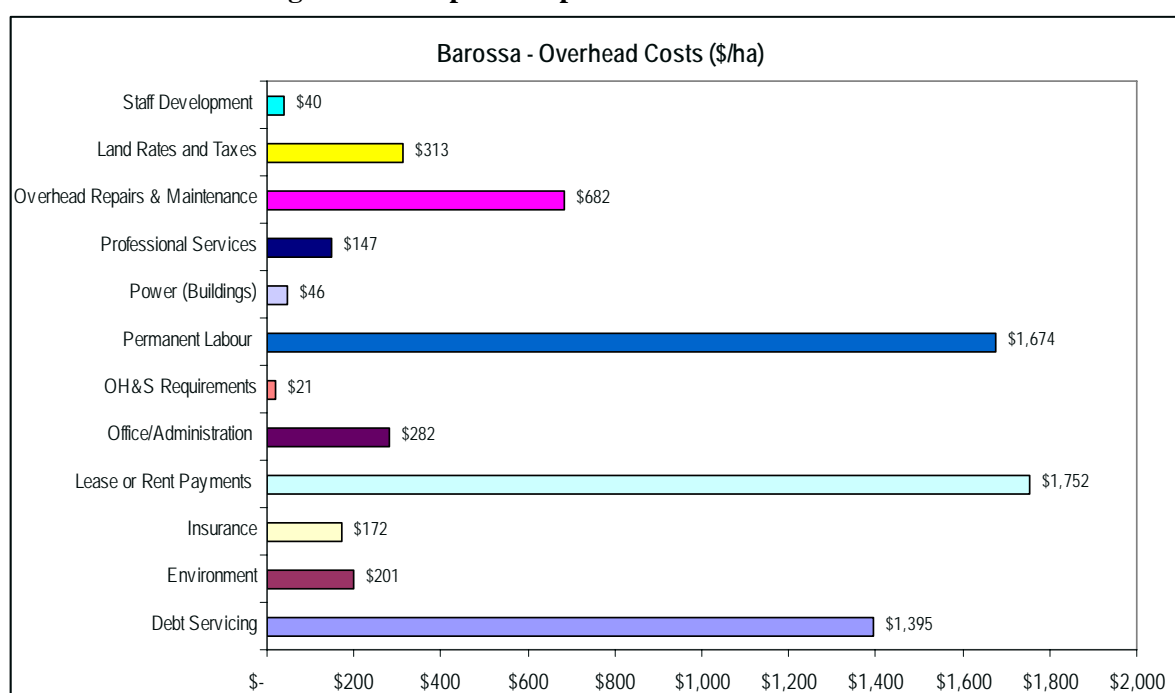
**Table 15: Overhead costs for Barossa vineyards 2006/07**

OVERHEAD (FIXED) COSTS (2006/07)				
Sub Unit	Average (\$/ha)	Low (\$/ha)	High (\$/ha)	Number of data sets
Debt Servicing	\$ 1,395	\$ 121	\$ 3,343	6
Environment	\$ 201	\$ 114	\$ 287	2
Insurance	\$ 172	\$ 43	\$ 395	9
Lease or Rent Payments	\$ 1,752	\$ 57	\$ 5,965	6
Office/Administration	\$ 282	\$ 39	\$ 765	10
OH&S Requirements	\$ 21	\$ 3	\$ 38	5
Permanent Labour	\$ 1,674	\$ 69	\$ 2,753	9
Power (Buildings)	\$ 46	\$ 13	\$ 79	6
Professional Services	\$ 147	\$ 9	\$ 713	7
Overhead Repairs & Maintenance	\$ 682	\$ 46	\$ 1,575	10
Land Rates and Taxes	\$ 313	\$ 19	\$ 818	10
Staff Development	\$ 40	\$ 7	\$ 166	6
<b>TOTAL OVERHEAD COSTS/Ha (median)</b>	<b>\$ 4,980</b>	NB: This will differ from the sum of averages		

The data in Table 15 shows that:

- The median expenditure on overhead items for the 10 Barossa vineyards is \$4,380/ha, higher than figures for Sunraysia, Riverland or Riverina.
- In 2006/07, six of the 10 Barossa vineyards had expenditure on debt servicing, with an average of \$837/ha overall (or \$1,395/ha when averaged over just those vineyards). In 2002/2003, four of the 10 had been servicing debt, with an average of \$405/ha (or \$608 when averaged over just those vineyards). This represents a 100% increase in debt servicing costs.
- The ratio of Vineyard Return to Debt (see Table 2) is calculated at 8% for the consolidated 2007 data; this is considered to be a 'Very Poor' position for the vineyard businesses to be in.

**Figure 18: Graphical representation of overhead costs**



### ***Gross Margins and Business Returns in Barossa Vineyards***

Analysis of the Gross Margins (\$/ha - Income less operating costs) shows a range in profitability of the Barossa vineyards in the 2006/07 season, from a loss of \$393 (20-50 ha size category) to a positive of \$10,142 (<20ha size category).

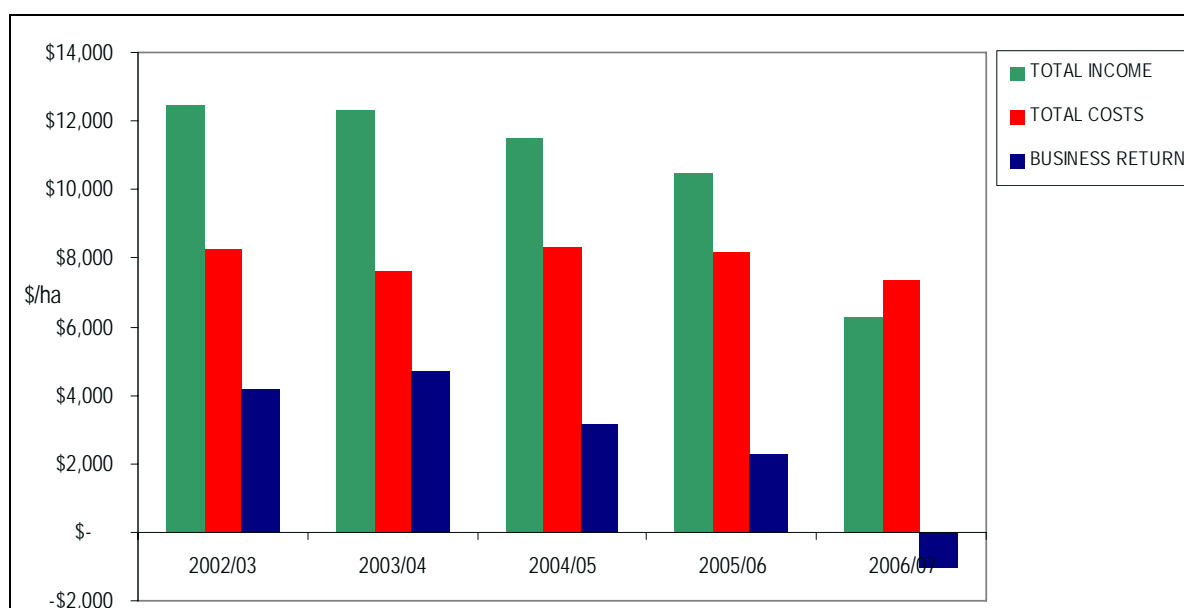
Of the ten vineyards in the Barossa data, nine (90%) broke even based on their Gross margin in the 2006/07 season, i.e. income from fruit sales exceeded their operating costs.

Analysis of the Business Return \$/ha (Income less operating and overhead costs) similarly shows a wide range, from the lowest Business Return of a loss of \$4,135 (20-50ha category) to a positive of \$1,766 (<20ha). Of the ten Barossa vineyards providing data, six (60%) did not break even based on their Business Return in season 2006/07, i.e. operating plus overhead costs exceeded income.

The lack of correlations between vineyard size and gross margin or business return shows that larger vineyards in the Barossa region were not advantaged by economy of scale.

**Fleurieu – SA*****Participating Vineyards*****Table 16: Description of vineyards providing data for Fleurieu**

Description		Number
Total number of vineyards		5
Average size of vineyard		143 ha
Vineyard size range		28 ha – 312 ha
Proportion of vineyards in each size category	<20 ha	0%
	20-50	40%
	50-100 ha	20%
	>100 ha	40%
Water source - Private diverters		5
Water source - Pumped districts		0
<b>Management Category</b>		
<i>Owner Manager with little or no external labour inputs</i>		0
<i>Owner Manager with permanent employees</i>		3
<i>Owner with full time Manager</i>		0
<i>Corporate/Investor vineyard with Manager and corporate overheads</i>		2

**Figure 19: Fleurieu Vineyards Average Income and Costs**

NOTE: The Total Cost figures include debt servicing (interest) BUT DO NOT include owner's salary, depreciation or any allowance for return on vineyard assets.

The performance of five Fleurieu Peninsula vineyards between 2002 and 2007 is summarised in Figure 19. The figure highlights that:

- Total income (\$/ha) has steadily declined due to reduced grape prices and vine yields, and in 2006/07 was 50% of the 2002/03 income.
- Total expenditure has remained steady, even though unit costs for production inputs have increased.
- Business return has been reduced to a point where the enterprise has limited capacity to cover any capital repayments, owner's salary or renewal of vineyard plant and equipment.

### *Changes in Total Expenditure, 2002 to 2007*

**Figure 20: Fleurieu Vineyards Average Total Costs**

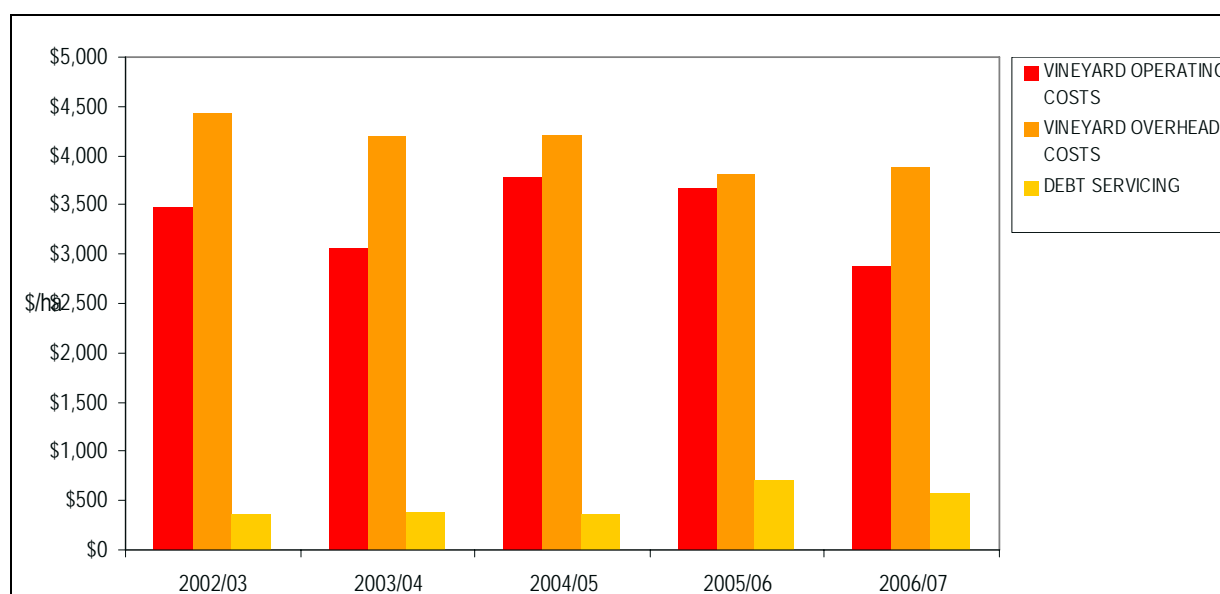


Figure 20 highlights that:

- Operating costs (expenditure) have fluctuated since 2002, with a 25% decrease between 2004/5 and 2006/07, despite increases in vineyard input costs such as water, fuel, fertilizers and chemicals during this period.
- Overhead costs (expenditure), excluding debt servicing, have declined slightly over the five years.
- Debt servicing costs were incurred by 80% of the participating vineyards, and has increased by 58% over the 5 year period.

### *Operating Cost Details for 2006/07*

The costs of each component of operating have been averaged across the five participating Fleurieu vineyards for the 2006/07 season.

The average expenditure on each category at the five vineyards is shown in Table 17, with the lowest and highest values, and also presented graphically in Figure 21.

The right hand column indicates how many Fleurieu vineyards volunteered data for each of the categories; the higher the numbers (up to five), the more reliable the average figures are, as a true indication of the typical expenditure in the region.

- For example, the average cost of harvesting is \$551/ha according to all five participants, however only 2 participants entered a cost for canopy management resulting in an average of \$249/ha for those 2 enterprises.

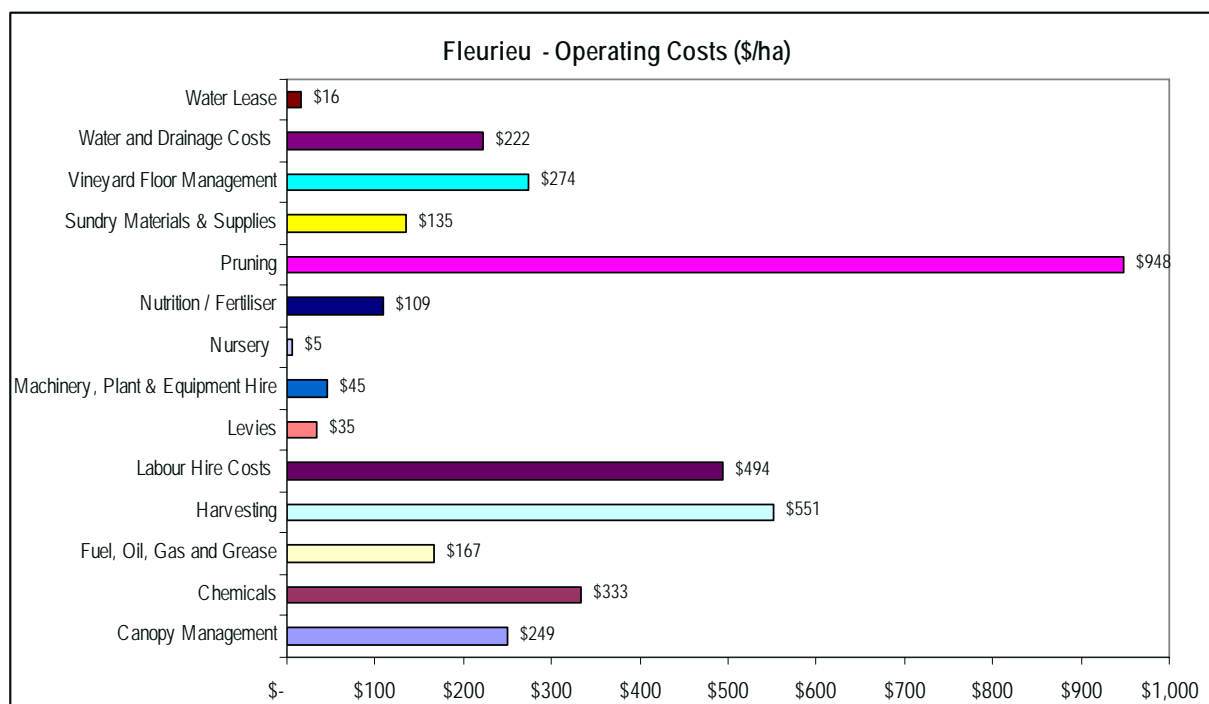
**Table 17: Operating costs for Fleurieu vineyards 2006/07**

<b>OPERATING (VARIABLE) COSTS (2006/07)</b>				
<i>Sub Unit</i>	Average (\$/ha)	Low (\$/ha)	High (\$/ha)	Number of data sets
Canopy Management	\$ 249	\$ 145	\$ 353	2
Chemicals	\$ 333	\$ 67	\$ 542	5
Fuel, Oil, Gas and Grease	\$ 167	\$ 108	\$ 239	5
Harvesting	\$ 551	\$ 408	\$ 790	5
Labour Hire Costs	\$ 494	\$ 31	\$ 1,209	3
Levies	\$ 35	\$ 18	\$ 46	3
Machinery, Plant & Equipment Hire	\$ 45	\$ 10	\$ 80	2
Nursery	\$ 5	\$ 5	\$ 5	1
Nutrition / Fertiliser	\$ 109	\$ 16	\$ 190	5
Pruning	\$ 948	\$ 512	\$ 1,466	4
Sundry Materials & Supplies	\$ 135	\$ 5	\$ 554	5
Vineyard Floor Management	\$ 274	\$ 88	\$ 388	3
Water and Drainage Costs	\$ 222	\$ 102	\$ 549	5
Water Lease	\$ 16	\$ 16	\$ 16	1
<b>TOTAL OPERATING COSTS/Ha (median)</b>	<b>\$ 3,305</b>	NB: This will differ from the sum of averages		

The data in Table 17 shows that:

- The median operating cost in 2006/07 was \$3,315/ha (note that this is not the sum of the average figures in the column above).
- The greatest average expenditure was on pruning at \$948/ha, reported by four of the five vineyards.
- The second greatest cost, listed by 80% of participating vineyards, was harvesting.
- The third greatest cost was labour hire, although this average figure was influenced by high costs reported by one vineyard. Some labour costs in the other vineyards appear to have been absorbed into the costs of canopy management and pruning.

**Figure 21: Graphical representation of operating costs**



**Overhead Cost Details for 2006/07**

The costs of each overhead cost have been averaged across the five participating Fleurieu vineyards for the 2006/07 season.

The average expenditure on each overhead category at the five vineyards is shown in Table 18, with the lowest and highest values, and presented graphically in Figure 22. The numbers of data sets per category are shown in the right hand column.

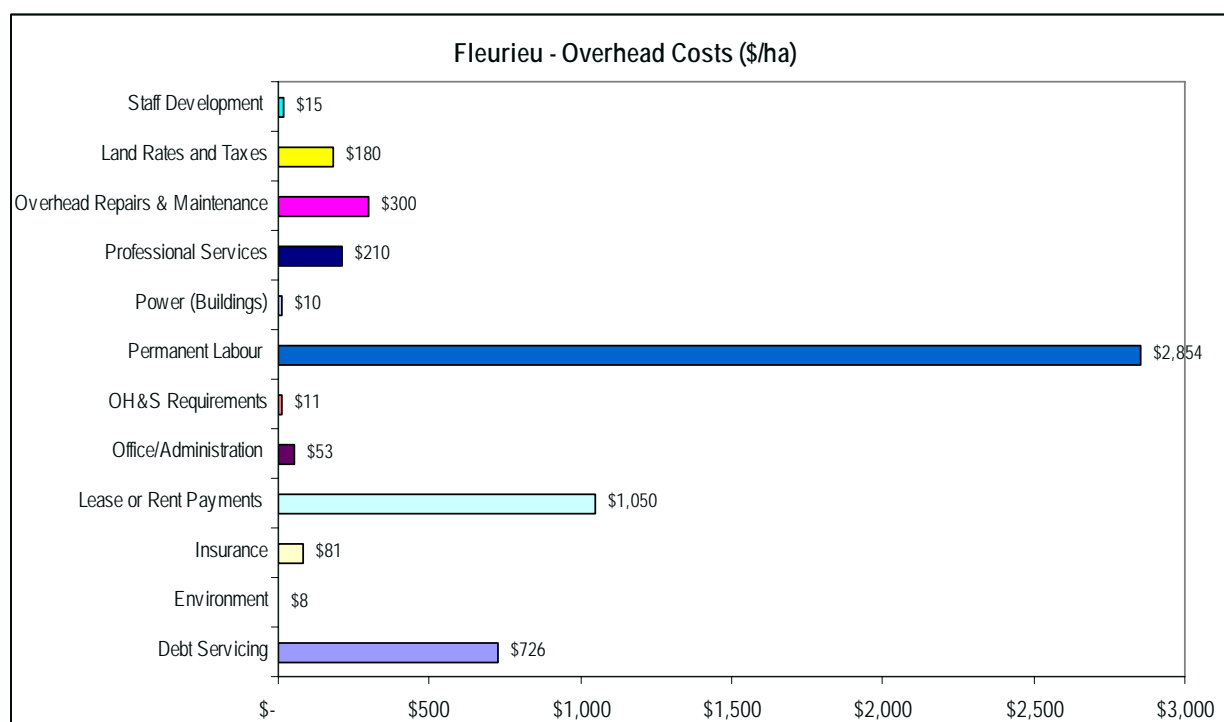
**Table 18: Overhead costs for Fleurieu vineyards 2006/07**

OVERHEAD (FIXED) COSTS (2006/07)				
Sub Unit	Average (\$/ha)	Low (\$/ha)	High (\$/ha)	Number of data sets
Debt Servicing	\$ 726	\$ 11	\$ 1,638	4
Environment	\$ 8	\$ 1	\$ 15	2
Insurance	\$ 81	\$ 24	\$ 158	5
Lease or Rent Payments	\$ 1,050	\$ 1,050	\$ 1,050	1
Office/Administration	\$ 53	\$ 25	\$ 99	5
OH&S Requirements	\$ 11	\$ 7	\$ 14	3
Permanent Labour	\$ 2,854	\$ 1,162	\$ 4,471	5
Power (Buildings)	\$ 10	\$ 3	\$ 20	5
Professional Services	\$ 210	\$ 64	\$ 587	4
Overhead Repairs & Maintenance	\$ 300	\$ 196	\$ 437	5
Land Rates and Taxes	\$ 180	\$ 10	\$ 475	5
Staff Development	\$ 15	\$ 3	\$ 22	4
<b>TOTAL OVERHEAD COSTS/Ha (median)</b>	<b>\$ 5,021</b>	NB: This will differ from the sum of averages		

The data in Table 18 shows that:

- The median expenditure on overhead items for the five vineyards is \$5,021/ha.
- In 2006/07, four of the five vineyard enterprises had expenditure on debt servicing, with an average of \$726/ha.
- The ratio of Vineyard Return to Debt Servicing (see Table 2) is calculated at -79% for the consolidated 2007 data; this is considered to be a ‘Very Poor’ position for the vineyard businesses to be in.

**Figure 22: Graphical representation of overhead costs**



### ***Gross Margins and Business Returns in Fleurieu Vineyards***

Analysis of the Gross Margins (\$/ha - Income less operating costs) shows a range in profitability of the Fleurieu vineyards, from \$1,355/ha (>100 ha) to \$8,415/ha (20-50 ha category). All of the five vineyards in this region broke even based on gross margins in 2006-07, ie operating costs exceeded income.

Analysis of the Business Return \$/ha (Income less operating and overhead costs) similarly shows a wide range, from the lowest Business Return of a loss of \$2,534 (>100 ha size category) to a positive \$2,039 (20-50ha). Of the five vineyards providing data, four (80%) did not break even based on their Business Return in season 2006/07, i.e. operating plus overhead costs exceeded income.

The lack of correlation between vineyard size and gross margin or business returns shows that larger vineyards in the Fleurieu region were not advantaged by economy of scale.



## Clare – SA

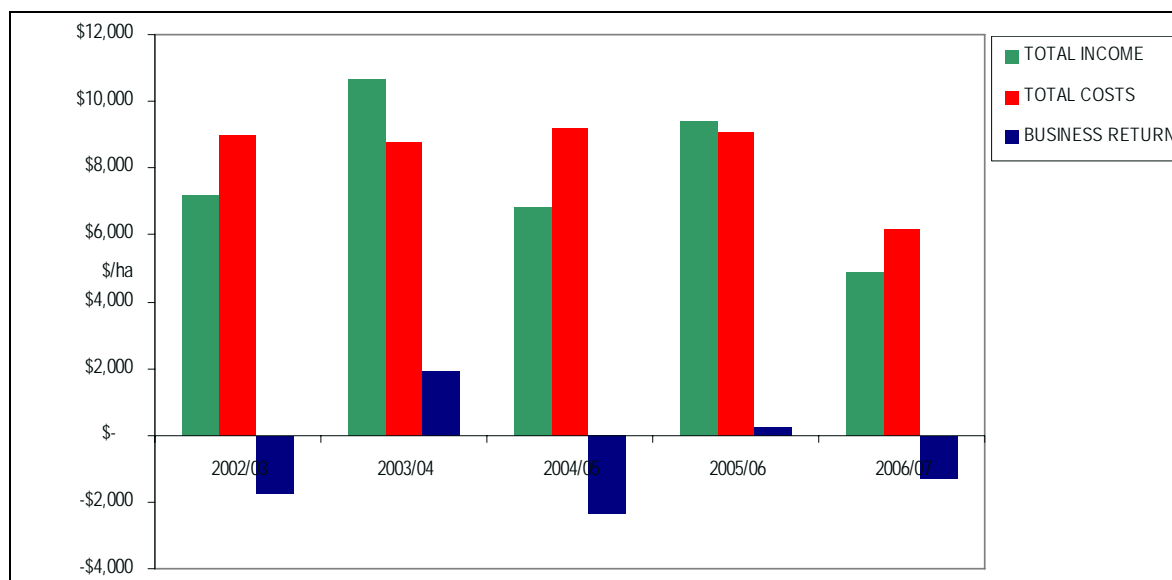
### Participating Vineyards

**Table 19: Description of vineyards providing data for Clare**

Description		Number
Total number of vineyards		6
Average size of vineyard		139ha
Vineyard size range		20ha – 215ha
Proportion of vineyards in each size category	<20 ha	17%
	20-50	0%
	50-100 ha	17%
	>100 ha	67%
Water source - Private diverters		4
Water source - Pumped districts		1
<b>Management Category</b>		
<i>Owner Manager with little or no external labour inputs</i>		0
<i>Owner Manager with permanent employees</i>		0
<i>Owner with full time Manager</i>		0
<i>Corporate/Investor vineyard with Manager and corporate overheads</i>		6

### Performance of Clare Vineyards 2002-2007

**Figure 23: Clare Vineyard Average Income and Costs**



NOTE: The Total Cost figures include debt servicing (interest) BUT DO NOT include owner's salary, depreciation or any allowance for return on vineyard assets.

The performance of six Clare Valley vineyards between 2002 and 2007 is summarised in Figure 23. The figure highlights that:

- Total income (\$/ha) from Clare Valley vineyards fluctuated over the five years, with 2007 income being significantly lower than the average of the previous four years.

- Total costs remained steady over the first 4 years, around \$9,000/ha but dropped off in 2007 to \$6,195/ha.
- Business return has been in deficit for three of the five years, and the other two years have only shown modest surpluses.

### *Changes in Total Expenditure, 2002 to 2007*

**Figure 24: Clare Vineyards Average Total Costs**

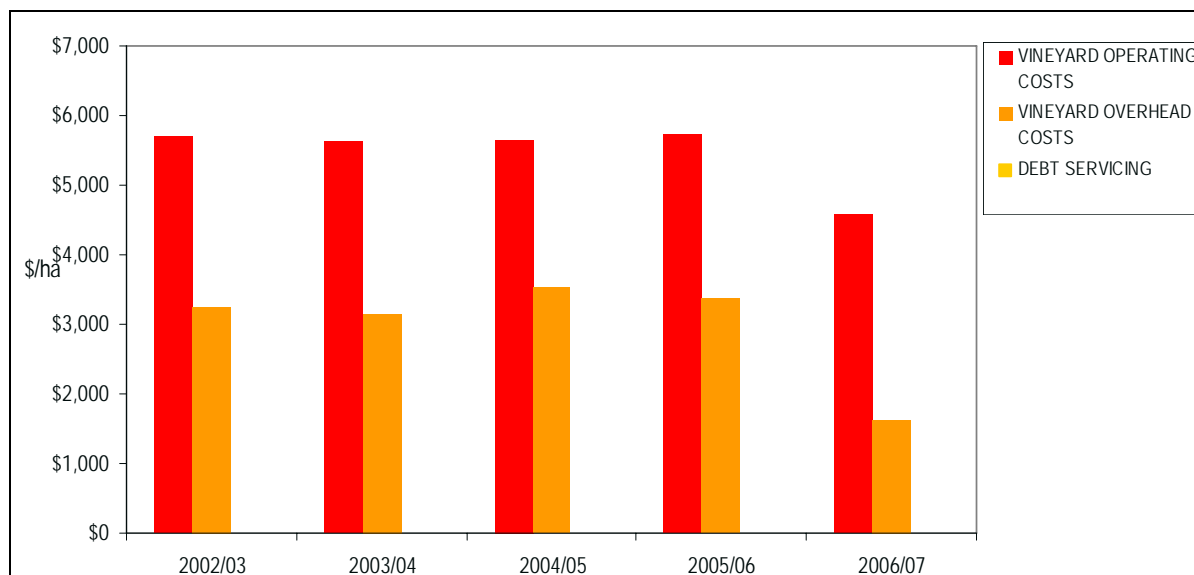


Figure 24 highlights that:

- Operating costs (expenditure) in participating Clare Valley vineyards remained steady until the 2006/07 season when they were reduced by approximately 20%, despite increases in vineyard input costs such as water, fuel, fertilizers and chemicals during this period. The trend shown in the graph would suggest that the quantity of vineyard inputs has declined and/or cheaper inputs have replaced more expensive inputs.
- Overhead costs (expenditure) at Clare Valley vineyards, excluding debt servicing, were reduced by 50% in 2007 after remaining relatively stable over the previous four years.
- None of the participating vineyards indicated that they had debt servicing costs.

### *Operating Cost Details for 2006/07*

The costs of each component of operating have been averaged across the six participating Clare Valley vineyards for the 2006/07 season.

The average expenditure on each category at the six vineyards is shown in Table 20, with the lowest and highest values, and presented graphically in Figure 25.

The right hand column indicates how many Clare Valley vineyards volunteered data for each of the categories; the higher the numbers (up to six), the more reliable the average figures are, as a true indication of the typical expenditure in the region.

- For example, the average cost of harvesting is \$1,386/ha based on data from all six participants, however only one participant entered a cost for labour hire, at \$95/ha.

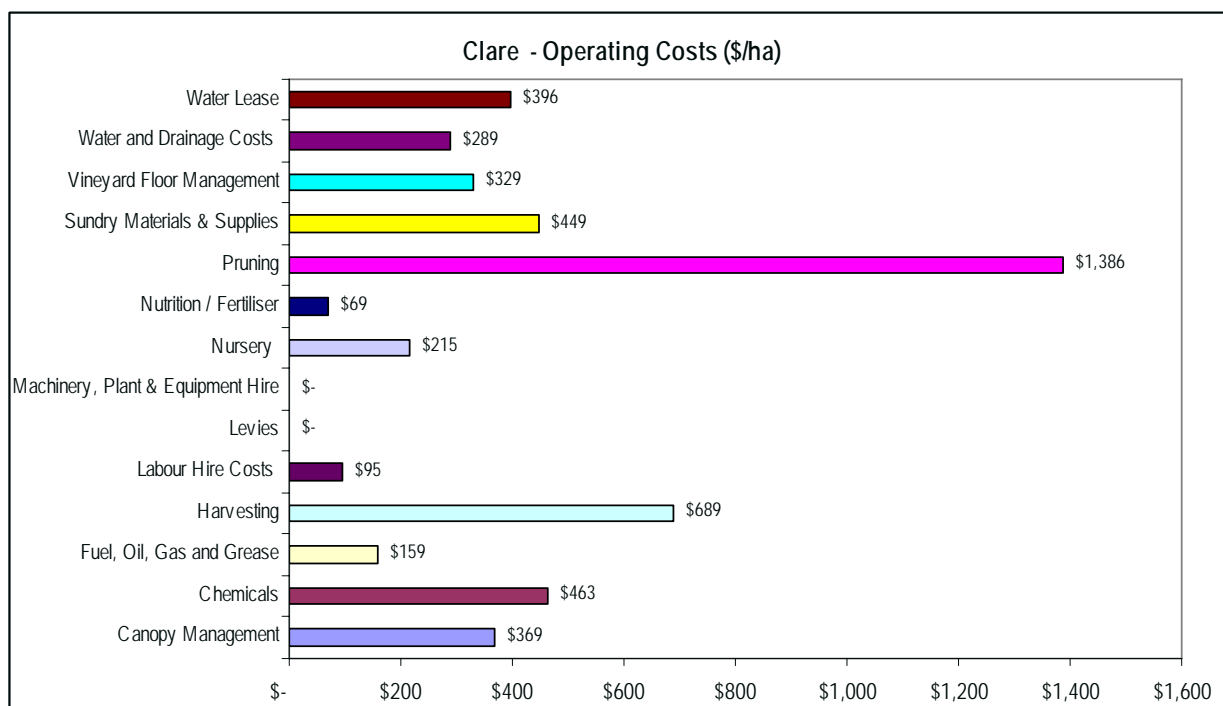
**Table 20: Operating costs for Clare vineyards 2006/07**

OPERATING (VARIABLE) COSTS (2006/07)				
Sub Unit	Average (\$/ha)	Low (\$/ha)	High (\$/ha)	Number of data sets
Canopy Management	\$ 388	\$ 266	\$ 589	6
Chemicals	\$ 541	\$ 311	\$ 1,034	6
Fuel, Oil, Gas and Grease	\$ 159	\$ 144	\$ 175	5
Harvesting	\$ 693	\$ 306	\$ 861	6
Labour Hire Costs	\$ 291	\$ 291	\$ 291	1
Levies	\$ -	\$ -	\$ -	0
Machinery, Plant & Equipment Hire	\$ -	\$ -	\$ -	0
Nursery	\$ 296	\$ 163	\$ 429	2
Nutrition / Fertiliser	\$ 52	\$ 9	\$ 91	6
Pruning	\$ 1,360	\$ 881	\$ 1,603	6
Sundry Materials & Supplies	\$ 454	\$ 39	\$ 883	6
Vineyard Floor Management	\$ 387	\$ 138	\$ 583	6
Water and Drainage Costs	\$ 306	\$ 205	\$ 419	6
Water Lease	\$ 396	\$ 140	\$ 601	4
<b>TOTAL OPERATING COSTS/Ha (median)</b>	<b>\$ 4,988</b>	NB: This will differ from the sum of averages		

The data in Table 20 shows that:

- The median operating cost in 2006/07 was \$4,988/ha (note that this is not the sum of the average figures in the column above).
- The largest average cost reported by all six vineyards was on pruning (\$1,386/ha).
- The second largest average cost listed by all participating vineyards was harvesting.
- The third largest average cost listed by all participating vineyards was chemicals.

**Figure 25: Graphical representation of operating costs**



### Overhead Cost Details for 2006/07

The costs of each overhead cost have been averaged across the six participating Clare Valley vineyards for the 2006/07 season.

The average expenditure on each overhead category at the six vineyards is shown in Table 21, with the lowest and highest values, and presented graphically in Figure 26. The numbers of data sets per category are shown in the right hand column.

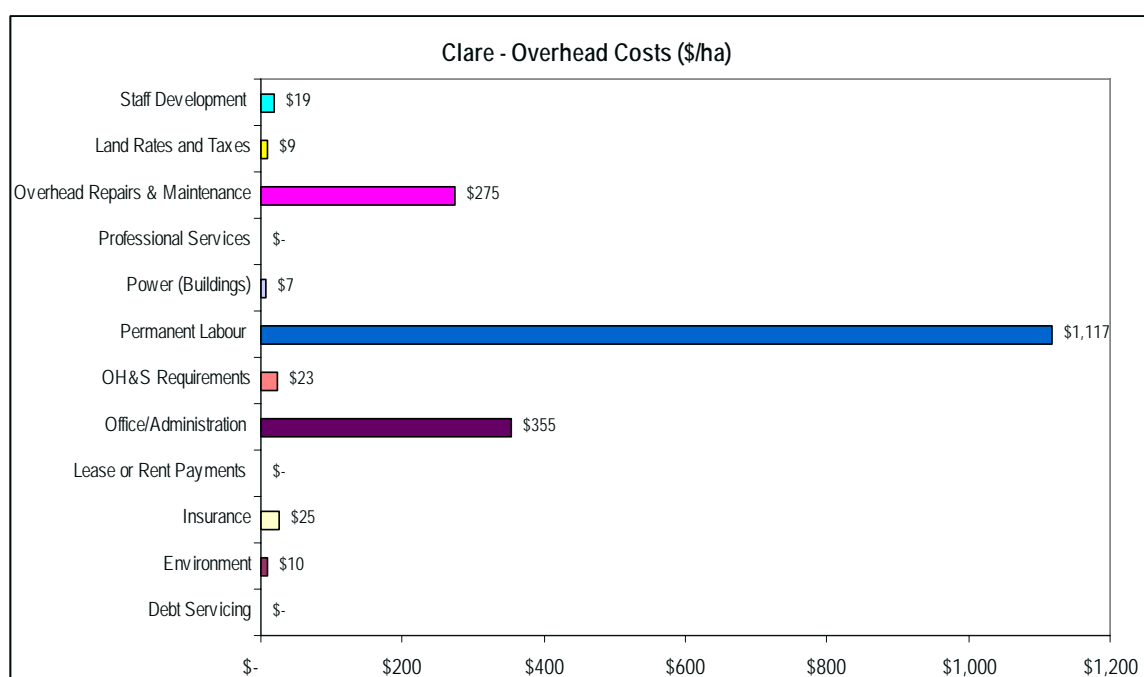
**Table 21: Overhead costs for Clare vineyards 2006/07**

OVERHEAD (FIXED) COSTS (2006/07)				
Sub Unit	Average (\$/ha)	Low (\$/ha)	High (\$/ha)	Number of data sets
Debt Servicing	\$ -	\$ -	\$ -	0
Environment	\$ 3	\$ 3	\$ 3	1
Insurance	\$ 25	\$ 17	\$ 32	5
Lease or Rent Payments	\$ -	\$ -	\$ -	0
Office/Administration	\$ 368	\$ 20	\$ 2,105	6
OH&S Requirements	\$ 23	\$ 18	\$ 30	5
Permanent Labour	\$ 962	\$ 188	\$ 1,275	6
Power (Buildings)	\$ 7	\$ 5	\$ 10	5
Professional Services	\$ -	\$ -	\$ -	0
Overhead Repairs & Maintenance	\$ 342	\$ 269	\$ 441	6
Land Rates and Taxes	\$ 9	\$ 5	\$ 13	5
Staff Development	\$ 31	\$ 13	\$ 90	6
<b>TOTAL OVERHEAD COSTS/Ha (median)</b>	<b>\$ 1,615</b>	NB: This will differ from the sum of averages		

The data in Table 21 shows that:

- The median expenditure on overhead items at the six Clare Valley vineyards was \$1,615/ha.
- In 2006/07, none of the vineyard enterprises had expenditure on debt servicing.
- Based on zero requirement to service debt, the ratio of Vineyard Return to Debt (see Table 2) for the consolidated 2007 data is considered to be ‘Good’ - once it gets to 100% then the business is considered to be in a ‘Poor’ position.

**Figure 26: Graphical representation of overhead costs**



### Gross Margins and Business Returns in Clare Valley Vineyards

Analysis of the Gross Margins (Gross Income less Operating Costs) shows a range in profitability of the Clare Valley vineyards, from a loss of \$1,997/ha (>100ha) to a positive \$2,748/ha (50-100ha category). Two of the six vineyards in this region (33%) had negative gross margins in 2006-07, i.e. operating costs exceeded income.

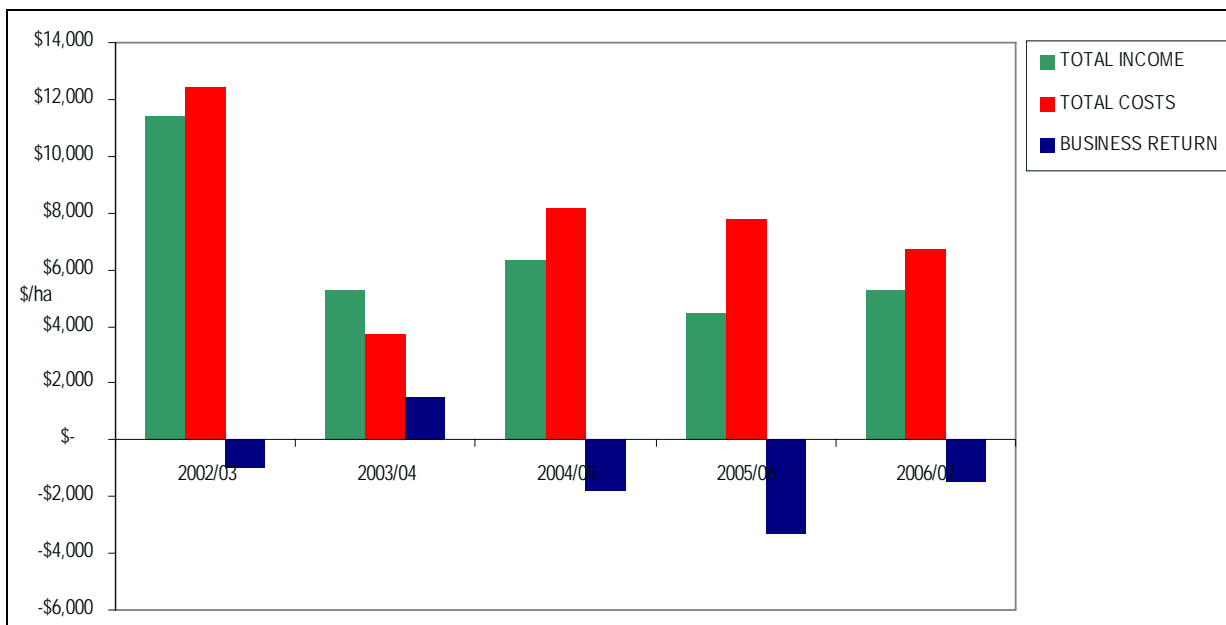
Analysis of the Business Return (Gross Income less Operating and Overhead Costs) similarly shows a wide range, from the lowest Business Return of a loss of \$3,327/ha (>100 ha size category) to a positive \$673/ha (50-100ha size category). Of the six vineyards providing data, five (83%) did not break even based on their Business Return in season 2006/07, i.e. operating plus overhead costs exceeded income.

The lack of correlation between vineyard size and gross margin or business returns shows that larger vineyards in the Clare Valley region were not advantaged by economy of scale.

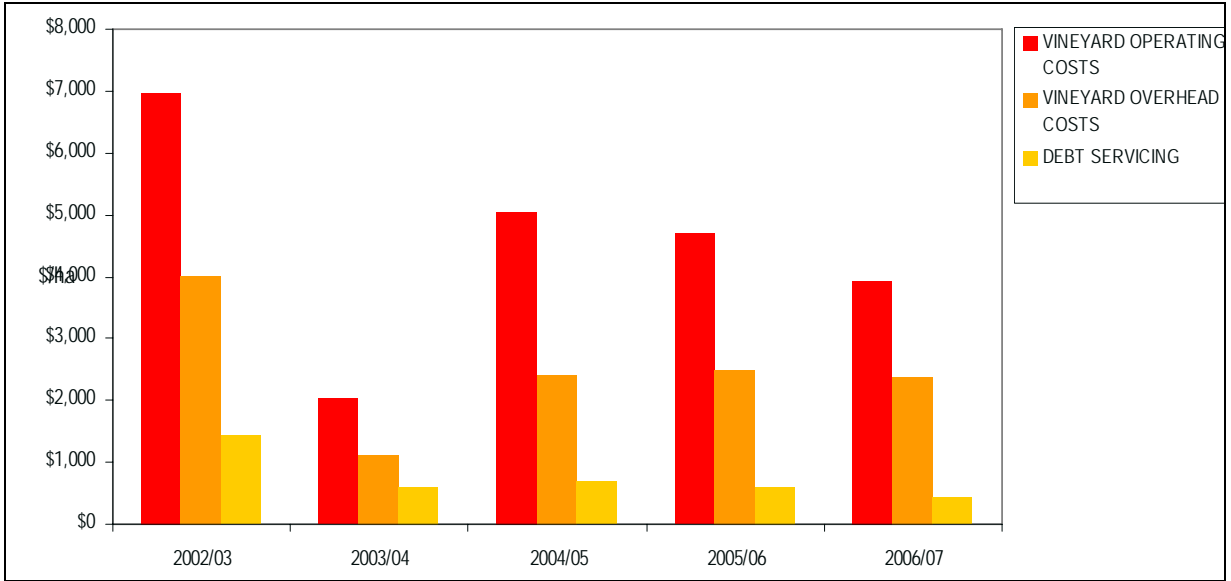
### North East Victoria (King Valley) – VIC

There were only three participants in King Valley benchmarking study, which is too small a data set to draw any firm conclusions regarding the region as a whole. It is not appropriate to show the detailed data, as we have in other regions above, however the average figures below show the general trends.

**Figure 27: King Valley Vineyard Average Income and Costs**



**Figure 28: King Valley Vineyard Average Total Costs**



**Gross Margins and Business Returns in King Valley Vineyards**

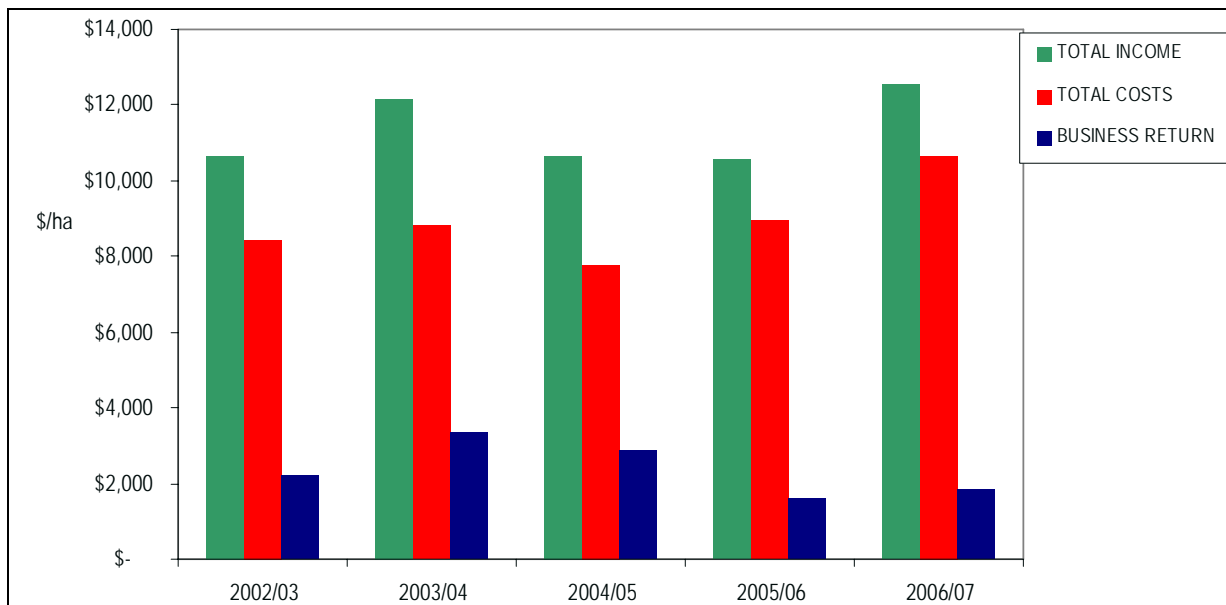
Gross Margins (Gross Income less Operating Costs) of King Valley vineyards ranged from a loss of \$1,099/ha to a positive \$5,472 /ha. Both these vineyards were smaller than 20ha.

Business Returns (Gross Income less Operating and Overhead costs) ranged from a loss of \$5,387/ha to a positive \$2,071/ha. Again, both these vineyards were smaller than 20ha.

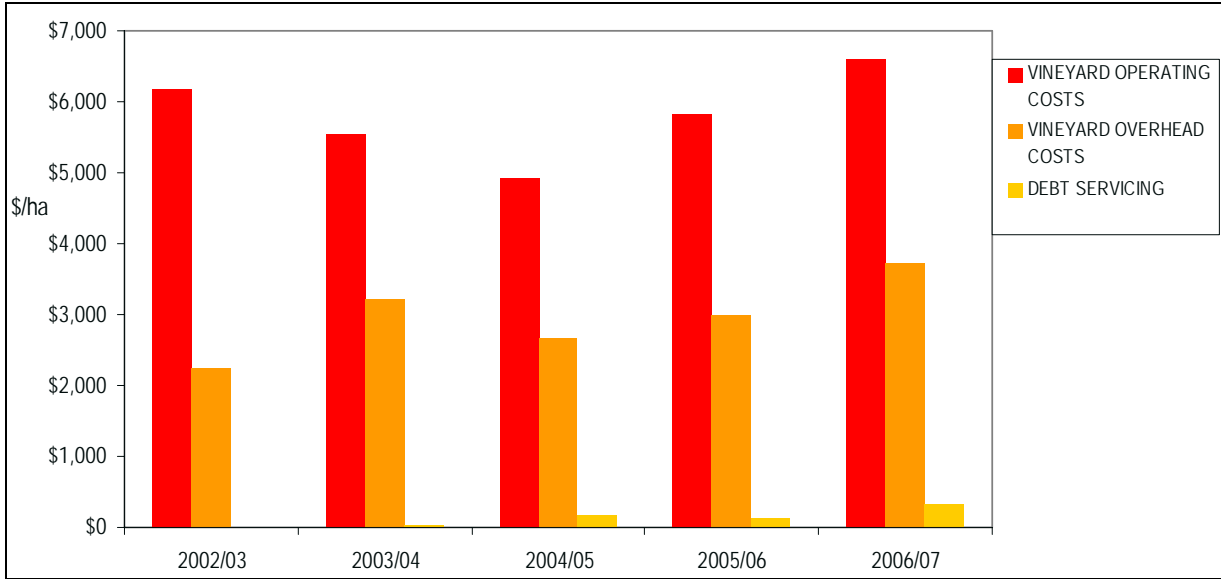
**Mount Lofty Ranges – SA**

There were only five participants in the Mount Lofty Ranges benchmarking study, which is too small a data set to draw any firm conclusion regarding the region as a whole. It is not appropriate to show the detailed data, as we have in other regions above, however the figures below show the general trends.

**Figure 29: Mount Lofty Ranges Vineyard Average Income and Costs**



**Figure 30: Mount Lofty Ranges Vineyard Average Total Costs**



**Gross Margins and Business Returns in Mt Lofty Ranges Vineyards in 2006/07**

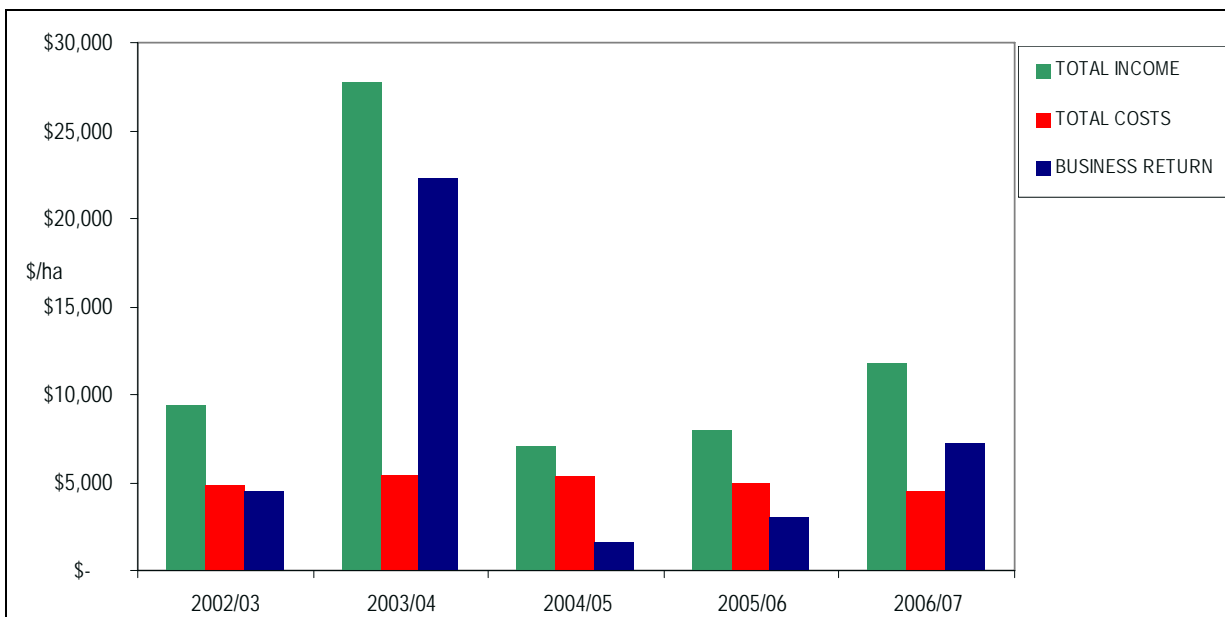
Gross Margins (Gross Income less Operating costs) of vineyards in the Mt Lofty Ranges ranged from \$3,786/ha to \$6,893/ha.

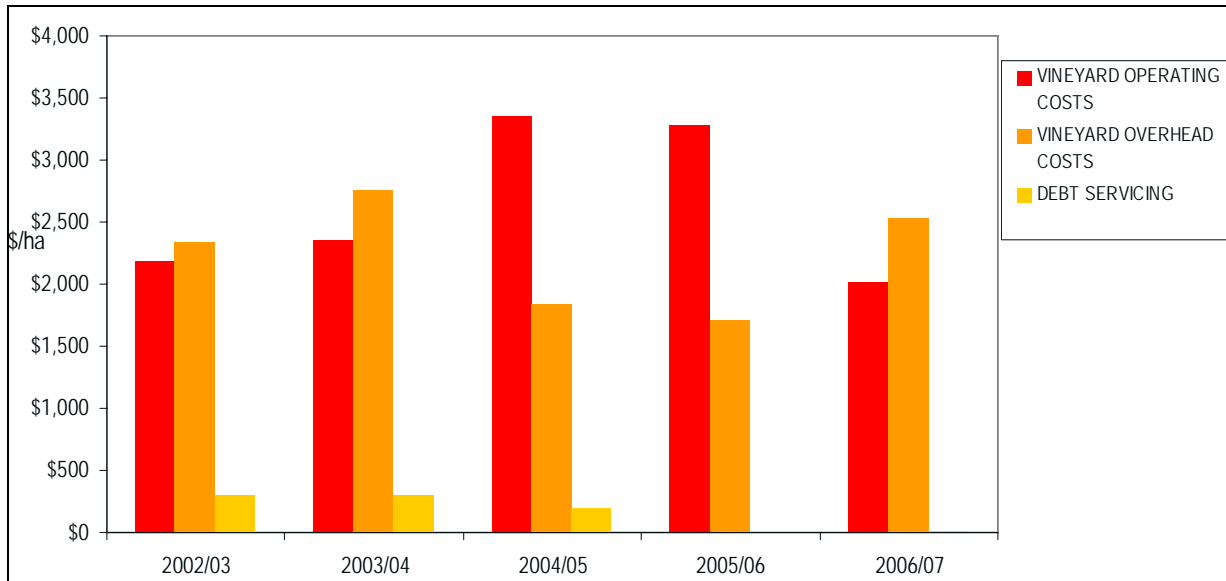
Business Returns (Gross Income less Operating and Overhead costs) ranged from \$681/ha to \$5,064/ha.

**Limestone Coast – SA**

There were only three participants in the Limestone Coast benchmarking study, which is too small a data set to draw any firm conclusion regarding the region as a whole. It is not appropriate to show the detailed data, as we have in other regions above, however the figures below show the general trends.

**Figure 31: Limestone Coast Vineyard Average Income and Costs**



**Figure 32: Limestone Coast Vineyard Average Total Costs**

### ***Gross Margins and Business Returns in Limestone Coast Vineyards***

Gross Margins (Gross Income less Operating costs) of vineyards in Limestone Coast vineyards ranged from \$5,504/ha to \$14,066/ha.

Business Return (Gross Income less Operating and Overhead costs) ranged from \$3,453/ha to \$11,034/ha.



## Summary of Temperate and Cooler Climate Regions

The consolidated data from five of the temperate and cooler regions have been summarized in the following Table.

**Table 22: Summary of Vineyard Income, Costs and Returns (/ha) for Temperate & Cooler Regions**

<b>TOTAL INCOME (\$/ha)</b>	<b>2002/03</b>	<b>2003/04</b>	<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>
Barossa	\$ 10,340	\$ 8,225	\$ 8,994	\$ 9,895	\$ 8,152
Fleurieu	\$ 12,479	\$ 12,336	\$ 11,496	\$ 10,483	\$ 6,298
Clare	\$ 7,200	\$ 10,679	\$ 6,820	\$ 8,637	\$ 4,973
King Valley	\$ 11,435	\$ 5,262	\$ 6,381	\$ 4,469	\$ 5,254
Mount Lofty Ranges	\$ 10,643	\$ 12,143	\$ 10,656	\$ 10,579	\$ 12,521
<b>VINEYARD OPERATING COSTS (\$/ha)</b>	<b>2002/03</b>	<b>2003/04</b>	<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>
Barossa	\$ 3,075	\$ 4,348	\$ 4,276	\$ 4,070	\$ 3,893
Fleurieu	\$ 3,475	\$ 3,055	\$ 3,777	\$ 3,677	\$ 2,880
Clare	\$ 5,698	\$ 5,622	\$ 5,649	\$ 5,142	\$ 4,723
King Valley	\$ 6,980	\$ 5,924	\$ 5,043	\$ 4,698	\$ 3,918
Mount Lofty Ranges	\$ 6,167	\$ 5,558	\$ 4,914	\$ 5,837	\$ 6,593
<b>VINEYARD GROSS MARGIN (\$/ha)</b>	<b>2002/03</b>	<b>2003/04</b>	<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>
Barossa	\$ 7,264	\$ 3,877	\$ 4,718	\$ 5,825	\$ 4,259
Fleurieu	\$ 9,004	\$ 9,281	\$ 7,719	\$ 6,806	\$ 3,418
Clare	\$ 1,502	\$ 5,056	\$ 1,171	\$ 3,495	\$ 249
King Valley	\$ 4,455	-\$ 662	\$ 1,338	-\$ 229	\$ 1,336
Mount Lofty Ranges	\$ 4,476	\$ 6,585	\$ 5,742	\$ 4,742	\$ 5,927
<b>VINEYARD OVERHEAD COSTS (\$/ha)</b>	<b>2002/03</b>	<b>2003/04</b>	<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>
Barossa	\$ 7,264	\$ 3,877	\$ 4,718	\$ 5,825	\$ 4,259
Fleurieu	\$ 4,429	\$ 4,196	\$ 4,200	\$ 3,814	\$ 3,878
Clare	\$ 3,342	\$ 3,090	\$ 2,805	\$ 3,917	\$ 4,195
King Valley	\$ 4,011	\$ 3,073	\$ 2,416	\$ 2,503	\$ 2,370
Mount Lofty Ranges	\$ 2,261	\$ 3,237	\$ 2,670	\$ 3,011	\$ 3,733
<b>BUSINESS RETURN (\$/ha)</b>	<b>2002/03</b>	<b>2003/04</b>	<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>
Barossa	\$ 3,517	\$ 273	\$ 1,303	\$ 895	-\$ 773
Fleurieu	\$ 4,207	\$ 4,704	\$ 3,160	\$ 2,290	-\$ 1,041
Clare	-\$ 1,761	\$ 1,906	-\$ 2,344	\$ 331	-\$ 1,508
King Valley	-\$ 979	-\$ 4,737	-\$ 1,773	-\$ 3,330	-\$ 1,478
Mount Lofty Ranges	\$ 2,215	\$ 3,328	\$ 2,897	\$ 1,606	\$ 1,859

Total incomes across the 5 regions have generally declined over the 5 year period but not as dramatically as the warm irrigated regions.

Both operating and overhead costs have shown a reasonable steadiness over time.

Business returns for all regions have declined since 2003.

# **INTERNATIONAL WINE GRAPE PRODUCTION COSTS**

## INTRODUCTION

Three wine producing countries/regions have been selected to provide a broad comparison with wine growing regions in Australia. This part of the report describes the wine grape industries in California, Chile and Spain and provides some examples of production cost and levels of profitability.

Like Australia, these three regions have diverse wine grape industries, across different climates and producing grapes for a range of wine styles. It is therefore difficult to be too specific when answering the question, 'what are the costs of wine grape production in our competitor countries/regions'?

Another challenge in analysing overseas production data is how to deal with different currencies, terminology and measurements, management practices and method of allocating costs. This means that in some cases we can only broadly examine production costs until we fully understand the details of each wine growing region.

For the purposes of this analysis, Scholefield Robinson has converted all local currencies to Australian dollars (AUD) at the June 2008 exchange rate. In the case of US data, we have converted imperial measures to metric.

## CALIFORNIA

### Introduction

California has around 210,000 hectares of wine grapes planted (compared with the area in Australia of about 160,000ha) across a wide range of climates stretching 900kms from north (40°N) to south (33°N). The industry currently produces 3.2million tonnes of grapes per year (15t/ha average) and accounts for the vast majority of table wine made in the US.

California ranks fourth largest wine producing region (2,000ML) in the world after the three dominating European countries France, Italy and Spain. Their wine industry is not, however, bound by stringent appellation laws as seen in these European producing countries, therefore the capacity of the Californian grape growers to respond to market signals with supply volumes and variety mix, is very good.

Chardonnay and Cabernet Sauvignon are the two main varieties grown, with Merlot and Zinfandel following. Syrah (Shiraz) production is around 25% of the annual Cabernet crop and half the Merlot crop.

Prices for premium varieties have been relatively strong compared to Australian prices, over the past 5 years, particularly for Cabernet, which seems to remain above \$1,000/tonne even through some over supply conditions.

Wine consumption in the US is generally low on world standards, with per capita consumption around 10 litres; Australia is around double this level.

The Californian wine industry has a similar structure to the Australian wine industry, with regards to the range of climates, vineyard sizes, varieties grown, yields at specific latitudes and vineyard management practices.

There are four wine growing regions in California; North Coast (Napa, Sonoma, Lake) Central Coast (Monterey, Santa Cruz), North Interior (Sacramento) and South Interior. Similar to Australia, high volumes and low price wines are produced in the warm/hot inland regions (South Interior) with cooler coastal areas further north producing the higher value wines.

## Vineyard Costs of Production

Production cost data have been sourced from the UC Davis website to demonstrate the range of costs structures in some of the important grape growing regions in California.

Three scenarios have been chosen to show the costs structures and the relative profitability of regions and grape varieties.

All costs have been converted from \$US/ton to \$AUD/tonne at the current exchange rate of \$US0.95 = \$AU1.00. Costs categories have been grouped to simplify the analysis and to create an easy comparison with production costs from other countries, documented in this section of the report.

**Example 1:** Wine grape production in Sacramento, which is in the inland northern regions of Californian grape growing area. The yields associated with this data are 17.5t/ha and the price of the fruit is around \$580/tonne. This could be compared with the warm inland regions of Australia.

<b>Sacramento Valley</b>		
<b>Operating costs</b>	<b>\$AUD/ha</b>	
fertilizer	\$420	7%
chemicals	\$695	12%
irrigation	\$147	2%
harvest	\$1,200	20%
labour	\$2,955	49%
machinery running costs	\$330	6%
general	\$226	4%
	<b>\$5,973</b>	
<b>Overhead costs</b>	<b>\$2,737</b>	
<b>Total costs</b>	<b>\$8,710</b>	per ha

This cost structure results in a vineyard surplus of \$1,440/ha but a business deficit of \$4,400/ha after depreciation, financial and capital costs are taken in to account.

**Example 2:** Wine grape production to the west of Sacramento along the north coast in Lake County, where the topography and microclimate produce different styles of wines to the inland regions. The variety in the example is Sauvignon Blanc and it also yields about 17.5t/ha but achieves a price of \$950/t.

<b>North Coast - Sauvignon Blanc</b>		
<b>Operating costs</b>	<b>\$AUD/ha</b>	
fertilizer	\$180	3%
chemicals	\$550	9%
irrigation	\$213	4%
harvest	\$1,160	19%
labour	\$3,720	62%
machinery running costs	\$510	9%
general	\$167	3%
	<b>\$6,500</b>	
<b>Overhead costs</b>	<b>\$2,588</b>	
<b>Total costs</b>	<b>\$9,088</b>	per ha

This cost structure results in a vineyard surplus of \$7,537/ha but business deficit of \$2,514/ha after depreciation, financial and capital costs.

**Example 3:** Wine grape production also in the Lake County but producing the higher value variety Cabernet Sauvignon. This variety yields 14.4t/ha and commands a price of \$1,736/t, similar to temperate wine growing regions in Australia such as McLaren Vale and Barossa.

<b>North Coast - Cabernet Sauvignon</b>		
<b>Operating costs</b>	<b>\$AUD/ha</b>	
fertilizer	\$458	8%
chemicals	\$510	9%
irrigation	\$97	2%
harvest	\$1,100	18%
labour	\$3,970	66%
machinery running costs	\$495	8%
general	\$260	4%
	<b>\$6,890</b>	
<b>Overhead costs</b>	<b>\$2,793</b>	
<b>Total costs</b>	<b>\$9,683</b>	per ha

This cost structure results in a vineyard surplus of \$15,315/ha and a business surplus after depreciation, financial and capital costs, of \$4,630/ha.

## CHILE

### Introduction

The Chilean wine industry resembles the Australian wine industry in that it has a relatively short history of exporting wines, the grape varieties and wine styles are comparable, and we share and compete in the same markets in Europe and United States.

From a production perspective, Chile has around 117,000ha of vineyards and produces 828ML per year (SAG 2007), compared to Australia's current production of around 1,000ML from 155,000ha. Chilean production has steadily increased and doubled in output over the past decade.

On further analysis of the make-up of Chilean vineyards, the following is evident:

- They are many more vineyards but they are smaller in size; 72% are less than 5ha, whereas in Australia we have 62% less than 10ha.
- There is a range of trellis types but the most common (68%) is the vertical trellis similar to Australia.
- The majority (78%) of vineyards are irrigated but most irrigation systems are still furrow or flood.
- Red varieties account for  $\frac{3}{4}$  of the planted area with Cabernet Sauvignon by far the most popular variety.
- White varieties are dominated by Sauvignon Blanc and Chardonnay.

### The Economics of Vineyard Production

#### Yield

Vineyard yields in Chile generally range between 9 and 15 tonnes per hectare, depending on the region, the variety and method (trellis) of production. In some cases, vineyards with vines on the 'parronal' trellis (overhead, full cover) can produce over 20t/ha.

#### Direct Costs

The following table shows the variable costs of production of wine grapes across 6 regions in Chile, ranging from Casablanca (latitude similar to Hunter Valley in Australia) to Maule (similar to McLaren Vale). The costs are activity based and include a mixture of labour, machinery and material inputs.

The costs in Chilean pesos have been converted to Australian dollars using the average exchange rate over the past 3 years (AUD\$1 = \$415 pesos).

**Table 23: Average variable costs of production across wine grape regions in Chile**

Activity	\$000/ha Chilean pesos	\$/ha AUD	% of total costs
Canopy Management	157	\$378	18%
Harvest	147	\$354	17%
Chemicals	144	\$347	17%
Plant Protection	136	\$327	16%
Pruning	90	\$216	11%
Soil Management	40	\$97	5%
Administration	26	\$62	3%
Fertilizers	24	\$58	3%
Irrigation	24	\$57	3%
Nutrition	22	\$54	3%
R&M Trellis & Infrastructure	22	\$53	3%
	\$831	AUD 2,046	

Source: Troncoso and Ortega 2007

Other sources of vineyard production costs in Chile (Troncoso) suggest that on average 43% of variable costs are attributed to labour, while materials and machinery costs account for 46% and 11% respectively. In small vineyards, labour accounts for up to 60% of variable costs.

The labour costs can be further broken down into the following:

- Canopy and fruit management            58% of total labour costs
- Harvesting                                    25%
- Irrigation                                      6%
- Pest, disease, weed control            7%
- Nutrition                                       4%

This demonstrates that although Chilean labour (\$13-18/day) is cheap compared to Australia (\$18/hour), there is some question whether the labour inputs are productive and efficient in Chilean vineyards. High labour inputs have been used in Chile because the labour force has been available and cheap; however the cost of labour is increasing as is the standard of living and expectations from the work force.

Much of the labour is used to achieve high fruit quality in the vineyard with canopy and bunch management. This, however, is not always rewarded with high grape prices.

In many cases weed control and harvesting activities are largely carried out using casual labour.

Troncoso and Ortega make an interesting observation that vineyards in the northern latitudes of the grape growing zone in Chile, for example Casablanca and Maipo, require more labour inputs to grow the fruit and the unit cost of labour is more expensive.

The variable costs in Casablanca are estimated to be AUD\$2,500/ha, whereas in the far south (Maule), where yields are higher, the variable costs are more like AUD\$1,600/ha.

## Indirect Costs

For a 30-40ha vineyard in Chile, the indirect costs, such as permanent labour, administration, repairs and maintenance and general costs, equates to around AUD\$1,700/ha. This per hectare figure diminishes as the size of the vineyard increases.

On top of this is the cost of capital (estimated at 6.8% annually) of AUD\$2,614/ha.

## Total Cost Summary

It is difficult to summarize the income and cost of wine grape production for any one industry because there is a diversity of yields, fruit quality, grape prices and input costs that cover the whole spectrum of vineyard profitability.

To demonstrate examples of costs structure in the Chilean wine grape industry, two broad scenarios have been constructed in Table 24.

Scenario 1 could reflect the cost structures of a small vineyard in the north of the wine growing region, with yields around 9t/ha, grape price of \$900/t and direct and indirect costs at the high end of the spectrum.

Scenario 2 could reflect a larger vineyard in the southern regions, producing higher yields, achieving lower grape prices but having quite good economies of scale.

**Table 24: Income and Costs Scenarios for Two Chilean Vineyards**

Per hectare costs (AUD\$)	Vineyard 1	Vineyard 2
Yield (t)	15	9
Price (\$/t)	\$300	\$700
Gross Income (\$)	\$4,500	\$6,300
Less Direct Costs	\$1,600	\$2,500
Gross Margin	\$2,900	\$3,800
Less Indirect Costs	\$800	\$1,700
<b>EBIT</b>	<b>\$2,100</b>	<b>\$2,100</b>
Less Capital Costs (6.8%)	\$1,980	\$2,614
Net Profit/Loss (\$/ha)	\$120	-\$514

## SPAIN

### Introduction

Spain is the third largest producer of wine in the world and has around 1.2 million hectares of vineyard planted across a wide range of climates, topographies and soil types. The average production per hectare is 5.6t/ha, based on 4700ML of wine production from the total planted area. This is very low on world standards for two main reasons.

The region of La Mancha in central Spain accounts for just under half the planted area but many of the vineyards are dry grown with vines at very low densities, thus producing low tonnages.



The other reason for low yields is that vineyards in most regions in Spain have their production restricted by Denominación de Origen (DO) laws; for example in La Rioja the maximum yield is 6.5t/ha for Tempranillo.

Not only are yields controlled by the INDO, but practices such as pruning (spurs per vine and buds per spur) and harvesting are stipulated by DO law and planting densities and varieties are also determined by the board.

There are five tiers of wine categories according to region, determined by the INDO.

1. Vino de Mesa (VdM): table wine from unclassified vineyards
2. Vino Comarcal (VC): regional status to those who fall outside DO
3. Vino de la Tierra (VdIT): wines from large regions, growers conform to certain rules.
4. Denominación de Origen (DO); mainstay of the wine industry, 40 DO regions in total
5. Denominación de Origen Calificada (DOCa): highest regulation, La Rioja region only

Wines are further categorized into classes based on wine quality and the time the wine has spent in oak and in the bottle.

1. Crianza; minimum of 2 years aging with at least 6-12 months in oak.
2. Reserva: minimum of 3 years aging with at least 1 year in oak
3. Gran Reserva: minimum of 5 years aging with 2 years in oak

Approximately 20% of Spain's annual grape production goes to distillation of ethanol; this is equivalent to 250,000 hectares of vineyard.

On further analysis of the make-up of vineyards in Spain, the following is evident:

- Vineyard size varies across the whole country. Some vineyards in the La Mancha region are over 1,000ha. The average vineyard size in Spain however is just 3.4ha.
- Approximately 65% of the country's vineyards are managed without irrigation.
- Crop yields vary from region to region. In La Rioja, red varieties are restricted to 6.5t/ha and white varieties 9t/ha. Well managed vineyards in Ribera del Duero are allowed to crop up to 7t/ha. Well managed vineyards (with irrigation) in La Mancha produce up around 9-12t/ha with Shiraz, Cabernet and Merlot. Vineyard trials close to Madrid are achieving 23t/ha with Merlot grown in a similar fashion to vineyards in the warm irrigated regions of Australia.
- Most vineyards do not have trellis; vines are grown as bush vines and are cane pruned.
- A vineyard worker earns around €50/day (AUD\$85), which is relatively cheap by Australian standards. On large vineyards there is 1 permanent worker to every 20ha; in Australia it is more like 1 permanent per 40-50ha of vineyard. Therefore labour costs per hectare between the two countries are probably comparable.
- Harvesting is largely done by hand although mechanical harvesting is well established in some regions.

- Developing a vineyard in La Rioja region costs around AUD\$150,000/ha including land purchase, vineyard establishment and planting rights. Developing a vineyard in La Mancha costs around AUD\$50,000/ha.

## Vineyard Costs of Production

Table 25 is a summary of the variable costs of production for well managed vineyards in Spain, with irrigation, trellis and management inputs similar to Australian vineyards. The average costs are a combination of costs from four major wine growing regions, Rioja, Ribera Del Duero, Tarragona and Costers del Segre. The range shows the variation between these regions; the total costs per hectare for the four regions varied between \$4,800/ha and \$6,650/ha.

**Table 25: Average variable costs of production across wine grape regions in Spain**

Activity	Average cost AUD\$/ha	Range AUD\$/ha	Percentage of total
Fertilizer	\$156	\$60-280	3%
Chemicals	\$554	\$140-1060	10%
Irrigation	\$637	\$150-1440	11%
Pruning	\$741	\$650-800	13%
Canopy Management	\$707	\$540-920	13%
Soil Management	\$537	\$130-740	10%
Harvest	\$633	\$350-980	11%
R&M	\$365	\$140-540	7%
Crop Monitoring	\$29	\$20-45	1%
General	\$1,218	\$1000-1700	22%
Total	\$5,576		

## SUMMARY OF FINDINGS

Vineyard income and costs data from the three wine growing countries/regions California, Chile and Spain has been sourced in a range of cost categories and formats. It is therefore difficult to present summarised results in a concise manner.

Table 26 attempts to summarize the information in this section of the report; however the nature of the information limits the extent to which direct comparisons can be made.

**Table 26: Summary of Income and Costs in California, Chile, Spain and Australia**

	California	Chile	Spain	Australia
Crop yields (t/ha)	14-18t/ha	9-15t/ha	6-23t/ha	8-25t/ha
Operating costs (AUD\$/ha)	\$6,500	\$2,000	\$5,600	\$2500-5,500
Overhead costs (AUD\$/ha)	\$2,700	\$2,100	-	\$1,700-4,000

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14. Vinography. [www.vinography.com](http://www.vinography.com) accessed June 2008

*Information and data was also obtained from unpublished sources.*

## **Appendix 1**

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- (a) Original Template for Regional Vineyard  
Cost Indicator Data Collation**
- (b) Updated Template for Regional Vineyard  
Cost Indicator Data Collation**



Wine Grape Growers' Australia



Australian Government  
Department of Agriculture,  
Fisheries and Forestry

## Capacity Building for Australian Wine Grape Growers Project

### REGIONAL VINEYARD COST INDICATOR

TEMPLATE FOR DATA COLLATION

*(Notes for entering enterprise data are available as a separate PDF file)*



*Please return completed templates by email, fax or post to either of the addresses below:*

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Ph: (03) 5023 4644  
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Email: [srm@ncable.com.au](mailto:srm@ncable.com.au)

## Regional Vineyard Cost Indicator (Enterprise Margin) - Background Info

Location of Vineyard

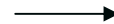
Management Structure (please circle)

Owner Manager  
Small Vineyard



Owner/operator who does not employ any outside permanent labour but does use contractors/casuals for some tasks ie harvesting.

Owner Manager  
Medium Vineyard



Owner/operator who has one or two permanent workers (for example vineyard hand or tractor driver) and uses casuals and contractors.

Owner Manager  
Large Vineyard



The owner manages the business but employs a full time vineyard manager for operational work, monitoring, planning etc. Contractors and casuals are also used.

Corporate/Investor Owner  
Large Vineyard



A full-time vineyard manager is employed plus permanent employees, casuals and contractors (similar to No. 3 but Corporate or Investor owned, which will (may) have different overhead costs)

Water Source (please circle)

Private Water Diverter



Water is sourced directly from a rivers or bore, annual water access fees are usually low but pumping costs (power) are high.

Irrigator within pumped districts



Water is sourced from an irrigation water providers who supply water to farm gate. Annual water fees are usually high but pumping costs (for the grower) are low.

Comments

## Regional Vineyard Cost Indicator (Enterprise Margin) - Data Collection Template

### Vineyard Area (ha)

<i>Sub Unit</i>	2002/03	2003/04	2004/05	2005/06	2006/07
Wine grapes (ha in production)					
Wine grapes (ha not in production)					

### INCOME

<i>Sub Unit</i>	2002/03	2003/04	2004/05	2005/06	2006/07
Wine grape Sales					
Miscellaneous Sales					

### OPERATING (VARIABLE) COSTS

<i>Sub Unit</i>	2002/03	2003/04	2004/05	2005/06	2006/07
Canopy Management					
Chemicals					
Fuel, Oil and Grease					
Harvesting					
Labour Hire Costs					
Levies					
Machinery, Plant & Equipment Hire					
Nursery					
Nutrition / Fertiliser					
Pruning					
Sundry Materials and Supplies					
Vineyard Floor Management					
Water and Drainage Costs					
Water Lease					

### OVERHEAD (FIXED) COSTS

<i>Sub Unit</i>	2002/03	2003/04	2004/05	2005/06	2006/07
Debt Servicing					
Environment					
Insurance					
Lease or Rent Payments					
Office/Administration					
OH&S Requirements					
Permanent Labour					
Power (Buildings)					
Professional Services					
Overhead Repairs and Maintenance					
Land Rates and Taxes					
Staff Development					

Grape sales include any adjustment payment from September relating to previous vintage plus invoiced amount of current vintage as at 30/6

*Description for each category*

Shoot removal and trimming, crop thinning, moving foliage wires, leaf removal, tucking, feathering

Fungicide, insecticide, weedicide, bait, pest control

Vineyard machinery (tractors, utes, ATV, pumps)

Mechanical harvesting, hand labour & associated costs (separate from labour hire costs), yield est, maturity sampling, crop thinning, fruit transport

Contractor operations, contract gangs, spraying, specialised tasks, include casual labour

Grape sales, other

If vines are propagated on site

Fertiliser application, foliar nutrient, tissue testing

Pruning labour or mechanical pruning (keep separate from labour hire costs)

Sundry hand tools, miscellaneous items, repairs <\$100 ea

Soil testing, soil amelioration (lime/gypsum), broadcast fertiliser, cover crop/seed, mulch

Water delivery costs and electricity to power pumps (include water rates or standing fees).

Annual water lease (permanent water purchases should be recorded separately as a capital expense)

*Description*

Interest paid on loans, bank fees & charges

Revegetation, water treatment, catchment

Public liability, property, contents or crop Insurance

Land or machinery

Phone, software, stationary, subscriptions, postage, rates, levies, registration, memberships / subscriptions

Personal Protective Equipment (PPE), fire extinguishers

Permanent labour (including owner, manager, foremen, leading hands, operator or family labour), Workcover, Superannuation

Electricity (other than power used for pumps/irrigation system)

Consultant, research, accountant, legal, secretarial, staff development

Fences, roads, firebreaks, sheds, grounds, machinery, plant & equipment (include vineyard R&M such as trellis repair, replanting vines, leveling mid-rows)

Don't include water rates (or standing fees) insert these costs into water and drainage costs (operational).

Human resource costs, staff training, subscriptions, course fees, travel and accommodation





Wine Grape Growers' Australia



Australian Government  
Department of Agriculture,  
Fisheries and Forestry

## Capacity Building for Australian Wine Grape Growers Project

### REGIONAL VINEYARD COST INDICATOR

TEMPLATE FOR DATA COLLATION

*(Notes for entering enterprise data are available as a separate PDF file)*



*Please return completed templates by email, fax or post to either of the addresses below:*

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## Regional Vineyard Cost Indicator (Enterprise Margin) - Background Info

Location of Vineyard (Region)

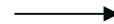
Management Structure (please circle)

Owner Manager  
Small Vineyard



Owner/operator who does not employ any outside permanent labour but does use contractors/casuals for some tasks ie harvesting.

Owner Manager  
Medium Vineyard



Owner/operator who has one or two permanent workers (for example vineyard hand or tractor driver) and uses casuals and contractors.

Owner Manager  
Large Vineyard



The owner manages the business but employs a full time vineyard manager for operational work, monitoring, planning etc. Contractors and casuals are also used.

Corporate/Investor Owner  
Large Vineyard



A full-time vineyard manager is employed plus permanent employees, casuals and contractors (similar to No. 3 but Corporate or Investor owned, which will (may) have different overhead costs)

Water Source (please circle)

Private Water Diverter



Water is sourced directly from a rivers or bore, annual water access fees are usually low but pumping costs (power) are high.

Irrigator within pumped districts



Water is sourced from an irrigation water providers who supply water to farm gate. Annual water fees are usually high but pumping costs (for the grower) are low.

Comments

# Regional Vineyard Cost Indicator (Enterprise Margin) - Data Collection Template

## Vineyard Area (ha)

<i>Sub Unit</i>	2003/04	2004/05	2005/06	2006/07	2007/08
Wine grapes (ha in production)					
Wine grapes (ha not in production)					

## INCOME

<i>Sub Unit</i>	2003/04	2004/05	2005/06	2006/07	2007/08
Wine grape Sales					
Miscellaneous Sales					

## OPERATING (VARIABLE) COSTS

<i>Sub Unit</i>	2003/04	2004/05	2005/06	2006/07	2007/08
Labour - Harvesting					
- Pruning					
- Spraying					
- Canopy Management					
- Miscellaneous					
Fruit Transport					
Levies					
Chemicals					
Nutrition / Fertiliser					
Vineyard Floor Management					
Sundry Materials and Supplies					
Machinery Expenses					
Machinery Fuel					
Machinery, Plant & Equipment Hire					
Water and Drainage Costs					
Water Lease					
Vineyard Repairs & Maintenance					

## OVERHEAD (FIXED) COSTS

<i>Sub Unit</i>	2003/04	2004/05	2005/06	2006/07	2007/08
Permanent Management					
<i>Owner's Labour</i> (see worksheet "Calculating Owner's Labour")					
Land Rates and Taxes					
Power (Buildings)					
Insurance					
Professional Services					
Office/Administration					
Lease or Rent Payments					
OH&S Requirements					
Staff Development					
Environment					
Overhead Repairs & Maintenance					
Debt Servicing (Interest and Finance Costs)					

*Description for each category*

Mechanical harvesting, hand labour & associated costs including yield estimation, maturity sampling, late season crop removal (separate from labour - miscellaneous costs)
Pruning labour or mechanical pruning (separate from labour - miscellaneous costs)
Fungicide or herbicide spray application (separate from labour - miscellaneous costs)
Shoot removal and trimming, early season crop thinning, moving foliage wires, leaf removal, tucking, feathering (separate from labour - miscellaneous costs)
Contractor operations, contract gangs, casual labour, leading hands, operator or family used for specialised tasks not already listed in specialised labour tasks
Fruit transport or cartage costs from vineyard to fruit processor.
Research and development, grower organisation levies. Often deducted automatically from grape payments as a \$/tonne amount.
Fungicide, insecticide, weedicide, bait, pest control
Fertiliser application, foliar nutrient, petiole testing. These tasks are often carried out an on annual basis.
Soil testing, soil amelioration (lime/gypsum), broadcast fertiliser, cover crop/seed, mulch. These are normally longer term tasks ie not carried out an on annual basis.
Sundry hand tools, miscellaneous items, repairs <\$100 ea
Oil, gas and grease, basic servicing and maintenance for vineyard machinery (tractors, utes, ATV, pumps)
Fuel (diesel or petrol) for vineyard machinery (tractors, utes, ATV, pumps). This is separated to facilitate environmental accounting.
Water delivery costs and electricity to power pumps (include water rates or standing fees)
Annual water lease (permanent water purchases should be recorded separately as a capital expense)
Vineyard repairs and maintenance including re-planting dead vines, trellis repairs (do not include major capital expenses).

<i>Description</i>
Permanent management (including owner or manager who predominantly manages rather than carrying out 'hands on' tasks).
Estimation or actual. Don't duplicate this amount if it has already been captured in 'Permanent Management'.
Don't include water rates (or standing fees) insert these costs into water and drainage costs (operating).
Electricity (other than power used for pumps/irrigation system)
Public liability, property, contents or crop Insurance
Consultant, research, accountant, legal, secretarial, auditor
Phone, software, stationary, postage, registration
Land or machinery
Personal Protective Equipment (PPE), fire extinguishers, safety signage
Human resource costs, staff training, subscriptions, memberships, course fees, travel and accommodation
Revegetation, water treatment, catchment management
Fences, roads, firebreaks, sheds, grounds
Interest paid on loans, bank fees & charges. Do not include capital or principal repayments.

## Calculating Owner's Labour

<i>Calculation of Owner's Labour</i>	Estimated % of time spent running vineyard?	Base Salary	Superannuation + Workcover <small>Check the current % requirements.</small>	Superannuation and Workcover Calculation	Full Time Salary (Including 'on costs')	% Salary (including 'on costs')
				Formula		
Comments	Estimate % up to a total of 100% (full time)	Select a base salary (use \$40K as a minimum starting point)	Grape growing example: (9% Superannuation, 3.2% Workcover + 0.6% OHS&W Registration Fee).	B X C	B + D	E X A
	A	B	C	D	E	Insert this figure into the worksheet
Owner's Labour Example	50%	\$ 40,000	12.8%	\$ 5,120	\$ 45,120	\$ 22,560
Owner's Labour (your calculation)						

## **Appendix 2**

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### **Codes for Regional Vineyard Cost Indicator Data**

## REGIONAL VINEYARD COST INDICATORS - BLOCK CODES-

Each data set collected from data suppliers/growers was coded in such a way as to identify the following attributes:

### 1. REGION

A two to four letter code was used to identify the region in which the grapes are produced.

STATE	REGION	CODE
South Australia	Lower Murray	LM
	Fleurieu	FL
	Limestone Coast	LC
	Mount Lofty Ranges	MLR
	Barossa	BA
New South Wales	Big Rivers	BR
	Central Ranges	CR
	Hunter Valley	HV
	Southern NSW	SNSW
Victoria	North West Victoria	NWV
	North East Victoria	NEV
	Central Victoria	CV
	Western Victoria	WV
	Port Phillip	PP
Western Australia	South Western Australia	SWA
	Greater Perth	GP

### 2. LABOUR STRUCTURE

The following categories were to define what labour structure is in place in the vineyard business. This is often related to vineyard size but not always. It has an important impact on how the labour costs are dealt with in this analysis. The number associated with the closest description of the enterprise was used in the code.

CODE	LABEL	DESCRIPTION
1	Owner Manager Small Vineyard	Owner-operator who does not employ any outside permanent labour but does employ the services of contractors/casuals for certain tasks such as harvesting.
2	Owner Manager Medium Vineyard	Owner-operator who has one or two permanent workers (for example vineyard hand or tractor driver) and uses casuals and contractors.
3	Owner Manager Large Vineyard	The owner manages the business but employs a full time vineyard manager for operational work, monitoring, planning etc. Contractors and casuals are also used.
4	Corporate/Investor Owner Large Vineyard	Full-time Vineyard Manager plus permanent employees, casuals and contractors (similar to No. 3 but Corporate or Investor owned, which will (may) have different overhead costs)

---

### 3. IRRIGATION WATER SOURCE

It is of some interest to know how a vineyard operator sources water for irrigation purposes. Two broad categories were proposed for the code.

CODE	LABEL	DESCRIPTION
1	Private Water Diverter	Water is sourced directly from the rivers or bores, annual water access fees are usually low but pumping costs (power) are high.
2	Irrigator within pumped districts	Water is sourced from Irrigation Water Providers who supply water to farm gate at various pressures. Annual water fees are usually high but pumping costs (for the grower) are low.

### 4. VINEYARD BLOCK NUMBER

This is a sequential number attached on to the end of the code to differentiate blocks of similar description.

#### EXAMPLES

1. A 40 hectare vineyard in the Lower Murray, with the owner plus a full time vineyard hand, plus harvest contractors and hired pruning labour, sourcing water from the Central Irrigation Trust will have a code **LM-2-2-09**
2. His neighbour, who has a similar vineyard situation, will have the code **LM-2-2-10**
3. A 25 hectare vineyard in the Barossa managed by the owner and his family, sourcing water from a bore will have a code **BA-1-1-04**
4. A 200 hectare vineyard at Swan Hill, owned by investors, managed by a fulltime Manager and a team of employees, plus contractors, sourcing water directly from the river, will have a code **NWV-4-1-06**



## **Appendix 3**

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### **Format for Providing Feedback to Growers Who Provided Financial Data**

# Benchmarking - Vineyard Data Summary - Grower Feedback

Enterprise/Business Name:

## Vineyard Area (ha)

Sub Unit	2002/03	2003/04	2004/05	2005/06	2006/07	Average
Wine grapes (ha in production)						
Wine grapes (ha not in production)						
<b>TOTAL VINEYARD AREA (ha)</b>						

## INCOME

Sub Unit	2002/03	2003/04	2004/05	2005/06	2006/07	Average
Wine grape Sales						
Miscellaneous Sales						
<b>GROSS VINEYARD INCOME</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>GROSS VINEYARD INCOME \$/ha</i>						

## VINEYARD OPERATING (VARIABLE) COSTS

Sub Unit	2002/03	2003/04	2004/05	2005/06	2006/07	Average
Canopy Management						
Chemicals						
Fuel, Oil, Gas and Grease						
Harvesting						
Labour Hire Costs						
Levies						
Machinery, Plant & Equipment Hire						
Nursery						
Nutrition / Fertiliser						
Pruning						
Sundry Materials and Supplies						
Vineyard Floor Management						
Water and Drainage Costs						
Water Lease						
<b>VINEYARD OPERATING COSTS</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>VINEYARD OPERATING COSTS / ha</i>						

## VINEYARD OVERHEAD (FIXED) COSTS

Sub Unit	2002/03	2003/04	2004/05	2005/06	2006/07	Average
Debt Servicing (Interest and Finance Costs)						
Environment						
Insurance						
Lease or Rent Payments						
Office/Administration						
OH&S Requirements						
Permanent Labour						
Power (Buildings)						
Professional Services						
Overhead Repairs and Maintenance						
Land Rates and Taxes						
Staff Development						
<b>VINEYARD OVERHEAD COSTS</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>VINEYARD OVERHEAD COSTS / ha</i>						

## COST SUMMARY (Operating + Overhead)

<b>TOTAL VINEYARD COSTS</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>TOTAL VINEYARD COSTS \$/ha</i>						

## FINANCIAL SUMMARY (\$/ha)

GROSS VINEYARD INCOME \$/ha						
VINEYARD COSTS \$/ha						
<b>BUSINESS RETURN \$/ha</b>						

## FINANCIAL SUMMARY

Sub Unit	2002/03	2003/04	2004/05	2005/06	2006/07	Average
<b>GROSS VINEYARD INCOME</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>less VINEYARD OPERATING COSTS</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>gives VINEYARD GROSS MARGIN</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>less VINEYARD OVERHEAD COSTS</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>gives VINEYARD RETURN</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>less DEBT SERVICING (Interest and Finance)</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>gives BUSINESS RETURN</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>SURPLUS / DEFICIT</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

### FINANCIAL SUMMARY (\$/ha)

GROSS VINEYARD INCOME					
less VINEYARD OPERATING COSTS					
gives VINEYARD GROSS MARGIN					
less VINEYARD OVERHEAD COSTS					
less DEBT SERVICING (Interest and Finance)					
gives BUSINESS RETURN					

### FINANCIAL RATIOS

Ratio	2002/03	2003/04	2004/05	2005/06	2006/07	Comment for most recent year 2007/08
Vineyard Operating Costs / Gross Vineyard Income %						
Vineyard Overheads (no Interest or Finance Costs) / Gross Vineyard Income %						
Business Return / Gross Vineyard Income %						
Vineyard Return / Debt Servicing %						

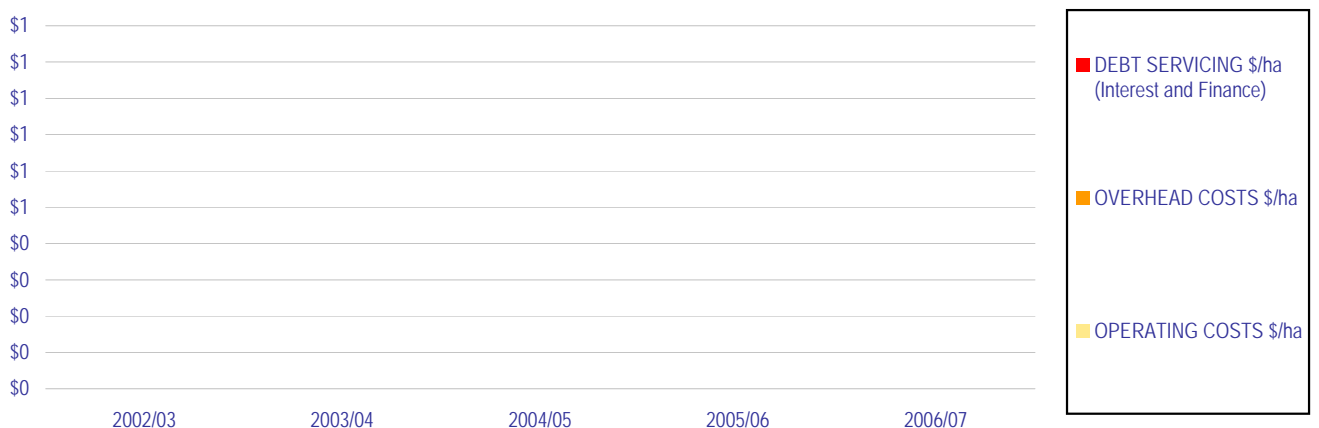
### FINANCIAL RATIO DEFINITIONS

Vineyard Operating Costs / Gross Vineyard Income %	Cost Ratio (Vineyard Operating Costs / Gross Vineyard Income) is a measure of Operating costs, in relation to income and is a measure of efficiency. This will vary depending on the intensity of vineyard management (level of inputs) and the capacity to generate income (yield and price). Is important that after costs there is enough gross income to service overhead costs, Debt Servicing (Interest and Finance Costs), drawings, taxation, etc. A ratio of vineyard operating costs to gross vineyard income less than 50% is considered good.
Vineyard Overheads (no Interest or Finance Costs) / Gross Vineyard Income %	Overhead Ratio (Vineyard Overheads / Gross Vineyard Income) is one of the most important and manageable aspects of a vineyard business. Overheads should not be more than 30% of gross income.
Business Return / Gross Vineyard Income %	Profit Margin Ratio (Business Return / Gross Vineyard Income) is an indication of the profitability of your vineyard. It is a measure of profit, before drawings and taxation, to gross income. A ratio greater than 10% is acceptable
Vineyard Return / Debt Servicing %	Earnings Ratio (Vineyard Return / Debt Servicing (Interest and Finance Costs)) indicates your ability to cover interest payments (finance costs) and is a measure of the amount of money left over after operating and overhead expenses (other than interest)

Gross Vineyard Income less Total Vineyard Costs (Operating + Overhead) gives Business Return (\$/ha)



Vineyard Costs (Operating, Overhead, Debt Servicing) (\$/ha)



## **Appendix 4**

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### **Templates for Collection, Collation & Analysis of Benchmarking Data from the Regions**

- (a) Block Codes**
- (b) Template for Data Collection**
- (c) Profit and Loss Working Sheets and Example**
- (d) Grower Data Survey Feedback Sheet**

## REGIONAL VINEYARD COST INDICATORS - BLOCK CODES-

Each data set collected from data suppliers/growers was coded in such a way as to identify the following attributes:

### 1. REGION

A two to four letter code was used to identify the region in which the grapes are produced.

STATE	REGION	CODE
South Australia	Lower Murray	LM
	Fleurieu	FL
	Limestone Coast	LC
	Mount Lofty Ranges	MLR
	Barossa	BA
New South Wales	Big Rivers	BR
	Central Ranges	CR
	Hunter Valley	HV
	Southern NSW	SNSW
Victoria	North West Victoria	NWV
	North East Victoria	NEV
	Central Victoria	CV
	Western Victoria	WV
	Port Phillip	PP
Western Australia	South Western Australia	SWA
	Greater Perth	GP

### 2. LABOUR STRUCTURE

The following categories were to define what labour structure is in place in the vineyard business. This is often related to vineyard size but not always. It has an important impact on how the labour costs are dealt with in this analysis. The number associated with the closest description of the enterprise was used in the code.

CODE	LABEL	DESCRIPTION
1	Owner Manager Small Vineyard	Owner-operator who does not employ any outside permanent labour but does employ the services of contractors/casuals for certain tasks such as harvesting.
2	Owner Manager Medium Vineyard	Owner-operator who has one or two permanent workers (for example vineyard hand or tractor driver) and uses casuals and contractors.
3	Owner Manager Large Vineyard	The owner manages the business but employs a full time vineyard manager for operational work, monitoring, planning etc. Contractors and casuals are also used.
4	Corporate/Investor Owner Large Vineyard	Full-time Vineyard Manager plus permanent employees, casuals and contractors (similar to No. 3 but Corporate or Investor owned, which will (may) have different overhead costs)

---

### 3. IRRIGATION WATER SOURCE

It is of some interest to know how a vineyard operator sources water for irrigation purposes. Two broad categories were proposed for the code.

CODE	LABEL	DESCRIPTION
1	Private Water Diverter	Water is sourced directly from the rivers or bores, annual water access fees are usually low but pumping costs (power) are high.
2	Irrigator within pumped districts	Water is sourced from Irrigation Water Providers who supply water to farm gate at various pressures. Annual water fees are usually high but pumping costs (for the grower) are low.

### 4. VINEYARD BLOCK NUMBER

This is a sequential number attached on to the end of the code to differentiate blocks of similar description.

#### EXAMPLES

1. A 40 hectare vineyard in the Lower Murray, with the owner plus a full time vineyard hand, plus harvest contractors and hired pruning labour, sourcing water from the Central Irrigation Trust will have a code **LM-2-2-09**
2. His neighbour, who has a similar vineyard situation, will have the code **LM-2-2-10**
3. A 25 hectare vineyard in the Barossa managed by the owner and his family, sourcing water from a bore will have a code **BA-1-1-04**
4. A 200 hectare vineyard at Swan Hill, owned by investors, managed by a fulltime Manager and a team of employees, plus contractors, sourcing water directly from the river, will have a code **NWV-4-1-06**



Wine Grape Growers' Australia



Australian Government  
Department of Agriculture,  
Fisheries and Forestry

## Capacity Building for Australian Wine Grape Growers Project

### REGIONAL VINEYARD COST INDICATOR

TEMPLATE FOR DATA COLLATION

*(Notes for entering enterprise data are available as a separate PDF file)*



*Please return completed templates by email, fax or post to either of the addresses below:*

Mary Retallack  
Scholefield Robinson Horticultural Services Pty Ltd  
PO Box 650, Fullarton SA 5063  
Ph: (08) 8373 2488  
Fax: (08) 8373 2442  
Email: [mary@srhs.com.au](mailto:mary@srhs.com.au)



Garth Swinburn  
Scholefield Robinson Mildura Pty Ltd  
PO Box 1446, Mildura Vic 3502  
Ph: (03) 5023 4644  
Fax: (03) 5023 5814  
Email: [srm@ncable.com.au](mailto:srm@ncable.com.au)

## Regional Vineyard Cost Indicator (Enterprise Margin) - Background Info

Location of Vineyard (Region)

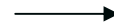
Management Structure (please circle)

Owner Manager  
Small Vineyard



Owner/operator who does not employ any outside permanent labour but does use contractors/casuals for some tasks ie harvesting.

Owner Manager  
Medium Vineyard



Owner/operator who has one or two permanent workers (for example vineyard hand or tractor driver) and uses casuals and contractors.

Owner Manager  
Large Vineyard



The owner manages the business but employs a full time vineyard manager for operational work, monitoring, planning etc. Contractors and casuals are also used.

Corporate/Investor Owner  
Large Vineyard



A full-time vineyard manager is employed plus permanent employees, casuals and contractors (similar to No. 3 but Corporate or Investor owned, which will (may) have different overhead costs)

Water Source (please circle)

Private Water Diverter



Water is sourced directly from a rivers or bore, annual water access fees are usually low but pumping costs (power) are high.

Irrigator within pumped districts



Water is sourced from an irrigation water providers who supply water to farm gate. Annual water fees are usually high but pumping costs (for the grower) are low.

Comments



# Regional Vineyard Cost Indicator (Enterprise Margin) - Data Collection Template

## Vineyard Area (ha)

<i>Sub Unit</i>	2003/04	2004/05	2005/06	2006/07	2007/08
Wine grapes (ha in production)					
Wine grapes (ha not in production)					

## INCOME

<i>Sub Unit</i>	2003/04	2004/05	2005/06	2006/07	2007/08
Wine grape Sales					
Miscellaneous Sales					

## OPERATING (VARIABLE) COSTS

<i>Sub Unit</i>	2003/04	2004/05	2005/06	2006/07	2007/08
Labour - Harvesting					
- Pruning					
- Spraying					
- Canopy Management					
- Miscellaneous					
Fruit Transport					
Levies					
Chemicals					
Nutrition / Fertiliser					
Vineyard Floor Management					
Sundry Materials and Supplies					
Machinery Expenses					
Machinery Fuel					
Machinery, Plant & Equipment Hire					
Water and Drainage Costs					
Water Lease					
Vineyard Repairs & Maintenance					

## OVERHEAD (FIXED) COSTS

<i>Sub Unit</i>	2003/04	2004/05	2005/06	2006/07	2007/08
Permanent Management					
<i>Owner's Labour</i> (see worksheet "Calculating Owner's Labour")					
Land Rates and Taxes					
Power (Buildings)					
Insurance					
Professional Services					
Office/Administration					
Lease or Rent Payments					
OH&S Requirements					
Staff Development					
Environment					
Overhead Repairs & Maintenance					
Debt Servicing (Interest and Finance Costs)					

*Description for each category*

Mechanical harvesting, hand labour & associated costs including yield estimation, maturity sampling, late season crop removal (separate from labour - miscellaneous costs)

Pruning labour or mechanical pruning (separate from labour - miscellaneous costs)

Fungicide or herbicide spray application (separate from labour - miscellaneous costs)

Shoot removal and trimming, early season crop thinning, moving foliage wires, leaf removal, tucking, feathering (separate from labour - miscellaneous costs)

Contractor operations, contract gangs, casual labour, leading hands, operator or family used for specialised tasks not already listed in specialised labour tasks

Fruit transport or cartage costs from vineyard to fruit processor.

Research and development, grower organisation levies. Often deducted automatically from grape payments as a \$/tonne amount.

Fungicide, insecticide, weedicide, bait, pest control

Fertiliser application, foliar nutrient, petiole testing. These tasks are often carried out an on annual basis.

Soil testing, soil amelioration (lime/gypsum), broadcast fertiliser, cover crop/seed, mulch. These are normally longer term tasks ie not carried out an on annual basis.

Sundry hand tools, miscellaneous items, repairs <\$100 ea

Oil, gas and grease, basic servicing and maintenance for vineyard machinery (tractors, utes, ATV, pumps)

Fuel (diesel or petrol) for vineyard machinery (tractors, utes, ATV, pumps). This is separated to facilitate environmental accounting.

Water delivery costs and electricity to power pumps (include water rates or standing fees)

Annual water lease (permanent water purchases should be recorded separately as a capital expense)

Vineyard repairs and maintenance including re-planting dead vines, trellis repairs (do not include major capital expenses).

*Description*

Permanent management (including owner or manager who predominantly manages rather than carrying out 'hands on' tasks).

Estimation or actual. Don't duplicate this amount if it has already been captured in 'Permanent Management'.

Don't include water rates (or standing fees) insert these costs into water and drainage costs (operating).

Electricity (other than power used for pumps/irrigation system)

Public liability, property, contents or crop Insurance

Consultant, research, accountant, legal, secretarial, auditor

Phone, software, stationary, postage, registration

Land or machinery

Personal Protective Equipment (PPE), fire extinguishers, safety signage

Human resource costs, staff training, subscriptions, memberships, course fees, travel and accommodation

Revegetation, water treatment, catchment management

Fences, roads, firebreaks, sheds, grounds

Interest paid on loans, bank fees & charges. Do not include capital or principal repayments.

## Calculating Owner's Labour

<i>Calculation of Owner's Labour</i>	Estimated % of time spent running vineyard?	Base Salary	Superannuation + Workcover <small>Check the current % requirements.</small>	Superannuation and Workcover Calculation	Full Time Salary (Including 'on costs')	% Salary (including 'on costs')
				Formula		
Comments	Estimate % up to a total of 100% (full time)	Select a base salary (use \$40K as a minimum starting point)	Grape growing example: (9% Superannuation, 3.2% Workcover + 0.6% OHS&W Registration Fee).	B X C	B + D	E X A
	A	B	C	D	E	Insert this figure into the worksheet
Owner's Labour Example	50%	\$ 40,000	12.8%	\$ 5,120	\$ 45,120	\$ 22,560
Owner's Labour (your calculation)						



# VineBiz Pilot Workshop (P&L) Exercise

1. Determine if income is derived from wine grape sales or other.
2. Determine if each cost is an OPERATING or OVERHEAD cost and calculate a total for each sub-category.

<b>Notes:</b>	
Professional Services - Accountant and Audit Fees	Rates - \$1,985 for land and \$12,530 for water
Debt servicing - Bank Fees and Interest Paid	Tool Replacement - \$1,500 in Sundry Materials and Supplies
Contract work - \$12,000 Harvesting, \$12,000 Pruning, \$5,000 Spraying, \$500 Canopy Management	Water and Drainage Costs - \$2,470 electricity and \$12,530 rates
Electricity - \$800 buildings and \$2,470 pump electricity	Office Administration - Postage, Security Costs, Staff Amenities and Phone
Fertiliser - \$5,500 for chemicals and \$5,500 into fertiliser	Permanent Labour - Wages, Super and Work Cover
Fuel and Oil include in Machinery Fuel, keep separate from Motor Vehicle Expenses	Staff Development - Traveling and Subscriptions
Motor Vehicle Expense included in Machinery Expenses (keep fuel separate)	Seed, Trees and Vines - \$1,000 Vineyard Floor Mgt (Mounding) and \$200 Vineyard R&M (vines)

Operating Costs		Description
Labour - Harvesting		Mechanical harvesting, hand labour & associated costs including yield estimation, maturity sampling, late season crop removal (separate from labour - miscellaneous costs)
- Pruning		Pruning labour or mechanical pruning (separate from labour - miscellaneous costs)
- Spraying		Fungicide or herbicide spray application (separate from labour - miscellaneous costs)
- Canopy Management		Shoot removal and trimming, early season crop thinning, moving foliage wires, leaf removal, tucking, feathering (separate from labour - miscellaneous costs)
- Miscellaneous		Contractor operations, contract gangs, casual labour, leading hands, operator or family used for specialised tasks not already listed in specialised labour tasks
Fruit Transport		Fruit transport or cartage costs from vineyard to fruit processor.
Levies		Research and development, grower organisation levies. Often deducted automatically from grape payments as a \$/tonne amount.
Chemicals		Fungicide, insecticide, weedicide, bait, pest control
Nutrition / Fertiliser		Fertiliser application, foliar nutrient, petiole testing. These tasks are often carried out on an annual basis.
Vineyard Floor Management		Soil testing, soil amelioration (lime/gypsum), broadcast fertiliser, cover crop/seed, mulch. These are normally longer term tasks ie not carried out on an annual basis.
Sundry Materials and Supplies		Sundry hand tools, miscellaneous items, repairs <\$100 ea
Machinery Expenses		Oil, gas and grease, basic servicing and maintenance for vineyard machinery (tractors, utes, ATV, pumps)
Machinery Fuel		Fuel (diesel or petrol) for vineyard machinery (tractors, utes, ATV, pumps). This is separated to facilitate environmental accounting.
Machinery, Plant & Equipment Hire		
Water and Drainage Costs		Water delivery costs and electricity to power pumps (include water rates or standing fees)
Water Lease		Annual water lease (permanent water purchases should be recorded separately as a capital expense)
Vineyard Repairs & Maintenance		Vineyard repairs and maintenance including re-planting dead vines, trellis repairs (do not include major capital expenses).
<b>Sub Total</b>		

Overhead Costs		Description
Permanent Management		Permanent management (including owner or manager who predominantly manages rather than carrying out 'hands on' tasks).
Owner's Labour		Estimation or actual. Don't duplicate this amount if it has already been captured in 'Permanent Management'.
Land Rates and Taxes		Don't include water rates (or standing fees) insert these costs into water and drainage costs (operating).
Power (Buildings)		Electricity (other than power used for pumps/irrigation system)
Insurance		Public liability, property, contents or crop Insurance
Professional Services		Consultant, research, accountant, legal, secretarial, auditor
Office/Administration		Phone, software, stationary, postage, registration
Lease or Rent Payments		Land or machinery
OH&S Requirements		Personal Protective Equipment (PPE), fire extinguishers, safety signage
Staff Development		Human resource costs, staff training, subscriptions, memberships, course fees, travel and accommodation
Environment		Revegetation, water treatment, catchment management
Overhead Repairs & Maintenance		Fences, roads, firebreaks, sheds, grounds
Debt Servicing (Interest and Finance Costs)		Interest paid on loans, bank fees & charges. Do not include capital or principal repayments.
<b>Sub Total</b>		

# VineBiz Pilot Workshop Exercise

Operating Costs	Enterprise Total	Description
Labour - Harvesting	\$ 12,000	Mechanical harvesting, hand labour & associated costs including yield estimation, maturity sampling, late season crop removal (separate from labour - miscellaneous costs)
- Pruning	\$ 12,000	Pruning labour or mechanical pruning (separate from labour - miscellaneous costs)
- Spraying	\$ 5,000	Fungicide or herbicide spray application (separate from labour - miscellaneous costs)
- Canopy Management	\$ 500	Shoot removal and trimming, early season crop thinning, moving foliage wires, leaf removal, tucking, feathering (separate from labour - miscellaneous costs)
- Miscellaneous		Contractor operations, contract gangs, casual labour, leading hands, operator or family used for specialised tasks not already listed in specialised labour tasks
Fruit Transport	\$ 6,000	Fruit transport or cartage costs from vineyard to fruit processor.
Levies	\$ 1,200	Research and development, grower organisation levies. Often deducted automatically from grape payments as a \$/tonne amount.
Chemicals	\$ 5,500	Fungicide, insecticide, weedicide, bait, pest control
Nutrition / Fertiliser	\$ 5,500	Fertiliser application, foliar nutrient, petiole testing. These tasks are often carried out on an annual basis.
Vineyard Floor Management	\$ 1,000	Soil testing, soil amelioration (lime/gypsum), broadcast fertiliser, cover crop/seed, mulch. These are normally longer term tasks ie not carried out on an annual basis.
Sundry Materials and Supplies	\$ 1,500	Sundry hand tools, miscellaneous items, repairs <\$100 ea
Machinery Expenses	\$ 2,000	Oil, gas and grease, basic servicing and maintenance for vineyard machinery (tractors, utes, ATV, pumps)
Machinery Fuel	\$ 8,000	Fuel (diesel or petrol) for vineyard machinery (tractors, utes, ATV, pumps). This is separated to facilitate environmental accounting.
Machinery, Plant & Equipment Hire	\$ 49,000	
Water and Drainage Costs	\$ 15,000	Water delivery costs and electricity to power pumps (include water rates or standing fees)
Water Lease	\$ 40,000	Annual water lease (permanent water purchases should be recorded separately as a capital expense)
Vineyard Repairs & Maintenance	\$ 200	Vineyard repairs and maintenance including re-planting dead vines, trellis repairs (do not include major capital expenses).
<b>Sub Total</b>	<b>\$ 164,400</b>	
Overhead Costs	Enterprise Total	Description
Permanent Management	\$ 40,000	Permanent management (including owner or manager who predominantly manages rather than carrying out 'hands on' tasks).
Owner's Labour		Estimation or actual. Don't duplicate this amount if it has already been captured in 'Permanent Management'.
Land Rates and Taxes	\$ 1,985	Don't include water rates (or standing fees) insert these costs into water and drainage costs (operating).
Power (Buildings)	\$ 800	Electricity (other than power used for pumps/irrigation system)
Insurance	\$ 5,000	Public liability, property, contents or crop Insurance
Professional Services	\$ 3,500	Consultant, research, accountant, legal, secretarial, auditor
Office/Administration	\$ 6,000	Phone, software, stationary, postage, registration
Lease or Rent Payments	\$ 4,000	Land or machinery
OH&S Requirements	\$ 1,000	Personal Protective Equipment (PPE), fire extinguishers, safety signage
Staff Development	\$ 500	Human resource costs, staff training, subscriptions, memberships, course fees, travel and accommodation
Environment	\$ 1,000	Revegetation, water treatment, catchment management
Overhead Repairs & Maintenance	\$ 7,500	Fences, roads, firebreaks, sheds, grounds
Debt Servicing (Interest and Finance Costs)	\$ 65,000	Interest paid on loans, bank fees & charges. Do not include capital or principal repayments.
<b>Sub Total</b>	<b>\$ 136,285</b>	



# Benchmarking - Vineyard Data Summary - Grower Feedback

Enterprise/Business Name:

## Vineyard Area (ha)

Sub Unit	2002/03	2003/04	2004/05	2005/06	2006/07	Average
Wine grapes (ha in production)						
Wine grapes (ha not in production)						
<b>TOTAL VINEYARD AREA (ha)</b>						

## INCOME

Sub Unit	2002/03	2003/04	2004/05	2005/06	2006/07	Average
Wine grape Sales						
Miscellaneous Sales						
<b>GROSS VINEYARD INCOME</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>GROSS VINEYARD INCOME \$/ha</i>						

## VINEYARD OPERATING (VARIABLE) COSTS

Sub Unit	2002/03	2003/04	2004/05	2005/06	2006/07	Average
Canopy Management						
Chemicals						
Fuel, Oil, Gas and Grease						
Harvesting						
Labour Hire Costs						
Levies						
Machinery, Plant & Equipment Hire						
Nursery						
Nutrition / Fertiliser						
Pruning						
Sundry Materials and Supplies						
Vineyard Floor Management						
Water and Drainage Costs						
Water Lease						
<b>VINEYARD OPERATING COSTS</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>VINEYARD OPERATING COSTS / ha</i>						

## VINEYARD OVERHEAD (FIXED) COSTS

Sub Unit	2002/03	2003/04	2004/05	2005/06	2006/07	Average
Debt Servicing (Interest and Finance Costs)						
Environment						
Insurance						
Lease or Rent Payments						
Office/Administration						
OH&S Requirements						
Permanent Labour						
Power (Buildings)						
Professional Services						
Overhead Repairs and Maintenance						
Land Rates and Taxes						
Staff Development						
<b>VINEYARD OVERHEAD COSTS</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>VINEYARD OVERHEAD COSTS / ha</i>						

## COST SUMMARY (Operating + Overhead)

<b>TOTAL VINEYARD COSTS</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>TOTAL VINEYARD COSTS \$/ha</i>						

## FINANCIAL SUMMARY (\$/ha)

GROSS VINEYARD INCOME \$/ha						
VINEYARD COSTS \$/ha						
<b>BUSINESS RETURN \$/ha</b>						

## FINANCIAL SUMMARY

Sub Unit	2002/03	2003/04	2004/05	2005/06	2006/07	Average
<b>GROSS VINEYARD INCOME</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>less VINEYARD OPERATING COSTS</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>gives VINEYARD GROSS MARGIN</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>less VINEYARD OVERHEAD COSTS</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>gives VINEYARD RETURN</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>less DEBT SERVICING (Interest and Finance)</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>gives BUSINESS RETURN</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>SURPLUS / DEFICIT</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -



### FINANCIAL SUMMARY (\$/ha)

GROSS VINEYARD INCOME					
less VINEYARD OPERATING COSTS					
gives VINEYARD GROSS MARGIN					
less VINEYARD OVERHEAD COSTS					
less DEBT SERVICING (Interest and Finance)					
gives BUSINESS RETURN					

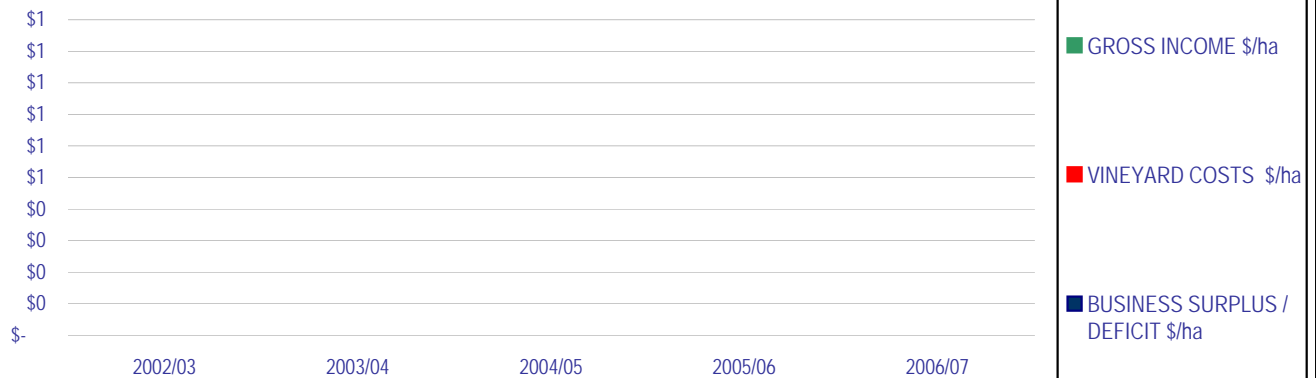
### FINANCIAL RATIOS

Ratio	2002/03	2003/04	2004/05	2005/06	2006/07	Comment for most recent year 2007/08
Vineyard Operating Costs / Gross Vineyard Income %						Poor
Vineyard Overheads (no Interest or Finance Costs) / Gross Vineyard Income %						Poor
Business Return / Gross Vineyard Income %						Adequate
Vineyard Return / Debt Servicing %						Good

### FINANCIAL RATIO DEFINITIONS

Vineyard Operating Costs / Gross Vineyard Income %	Cost Ratio (Vineyard Operating Costs / Gross Vineyard Income) is a measure of Operating costs, in relation to income and is a measure of efficiency. This will vary depending on the intensity of vineyard management (level of inputs) and the capacity to generate income (yield and price). Is important that after costs there is enough gross income to service overhead costs, Debt Servicing (Interest and Finance Costs), drawings, taxation, etc. A ratio of vineyard operating costs to gross vineyard income less than 50% is considered good.
Vineyard Overheads (no Interest or Finance Costs) / Gross Vineyard Income %	Overhead Ratio (Vineyard Overheads / Gross Vineyard Income) is one of the most important and manageable aspects of a vineyard business. Overheads should not be more than 30% of gross income.
Business Return / Gross Vineyard Income %	Profit Margin Ratio (Business Return / Gross Vineyard Income) is an indication of the profitability of your vineyard. It is a measure of profit, before drawings and taxation, to gross income. A ratio greater than 10% is acceptable
Vineyard Return / Debt Servicing %	Earnings Ratio (Vineyard Return / Debt Servicing (Interest and Finance Costs)) indicates your ability to cover interest payments (finance costs) and is a measure of the amount of money left over after operating and overhead expenses (other than interest)

Gross Vineyard Income less Total Vineyard Costs (Operating + Overhead) gives Business Return (\$/ha)



Vineyard Costs (Operating, Overhead, Debt Servicing) (\$/ha)



# Vineyard Benchmarks - Comparative Analysis

Vineyard/Business Name:

Benchmarks for:

Sunraysia

<i>Operating Costs</i>	<i>\$/ha</i>	<i>Low</i>	<i>Average</i>	<i>High</i>	Number of Data Sets
Canopy Management		\$ 683	\$ 683	\$ 683	1
Chemicals		\$ 89	\$ 342	\$ 670	17
Fuel, Oil, Gas and Grease		\$ 48	\$ 292	\$ 777	19
Harvesting		\$ 296	\$ 1,053	\$ 2,160	19
Labour Hire Costs		\$ 66	\$ 1,150	\$ 6,011	12
Levies		\$ 10	\$ 65	\$ 110	12
Machinery, Plant & Equipment Hire		\$ 50	\$ 115	\$ 190	4
Nursery		\$ 366	\$ 366	\$ 366	1
Nutrition / Fertiliser		\$ 17	\$ 260	\$ 678	15
Pruning		\$ 31	\$ 457	\$ 1,517	13
Sundry Materials and Supplies		\$ 3	\$ 110	\$ 373	11
Vineyard Floor Management		\$ 0	\$ 44	\$ 131	6
Water and Drainage Costs		\$ 69	\$ 631	\$ 1,552	19
Water Lease		\$ 84	\$ 570	\$ 1,160	5

**Sub Total (\$/ha)**

\$ -

\$ 3,862

NB: This will differ from the sum of averages

<i>Overhead Costs</i>	<i>\$/ha</i>	<i>Low</i>	<i>Average</i>	<i>High</i>	Number of Data Sets
Debt Servicing (Interest and Finance Costs)		\$ 40	\$ 1,382	\$ 4,878	16
Environment		\$ 172	\$ 939	\$ 1,705	2
Insurance		\$ 31	\$ 235	\$ 793	18
Lease or Rent Payments		\$ 58	\$ 541	\$ 1,160	10
Office/Administration		\$ 37	\$ 152	\$ 659	18
OH&S Requirements		\$ 1	\$ 16	\$ 44	8
Permanent Labour		\$ 375	\$ 1,493	\$ 3,816	12
Power (Buildings)		\$ 12	\$ 32	\$ 75	8
Professional Services		\$ 16	\$ 399	\$ 1,483	19
Overhead Repairs & Maintenance		\$ 60	\$ 616	\$ 1,389	19
Land Rates and Taxes		\$ 15	\$ 175	\$ 343	19
Staff Development		\$ 4	\$ 46	\$ 137	12

**Sub Total (\$/ha)**

\$ -

\$ 3,240

NB: This will differ from the sum of averages