

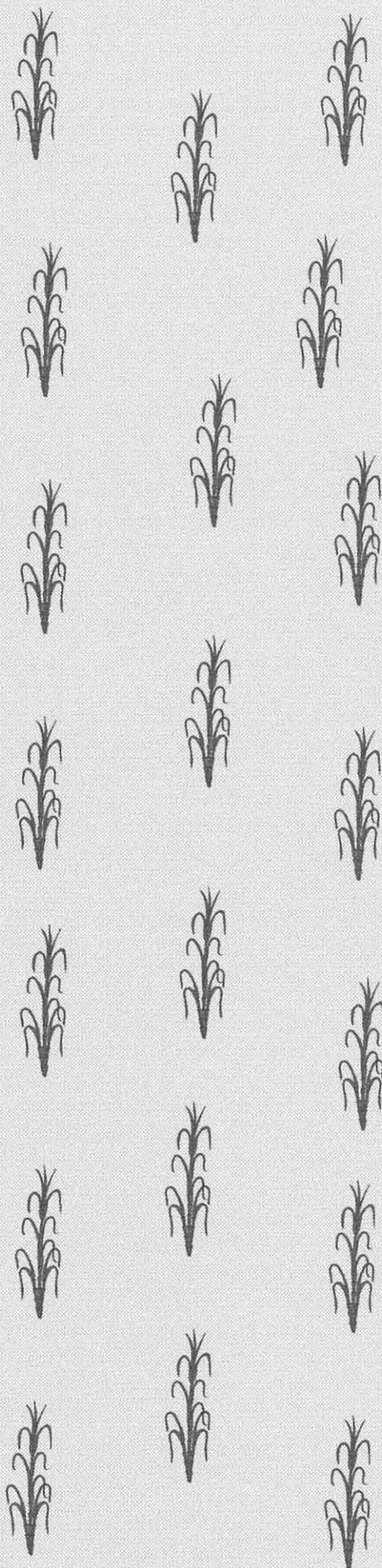
QUEENSLAND SUGAR BENCHMARKING PROJECT

1993 to 1997

Project Members



Supported by



Final Report - SRDC Project BS 91S

DETERMINING THE RELATIONSHIP BETWEEN ON-FARM DECISION MAKING AND PROFITABILITY

Project members

RCS and BSES Contact addresses

RCS
"Broadhurst"
138 Flinders Parade
SANDGATE QLD 4017
Tel: 07 3869 3044
Fax: 07 3869 3066
Email: brisbane@rcs.au.com

BSES
PO Box 86
Indooroopilly
QLD 4069
07 33313333
07 38710383
gmcmahon@bses.org.au

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TERMS USED IN THIS REPORT

Average	Average for the sample analysed
BSES	Bureau of Sugar Experimental Stations
Capitalisation ratio (%)	Income generated per dollar invested in the business
EBIT	Earnings before interest and tax
EBIT (Adjusted)	Earnings before interest and tax using 1993 sugar price
Effective Water Use	Total amount of water applied including rainfall and irrigation
Energy cost	Electricity and fuel costs used to produce \$1,000 worth of gross income
Expense Ratio (%)	Short term, long term, overhead and finance cash expenses as a % of gross income (gross income divided by short term plus long term costs plus overheads plus finance cash expenses)
Finance Ratio (%)	Interest and leases paid as a percentage of gross income (gross income divided by interest and lease costs)
FTE	Full Time Equivalent. Often referred to as one labour year and is equal to 48 weeks worked (includes paid and unpaid labour)
Holidays (weeks/FTE)	Holidays taken per owner FTE
Interest Payments (\$/ha)	Total of interest paid on finance related to enterprise
KPA	Key Performance Area
KPI	Key Performance Indicators (refers to individual indicators)
Lease Charges (\$/ha)	Lease payments related to enterprise
Long Term Gross Margin	Short Term Gross margin less permanent labour (paid and unpaid) and depreciation
Long Term Costs	Permanent wages (paid & unpaid) plus depreciation
Pecuniary ¹	Finance ratios and measures which show the impact of financing and growing expenses on profitability
People ¹	Includes measures of labour efficiency (tc/FTE), training (days/ha) and holidays (wks/owner)

¹ Pecuniary, People, Productivity, Profitability and Property are the five overall key performance areas within Profit Probe™ benchmarking software.

Productivity ¹	Includes measures which are important indicators of crop production, quality and growing costs
Profit Probe™	RCS benchmarking software
Profitability ¹	Economic measures that look at profitability and the return on dollars invested.
Property ¹	Physical property indicators which have an effect on production or the general farm environment
ROAM	Return on assets managed. Is the earnings before interest and tax from the business expressed as a percentage of the total assets employed in the business
RCS	Resource Consulting Services Pty Ltd
Short Term Costs	Farm gate costs plus levies
Short Term Gross Margin	Gross income less short term costs
SRDC	Sugar Research and Development Corporation
Top 20%	The top 20% economic performers ranked on LT Gross Margin
Total Costs (exc finance)	Cost per tonne of cane excluding interest payments
Total Farm (ha/FTE)	Number of hectares per FTE
Training (days/FTE)	Days of training completed per FTE, includes both paid and unpaid labour
Unpaid Labour	Labour contributed by family members or owner/operators who have worked and/or managed the farm but have not drawn a salary. The nominal figure used in this report for time worked by these unpaid members, was based on the Grade 2 Employee Award Rate plus 20%
Yield (tc/MI)	Tonnes of cane produced per Megalitre of effective water used. This includes irrigation plus effective rainfall.

SUMMARY

SUMMARY

The survey

1. This document provides the results of a four year benchmarking project in the Queensland sugar industry. In particular, it highlights the results of data collected from growers in four main regions of Queensland – the Herbert, Burdekin, Bundaberg and Maryborough – over the period 1992/93 to 1995/96. A total of 472 business years of data were collected for this period, however most growers provided 5 years of data in the first year so that at the end of the project they could review their business performance over a 9 year period.

There was a gradual decrease in the number of participants over the life of the project which is not uncommon. As expected there were a number of farm sales and business structure changes during the period. Overall, the project averaged 118 participants per year.

2. During the period covered by this survey the industry witnessed some of the highest returns paid to growers followed by a slight downturn in prices at the end of the period. The southern regions of Bundaberg and Maryborough also experienced a very dry period during the last two years of the project with water restrictions in place for most growers during this time.

Conduct of the project

3. The project involved the following steps:
 - Input design
 - Conduct of awareness workshops in all regions
 - Visits to participants to assist with input sheet completion
 - Benchmark report preparation
 - Conduct of business analysis workshops
 - Conduct of awareness seminars for the banking and accounting professions
4. The business analysis workshops were perhaps the crucial step in ensuring an understanding, and implementation, of the results. This is discussed later.

The results

5. There were a number of significant outcomes from the study and these are summarised under the key business analysis headings (used in the reports provided to growers participating in the project).

6. Do the results tell you anything? This is a question frequently asked and the answer is yes, providing a) the data set for a region is sufficiently large enough to overcome any anomalies, and b) the participants learn to read the reports.

Features of the top performers

7. The top 20% of sugar growers achieve:

- higher sugar yields per hectare
- lower costs/per tonnes' of cane
- better labour efficiency
- lower overheads

As a result of these factors, their gross margin per hectare is significantly greater than the average.

Cost of production

8. The short term costs are those costs incurred to grow the crop whilst the total costs (before finance) provide an indication of grower margin. Cost of production variation between participants are summarised below:

Summary of costs				
	Herbert	Burdekin	Bundaberg	Maryborough
Short term costs (\$/ha)				
Top 20%	1,254	1,779	1,546	1,116
Average	1,300	2,020	1,648	1,386
Total costs ¹ (\$/tc)				
Top 20%	17.44	20.81	22.25	18.97
Average	21.10	21.52	29.95	27.78
Source: RCS/BSES				
¹ Before finance costs				

Profitable business profiles

9. The features of profitable businesses in each of the regions are provided in detail in Annexures I to IV. The table below provides long term targets for growers in each of the regions for selected business indicators. While profitability depends on prices and costs, the following targets are all within a grower's direct control.

Regional business targets					
	Unit	Herbert	Burdekin	Bundaberg	Maryborough
Cane yield	tc/ha	> 105	> 135	> 105	> 100
Sugar yield	ts/ha	> 14	> 19.5	> 15.6	> 13.5
Total costs	\$/tc ¹	< 17	< 19	< 21	< 19
Total costs	\$/ha ¹	< 1,800	< 2,700	< 2,300	< 1,600
Labour productivity	tc/FTE	> 11,500	> 12,000	> 5,000	> 6,300
Expense ratio	%	< 60	< 65	< 70	< 60
¹ Before finance costs but includes unpaid labour					

Size of operation

10. Profitable businesses were found at all farm sizes. In undertaking the analysis, we found considerable variation in the long term gross margin regardless of farm size. For example, in the Herbert and Burdekin, we examined the impact on farm size for those producing less than 30,000 tonnes, those producing between 30,000 and 50,000 tonnes and those producing in excess of 50,000 tonnes. The long term gross margin showed farms in all three categories doing very well and some doing very badly. There was however a tendency for more farms in the small category to show a negative long term gross margin with most of this being attributable to higher unpaid labour costs.

OBSERVATIONS**Participation**

11. There was a perception amongst many in the industry that their records were not sufficient to complete the input sheets. Indeed a number of growers took the input sheets, were visited by us and then failed to complete the remainder of the survey form. This issue improved considerably over the course of the project. Many growers do feel inadequate with respect to their record keeping and thus there will be a reluctance by these growers to participate in such a project.
12. There is a strong perception amongst some in the industry that the reports might be misused. Growers allow business comparisons but millers do not. This perception is difficult to quantify but we believe such feelings exists in all sectors of the industry. However, our view is that no grower who participated felt their individual business details were exposed during this project. That is, despite significant variations in business scale and profitability, the Top 20% and average results remained anonymous.

Labour

13. From this exercise, it is clear that the industry finds it difficult to estimate its own labour inputs. As a result many growers are working for less than wages. The returns over the period analysed were generally very good resulting in less pressure to account for labour performance.

Real price and cost knowledge

14. It is also clear that many growers have little idea about their net farm gate costs relative to their peers within the same district.

The future

15. A significant number of growers who participated in this project are keen to continue.

-
16. There is a lack of direct linkages between agronomic support and business evaluation. This project, whilst a first in this field, none-the-less experienced considerable difficulty in bridging that gap. A way around this is to be more proactive in providing field days/workshops which tighten the analysis of farm performance to include both technical and economic parameters.

INTRODUCTION

1.1 THE PROJECT

This project was one of the first collaborations between a commercial agribusiness consulting company, Resource Consulting Services Pty Ltd (RCS) and the Bureau of Sugar Experimental Stations (BSES) to undertake a full business assessment of cane enterprises across a number of regions in Queensland. The project was designed to build on earlier efforts by a number of organisations to improve farm business management skills and to introduce the concept of benchmarking to participants in the sugar industry.

1.2 THE ORGANISATIONS

The project combined the strengths of two complimentary organisations. RCS, an agribusiness firm with extensive experience in other rural industries, provided the business management and analysis skills to the project whilst BSES, a scientific and R,D&E organisation provided the technical skills required for the project.

1.3 OBJECTIVES

The aim of the project was to achieve an increase in productivity and profitability for canegrowers through improved farm business decision making. Specifically the objectives were:

- Identify the type and extent of technology adoption in five geographically distinct sugar producing regions;
- Quantify the relationship between the degree of technology adoption and productivity;
- Partition individual farm inputs and determine their relationship to productivity;
- Identify the relationship between productivity and profitability;
- Evaluate the effectiveness of decision support programs along the research/extension continuum;
- Establish a baseline that could be used to evaluate the impact of future research and extension activities;
- Review and make recommendations on appropriate modes of delivery or R&E.

1.4 METHODOLOGY & LIMITATIONS

While a full description of the methodology is provided in Section 2, the project involved three core steps over the four year life of the project:

- Formation of grower groups within four canegrowing regions of Queensland;
- Conduct of a full business analysis of each participant in the project;
- Conduct of grower workshops to explain the results of the analysis.

The limitations to this project were considered as follows:

- Initial fears about joining the project (particularly as the Sugar Industry Review was being conducted at the commencement of the project), made initial uptake difficult;
- Difficulty in getting data from growers in a timely manner (some growers had difficulty in providing some data). This factor improved over the life of the project.

1.5 THIS REPORT

This report has been prepared by Mr David Hanlon, Ms Jill Rigney and Ms Lilly Zheng of RCS. All analysis, with the exceptions noted below, was undertaken by RCS utilising Profit Probe™ and additional spreadsheet analysis. RCS acknowledges editorial support by Mr Gavin McMahon (BSES) and his contribution in preparing Sections 2.1 and 9 below. Ms Jo Stringer of BSES prepared the data analysis for Section 9. Additionally, Mr Bryce Davies of BSES prepared the fertiliser use analysis chart.

The report is based on data collected from growers over the four year period, 1993 to 1996 (crop years). These data were collected by RCS and BSES extension officers during the course of this project.

1.6 ACKNOWLEDGEMENTS

This project was helped by the following organisations:

- Mills in the project areas who provided block information and harvest results for participating growers;
- Canegrowers in each of the regions.

In particular, we wish to thank all growers who committed their time and effort to participate in the project.

2 METHODOLOGY & BUSINESS ANALYSIS PROCESS

2.1 METHODOLOGY

A planning meeting was held in the establishment phase of the project to familiarise project staff with the concepts of the project and determine operational procedures for the establishment and operation of the project. At this meeting a profile of each of the possible sugar regions for the project were presented by local staff.

Initially the locations selected for the project were the Herbert, Mackay, Burdekin, Bundaberg and Maryborough districts. These districts were selected to cover a range of geographical and climatic conditions as well as different farming systems. The Herbert, for example, is a non-irrigated district and the majority of the region uses green cane trash blanketing (GCTB) farming techniques. The Burdekin on the other hand is a totally irrigated district with virtually no GCTB. The southern areas of Bundaberg and Maryborough represented different climatic conditions and also smaller farm sizes and perceived lower profitability.

In the early stages it was decided not to commence the project in the central district due to the limited budget, availability of suitable staff and the presence of other benchmarking services of the local accountants Brown and Bird and Bennett and partners.

Selection of participants was discussed with many different views presented. It was finally decided that the project would select participants who:

- wanted to examine their decision making process; and
- were receptive to the motivational aspects of the project.

Gaining participation in the project involved marketing the project to growers in the regional areas with an intense awareness campaign of the following activities:

- discussions with regional industry groups to promote the project and define technical aspects that were important for each group;
- determining issues/outputs/data/barriers for the project;
- development of a promotional package;
- mass-media awareness in the local media outlets such as ABC radio, local rural papers, local papers and local television;
- targeted industry meetings such as annual general meeting and productivity meetings;
- personal contact with potential clients.

The project was also promoted at a state level to gain acceptance from the industry bodies such as CANEGROWERS, ASMC, ACFA, and QDPI. Discussions were also held with local accountants and banking staff but this group of financial advisers were not enthusiastic about becoming involved in the project.

The project was divided into two phases for the remainder of the project:

- Phase 1 - Data collation and analysis (July 1993/December 1994); and
- Phase 11 - Decision support effectiveness assessment (January 1995/June 1997).

Phase I of the project involved an assessment of what technical and economic issues in each region would need to be included to form the basis of a financial, farm production and management survey. Participating farmers were then interviewed to determine current uses of technology, management and financial history. A collation of five years of productivity data provided a baseline to examine the relationship between specific issues of technology and productivity. Financial records for the period were examined to determine the impact of this technology on profitability. The data provided the basis for a comprehensive comparative performance analysis for the sugar industry.

The building of a comparative analysis model was also an integral component of Phase I. Model construction was completed by RCS very early in the project, utilising RCS's existing benchmarking software. This model was refined progressively within the life of the project as RCS released updated versions of the software.

Phased II saw the utilisation of the collected information, which enable participating farmers to set and implement, sound management objectives. Each year a series of business analysis workshops were conducted with participants in each region, which examined the results of the comparative performance analysis. This discussion enabled the participants to redefine their own management goals and practices. Additionally, this phase sought to have participating farmers adopt knowledge gained in Phase I and achieve demonstrable gains in productivity and profitability.

As part of Phase II of the project many of the participants sought one-to-one contact with members of the project team. These discussions generally involved the individual businesses and ways of improving performance.

The research plan and milestones are summarised below.

Phase I – Data collection and analysis (July 1993/December 1994)

Component 1: July 1993/December 1993

1. Establish the project in the following districts: Herbert, Burdekin, Bundaberg and Maryborough.
2. Develop a technical and economic profile in each region
3. Establish survey format, design and sample

Component 2: January 1994/June 1994

1. Conduct personal survey of industry groups
2. Collect whole farm productivity and financial records for each farm surveyed for a period of 5 years
3. Build comparative analysis model

Component 3: July 1994/December 1994

1. Data analysis
2. Interim report– farm survey results

Phase 11 – Decision support effectiveness assessment**Component 1: January 1995/June 1995**

1. Farmer strategy group meetings
2. Collect productivity and financial data on 1994 harvest season

Component 2: July 1995/December 1995

1. Collate financial information and prepare CPA for the 1994/95 financial year
2. Farmer strategy group meetings. Review results/management planning.

Component 3: January 1996/June 1996

1. Farmer strategy group meetings
2. Collect productivity and financial data on 1995 harvest season

Component 4: July 1996/December 1996

1. Collate financial information and prepare CPA for the 1995/96 financial year
2. Farmer strategy group meetings. Review results/management planning.

Component 5: January 1997/June 1997

1. Farmer strategy group meetings
2. Collect productivity and financial data on 1996 harvest season

Considerable effort was made to inform industry and grower financial advisers with seminars held with in the following locations:

Brisbane

- SRDC
- QSC
- Canegrowers

Regional financial awareness seminars

- Ingham
- Ayr
- Bundaberg
- Maryborough

In addition, Mr David Hanlon was invited to give presentations at the Canegrowers Convention and Queensland Caneharvesters Annual General Meeting in 1997.

Key Project milestones

The project milestone completion dates are summarised in Table 1.

Table 1: Project milestone				
MILESTONE	1993/94	1994/95	1995/96	1996/97
Establish Farmer Groups	■			
Complete Design of Comparative Performance model		■		
Publish farm survey results		■		
Conduct farm strategy group meetings			■	■
Publish productivity and profitability gains analysis				■

2.2 THE BUSINESS ANALYSIS PLATFORM

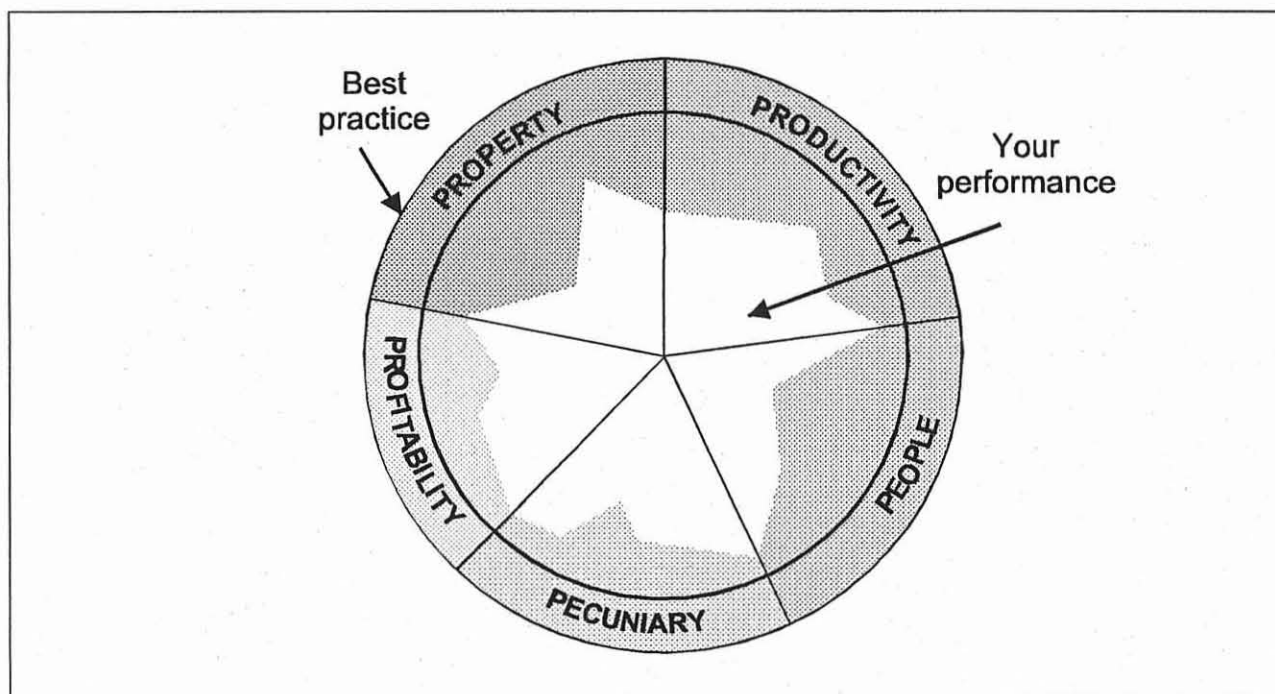
This project adopted the RCS business analysis system. At the centre of this system is the analysis software, **Profit Probe™** which, at the strategic level, examines five key performance areas (KPA's) of the business. These areas summarise the global key performance indicators, or KPI's, for the business. The five areas are shown in Chart 1.

Chart 1 represents a graph of a hypothetical business result from **Profit Probe™**. The white area represents the performance of the business with relation to each of the global KPI's within each key performance area. The outside fringe is the best practice result within a particular benchmark group.

The KPA's provide the business operator with a set of gauges that focus on the factors of their business that they can influence to achieve better performance. Unfortunately, most businesses do not have access to a rigorous set of business indicators that enable this. Hence, our focus is away from lifestyle measures (cash left over) and gross margin analysis (often this is at odds with wealth creation), towards a more holistic approach looking at all aspects of the business.

Accordingly, the components we see as important to measure business success under the KPA's of Chart 1 are summarised in Table 2.

Chart 1: The 5P's Key Performance Areas



The business analysis provides results per hectare and per tonne. Many of the participants preferred to interpret the results using the per tonne data but the project team believes that the results per hectare give a more realistic picture of the true position of the business.

Results provided to the participants were on a three year rolling average as this minimises any seasonal influence or abnormal expenses or incomes. Participants received the results for the key performance indicators for their own individual enterprise, the average of the regional group and the average of the Top 20 %. The average and Top 20% data were sorted on the long term gross margins.

Annexures I to IV provides a sample of a number of the output for the 1996 crop year for each region.

Table 2: Key performance area definitions

Productivity	Includes production measures which are important indicators of production (cane and sugar) and costs. These include: ▪ Cane Yield (tc/ha) ▪ Sugar Yield (ts/ha) ▪ Rel CCS ▪ Total costs (before finance) (\$/tonne of cane (tc)) ▪ Long term gross margin (\$/ha)
People	Includes a measure of labour effectiveness: ▪ Tonnes of cane harvested per fulltime equivalent (tc/FTE)
Pecuniary	Includes measures which show the impact of financing profitability. These include: ▪ Lease charges (\$/ha) ▪ Interest payments (\$/ha) ▪ Expense ratio (%)
Profitability	Includes measures which examine efficiency of capital invested and business profitability. These include: ▪ Capitalisation ratio (%) ▪ EBIT (\$/ha) ▪ ROAM (%)
Property	Includes measures of energy and water use efficiency: ▪ Energy Cost (per \$1000 Gross Income) ▪ Yield (tc/MI)

Using the KPI's

Whilst the information provided via **Profit Probe™** is vital to business analysis, the numbers themselves do not provide the **"how tos"** for business improvement. The **Profit Probe™** business analysis system, outlined in Chart 2, provides a systematic approach to analysing the **"whole of business"**. This approach enables the grower to evaluate farm decisions on the basis of investment returns and not just lifestyle.

Level 1 provides a measure over time of the return to assets managed. Land, as an asset, must provide an adequate return to labour and risk. In a similar way, the enterprise conducted on the land must provide a return to the landowner. That is, profit must be after paying rent for land.

Level 2 undertakes a "whole-of-business" analysis utilising the Profit Probe™ software. This system enables the establishment and monitoring of business benchmarks. In particular, it evaluates what are the critical issues for the business.

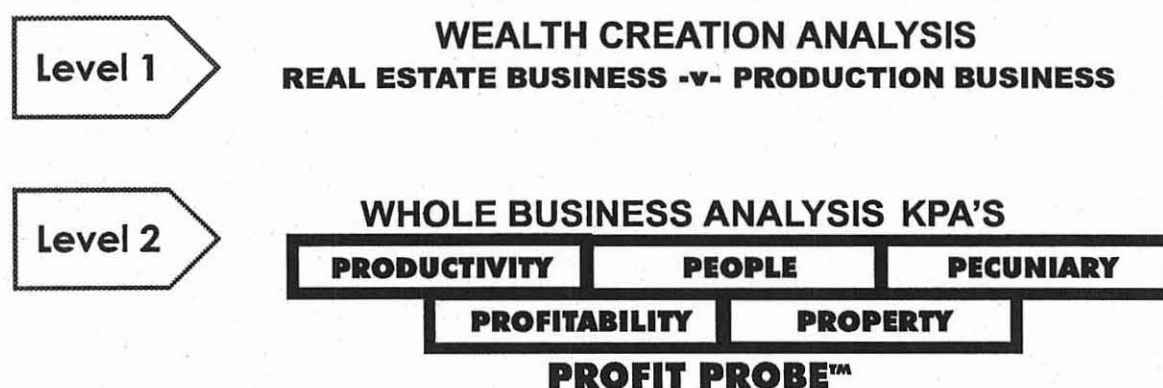
Level 3 provides a more in-depth analysis of the “*three secrets*” – turnover, overheads and gross margins. This is a simple but powerful process in itself. In any business one of these will be a priority area for action. Each enterprise operated by the business is examined in this way. From a detailed assessment of the business, actions for improvement can be developed.

Level 4 examines the impact of both past and future actions on lifestyle and sustainability.

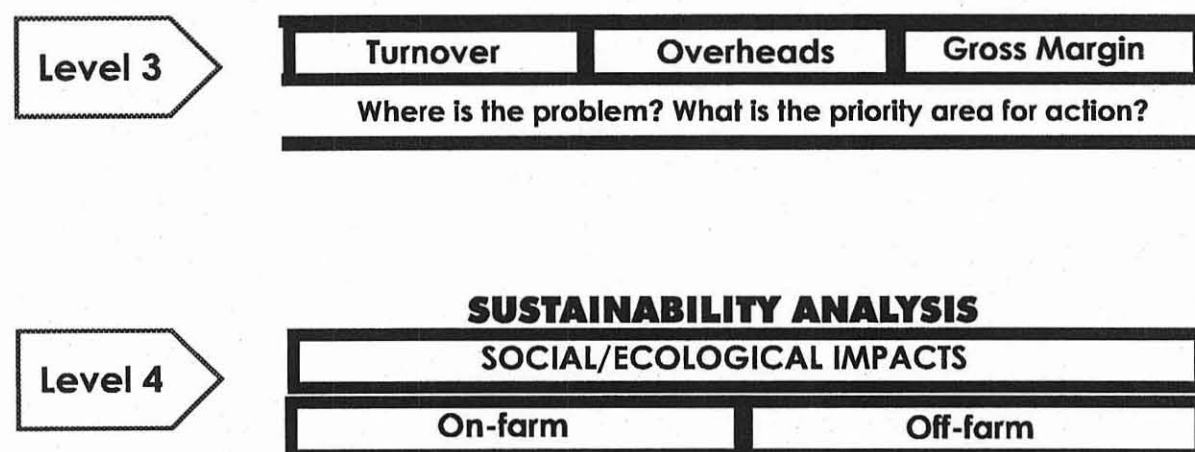
Most users have acknowledged that there is nowhere to hide in **Profit Probe™**. As a state of the art system, it challenges the users to question what they are doing and seek ways of improvement. As a tool it is used in the context of the goals and operation of the business being analysed. Benchmarks themselves are only a by-product of the process, not the desired goal.

Chart 2: Profit Probe™ business analysis system

Strategic Analysis



Tactical (Detailed) Analysis



3 THE PROJECT IN CONTEXT

3.1 INDUSTRY SIZE

During the course of the project, the Australian sugar industry produced approximately 40 million tonnes of cane resulting in 5.5 millions of IPS sugar (Table 3). This production was centred in Queensland (93%), with the remainder being produced in NSW and the Ord River district of Western Australia. Within Queensland, there are four sugar producing regions (Table 3), three of which were sampled as part of this project (Burdekin, Herbert and Southern). In the southern region two subdistricts of Bundaberg and Maryborough were sampled.

Table 3: 1996 Australia sugar season statistics

Region	Area harvested (ha)	Cane crushed (tonnes)	Sugar produced (IPS)	Tonnes cane (tc/ha)	Tonnes cane per tonne sugar (IPS)	Tonnes sugar (ts/ha)	CCS
Qld	380,548	37,216,736	5,156,055	97.80	7.22	13.55	13.62
NSW	18,474	2,387,119	285,616	129.22	8.36	15.46	11.63
Ord	2,260	386,554	36,439	171.00	10.60	16.10	
Australia	401,282	39,990,409	5,478,110	99.66	7.30	13.65	13.50

Source: Australian Sugar Industry 1998

Table 4: 1996 Qld sugar season statistics

Region	Area harvested (ha)	Cane crushed (tonnes)	Sugar produced (IPS)	Tonnes cane (per ha)	Tonnes cane per tonne sugar (IPS)	Tonnes sugar (per ha)	CCS
North Qld	134,636	12,645,276	1,628,631	93.92	7.76	12.10	12.70
Burdekin	64,387	7,547,332	1,137,306	117.22	6.64	17.66	14.55
Central Qld	112,680	11,198,339	1,565,272	99.38	7.15	13.89	13.82
South Qld	68,845	5,825,789	824,846	84.60	7.06	11.98	14.03

Source: Australian Sugar Industry 1998

3.2 THE PROJECT IN PERSPECTIVE

Participation

Overall, there were 472 business years of data analysed in the four project years. There were an additional 5 years of data collected in the first year of the project. These data, while not as reliable as that collected within the years of the project, none-the-less gave participants a 9 year history of their individual business performance. The number of businesses by district are summarised in Table 5. There were a large consistent core in each year of the project, however some participants dropped out after knowing their business position within both the district and the wider Queensland industry. This is understandable.

Table 5: Participant numbers

	Herbert	Burdekin	Bundaberg	Maryborough	Total
1992/93	31	26	45	20	120
1993/94	32	31	44	20	127
1994/95	32	30	41	19	121
1995/96	30	26	33	12	101
Total	125	113	163	71	472

Source: RCS/BSES

Sugar yields

Sugar yields between the project participant groups and mill or district averages are compared in Table 6 below. As indicated in this table, participants in the project in all regions had a higher yield than the district average.

Table 6: Sugar yield – region -v- project (ts/ha)

	1992/93	1993/94	1994/95	1995/96
Queensland	12.52	13.61	12.82	13.31
NSW	13.17	14.47	13.03	15.03
Project comparisons				
<u>Herbert</u>				
-District	11.60	12.26	12.80	12.96
-Project	11.81	12.57	12.88	13.59
<u>Burdekin</u>				
-District	18.42	19.03	17.48	17.13
-Project	19.40	20.30	18.85	17.98
<u>Bundaberg</u>				
-District	11.75	13.22	12.35	12.01
-Project	13.15	14.45	13.21	12.97
<u>Maryborough</u>				
-District	9.01	8.32	9.01	8.32
-Project	9.43	11.47	11.01	11.69

Source: Canegrowers/RCS/BSES

On a closer examination, the impact of the Top 20% on overall performance relative to the district average is seen in Table 7 which compares the Top 20% and the group average against the district average. As indicated in this table, the Top 20% in all regions were significantly above the district average. In Bundaberg, the drop in performance relative to the district average is due to two or more of the top performers dropping out of the project. In Maryborough, we saw significant investment in land improvement by the top performing farms and this came into play during the course of the project.

Table 7: Project sugar production compared to the district average

	Herbert		Burdekin		Bundaberg		Maryborough	
	Top 20%	Av	Top 20%	Av	Top 20%	Av	Top 20%	Av
1992/93	14.5%	1.8%	14.2%	5.3%	33.4%	11.9%	30.6%	4.7%
1993/94	21.7%	2.5%	22.5%	6.7%	29.7%	9.3%	59.0%	37.9%
1994/95	6.2%	0.6%	13.2%	7.8%	24.9%	7.0%	44.5%	22.2%
1995/96	12.3%	4.9%	13.7%	5.0%	27.6%	8.0%	65.5%	40.5%

Source: RCS/BSES

Sugar price

Sugar prices for the four year period of the project were:

- 1993 crop \$352.50/ts
- 1994 crop \$392.50/ts
- 1995 crop \$378.50/ts
- 1996 crop \$342.12/ts

Average farm size

The average farm size of the project participant groups and mill or district averages are compared in the Table 8 below. There was a similar pattern here with participants in all regions having an average farm size larger than that of their district.

Table 8: Farm size – regional average -v- project (ha)

	1992/93	1993/94	1994/95	1995/96
Queensland	71.2	72.8	73.7	75.6
NSW	55.7	56.2	56.6	57.0
Project comparisons				
<u>Herbert</u>				
-District	73.0	76.9	78.1	79.5
-Project	110	116	120	121
<u>Burdekin</u>				
-District	83.3	91.1	94.6	101.8
-Project	124	137	145	154
<u>Bundaberg</u>				
-District	57.5	58.1	59.3	59.2
-Project	62	67	68	61
<u>Maryborough</u>				
-District	67.4	68.0	66.7	68.4
-Project	85	102	101	93

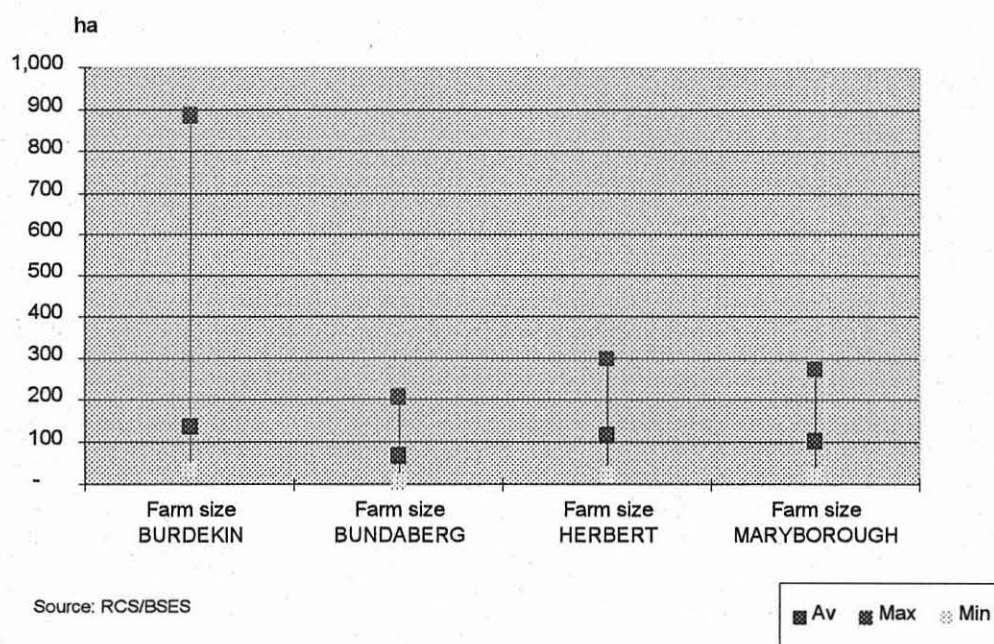
Source: Canegrowers/RCS/BSES

The average farm size throughout the project in the Burdekin was 140 ha, 116 ha in Herbert and 95 ha in Maryborough. In Bundaberg the farms studied were significantly smaller with an average size of 65 ha. In the Burdekin, farms ranged between 887 ha and

35 ha. In the Herbert the farms range between 299 ha and 24 ha while in Maryborough farms ranged between 272 ha and 21 ha. In the Bundaberg the range was between 207 ha and 7 ha.

As indicated in this table both district and project farm size expanded in the Herbert and the Burdekin while in Bundaberg and Maryborough project farm size increased then dropped off in the last year of the project.

Chart 3: Farm sizes



3.3 CCS

Project participants generally improved their CCS relative to the district averages over the period of the project. As an important contributor to tonnes of sugar, there was considerable effort made to relate tonnes of sugar and CCS to profitability in the project.

Table 9: CCS in the region vs. Queensland				
	1992/93	1993/94	1994/95	1995/96
Queensland	13.46	14.40	13.22	13.63
NSW	11.14	12.17	11.41	11.63
Project regions				
<u>Herbert</u>				
-District	13.37	14.74	13.06	13.21
-Project	13.12	15.11	13.29	13.40
<u>Burdekin</u>				
-District	14.89	15.43	14.19	14.62
-Project	14.80	15.10	14.39	14.63
<u>Bundaberg</u>				
-District	13.93	15.01	14.29	14.22

-Project Maryborough	14.34	15.17	14.56	14.56
-District	12.78	13.39	12.78	13.39
-Project	12.62	13.44	13.62	13.79
Source: Canegrowers/RCS/BSES				

4 PROJECT SUMMARY ALL PARTICIPANTS

4.1 INTRODUCTION

This section of the report provides an overview of the economic performance of all regions through a comparison of selected key performance indicators (KPI's). For each of the "5P" key performance areas we have selected the most relevant KPI's and for each summarised as the Top 20% and group average results.

4.2 DIFFERENCES IN INDUSTRY PERFORMANCE

This study highlighted that there are significant ranges in economic performance between the Top 20% and the group average. Some very interesting trends appeared when the four year results from the project were analysed for each region. Table 10 examines the difference (in percent) between the Top 20% and the average for a range of key performance indicators which, individually, are discussed in more depth below. What is clear from this table is that the Top 20% in each region outperformed the group average in each of the KPI's examined. But, more importantly, Table 10 demonstrates that small gains, when aggregated into overall business performance, result in a very large difference on the bottom line.

The results presented in this table indicate that the northern regions have less variation in cane yield and resulting less variation in the financial measures. Much of these differences between the regions can be attributed to smaller farm size and therefore less efficient labour and capital usage in the southern regions.

Table 10: Difference in performance between the Top 20% and Average

	Herbert	Burdekin	Bundaberg	Maryborough
Cane yield (tc/ha)	9%	7%	20%	19%
Sugar yield (ts/ha)	11%	9%	18%	19%
Labour (tc/FTE)	35%	39%	30%	44%
ST costs (\$/ha)	-4%	-12%	-6%	-19%
Total costs (\$/tc)	-17%	-3%	-26%	-32%
LT Gross Margin (\$/ha)	39%	42%	113%	172%
EBIT (\$/ha)	49%	40%	153%	230%
ROAM (%)	47%	33%	148%	211%

Note: all differences are expressed in percentage terms.

Source: RCS/BSES

The enormous differences in return on assets managed (ROAM) indicates that the industry (in keeping with much of agriculture) **does not** relate land values to financial returns in a rigorous way. This is in stark contrast to commercial property where value is related to "yield"; *i.e.* rental returns.

4.3 PHYSICAL PRODUCTIVITY

Yield measures are those most talked about by growers. Yield is also one of the key measures compared in many productivity reports. While yield is an important measure, alone it can be misleading as in perhaps the most obvious case where a participant was an acknowledged leader with respect to tonnes of cane per ha. However, this person fared very poorly in the benchmark report due the very high costs of producing award winning yields.

Cane yield

Yields were measured on the basis of area harvested to ensure consistency. Chart 4 and Chart 5 provide a summary of yields for the Top 20% and average respectively. These results indicate that the Top 20% in the Herbert and Burdekin had cane yields which exceeded the average by 9% and 7% respectively. However, in Bundaberg and Maryborough these were 20% and 19% respectively. Variations in the yield within years are not explained totally by the dry years experienced during some years of the project.

Chart 4: Cane Yield – Top 20%

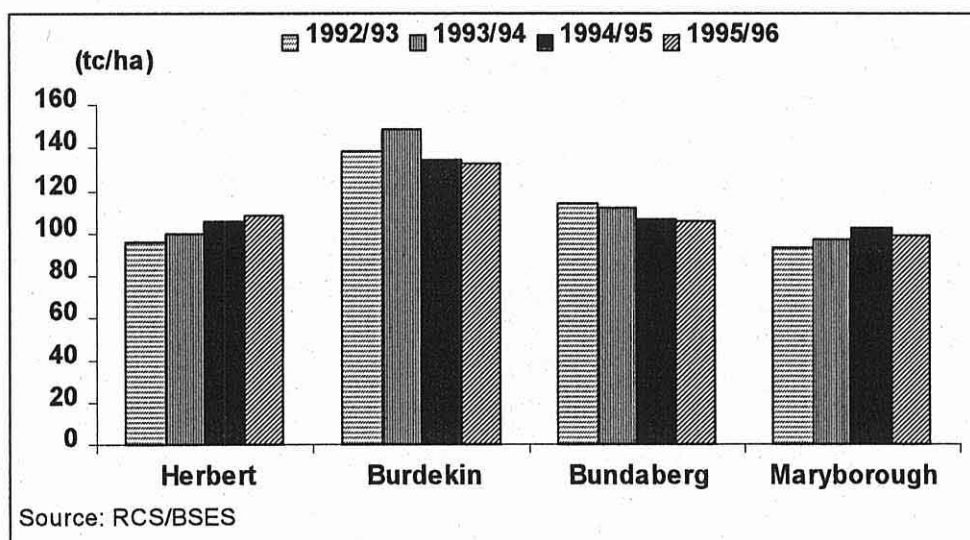
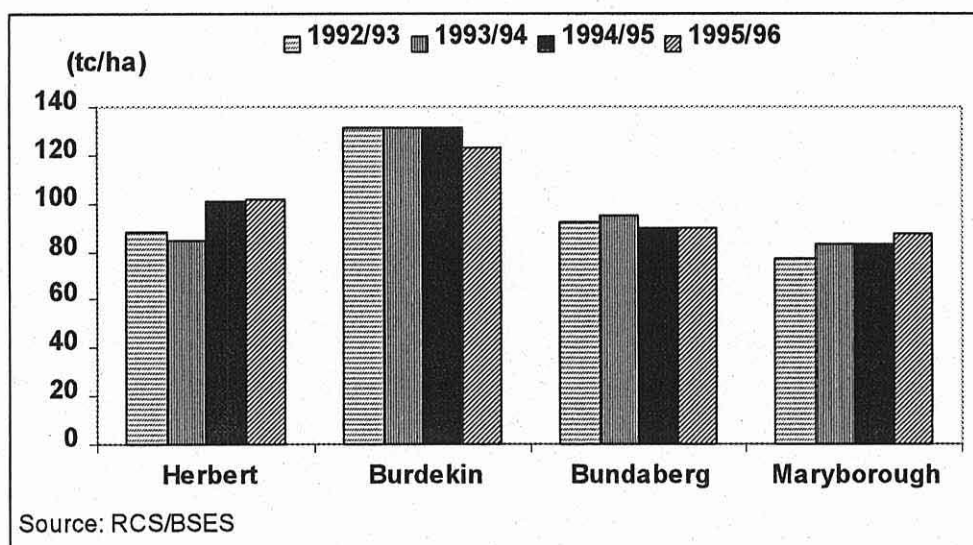


Chart 5: Cane Yield – Average

**Sugar yield**

Sugar yield presents similar patterns. The Top 20% in all regions had a higher sugar yield per hectare.

Chart 6: Sugar Yield – Top 20%

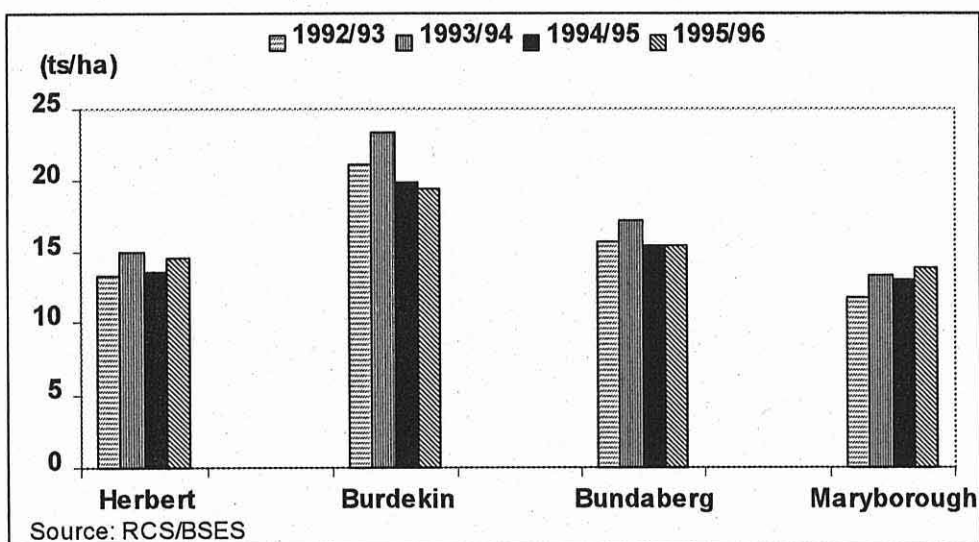
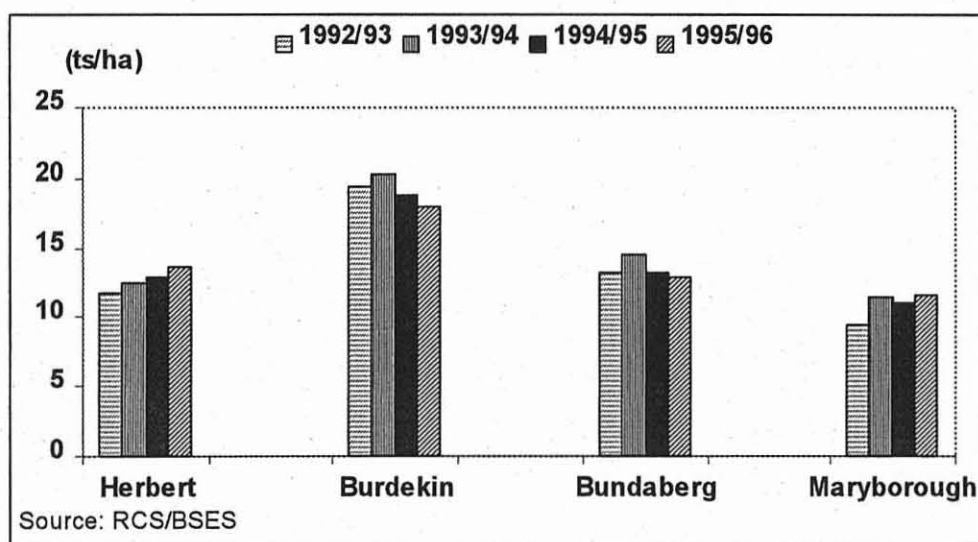


Chart 7: Sugar Yield – Average



4.4 PRODUCTION COSTS

Short-term costs per hectare

These costs are incurred in the growing and harvesting of the crop. As such they are the most critical in deriving business profitability. As seen in the following tables, the difference in cost to grow a hectare of cane between the Top 20% and the group average ranged from \$46/ha in the Herbert to \$264/ha in Maryborough. These differences are even less when harvesting costs are removed.

Table 11: Short term costs (\$/ha) - Top 20%

	Herbert	Burdekin	Bundaberg	Maryborough
1992/93	1,145	1,604	1,515	1,112
1993/94	1,265	1,956	1,508	847
1994/95	1,287	1,691	1,606	1,519
1995/96	1,319	1,906	1,554	987
Average¹	1,254	1,789	1,546	1,116

¹ is the summary of aggregated results for illustrative purposes (ie. It is not a statistical average)
Source: RCS/BSES

Table 12: Short term costs (\$/ha) - Average

	Herbert	Burdekin	Bundaberg	Maryborough
1992/93	1,169	2,116	1,588	1,519
1993/94	1,217	2,014	1,587	1,120
1994/95	1,386	1,972	1,757	1,475
1995/96	1,428	1,987	1,660	1,429
Average¹	1,300	2,022	1,648	1,386

¹ Is the summary of aggregated results for illustrative purposes (ie. It is not a statistical average)
Source: RCS/BSES

Cost per tonne

The total costs to produce a tonne of cane are summarised below. These costs are before finance to ensure those with full equity are compared in the same way to those who have debt funding of the property. As indicated in these tables, the costs for the Top 20%, when averaged over the four year period, ranged from \$17.44/tc to \$22.25/tc in the four regions. It should be remembered these costs include an allowance for unpaid labour in all cases.

The group average costs per tonne of cane were between 3% and 32% higher and, as seen in Table 14, ranged from the low \$20's in the north to the high \$20's in the south of the State.

Table 13: Total costs (\$/tc) – Top 20%

	Herbert	Burdekin	Bundaberg	Maryborough
1992/93	18.05	17.68	22.38	21.30
1993/94	17.75	18.30	21.11	15.68
1994/95	17.31	26.70	22.17	22.93
1995/96	16.65	20.54	23.34	15.98
Average¹	17.44	20.81	22.25	18.97

Note: Before finance costs but including overheads
¹Is a summary of the aggregated results for illustrative purposes (ie. it is not a statistical average)
Source: RCS/BSES

Table 14: Total costs (\$/tc) – average				
	Herbert	Burdekin	Bundaberg	Maryborough
1992/93	21.05	20.05	31.05	33.13
1993/94	22.14	21.66	28.10	22.54
1994/95	20.36	20.94	30.85	28.45
1995/96	20.86	23.43	29.80	27.00
Average¹	21.10	21.52	29.95	27.78
Note: Before finance cost but including overheads				
¹ Is a summary of the aggregated results for illustrative purposes (ie. it is not a statistical average)				
Source: RCS/BSES				

4.5 LONG TERM GROSS MARGINS

Long term gross margin (LT GM) is a key indicator of business profitability. The LT GM provides the first measure of business profitability. As indicated in these tables, the returns per hectare were significantly different between the Top 20% and average. The Top 20% in the two northern districts had LT GM's which were some 40% better than the group average, while the two southern districts Top 20% had LT GM's in excess of 100% better than the average.

Table 15: LT Gross Margins - Top 20%				
	Herbert	Burdekin	Bundaberg	Maryborough
1992/93	1,485	2,799	1,469	889
1993/94	2,297	3,699	2,323	1,881
1994/95	1,868	2,911	1,878	1,393
1995/96	1,602	1,956	1,249	1,561
Average¹	1,813	2,841	1,730	1,431
¹ Is a summary of the aggregated results for illustrative purposes (ie. it is not a statistical average)				
Source: RCS/BSES				

Table 16: LT Gross Margins - Average

	Herbert	Burdekin	Bundaberg	Maryborough
1992/93	1,023	1,669	503	(340)
1993/94	1,652	2,717	1,383	1,175
1994/95	1,451	2,151	834	674
1995/96	1,096	1,489	532	596
Average¹	1,306	2,006	813	526

¹Is a summary of the aggregated results for illustrative purposes (ie. it is not a statistical average)

Source: RCS/BSES

4.6 IMPACT OF SUGAR PRICE ON LT GROSS MARGIN

The price for the 1994 crop was a record high of \$392.00/ts and in the workshops for that year every grower had their data analysed with a range of price scenarios. These were:

- 1994 crop price
- \$350/ts
- \$300/ts
- \$250/ts

Most growers thought the extremes were unlikely, however the data produced in the following tables and charts indicated the impact, under 1994 crop year conditions, of such price changes. These tables indicate, before finance costs:

- the Top 20% in all districts (Maryborough excepted) would have a positive return at a sugar price of \$250/ts;
- the average in the Herbert and the Burdekin were just positive at a sugar price of \$250/ts;
- a price of \$350/ts and less meant that the majority of southern producers were working for less than labourer wage rates.

Table 17: Impact of price on LT GM - Top 20%

Sugar price	Herbert	Burdekin	Bundaberg	Maryborough
\$/ts		(\$/ha)		
350	1,459	2,355	1,523	641
300	1,006	1,710	976	226
250	553	1,065	428	(190)

Source: RCS/BSES

Table 18: Impact of price on LT GM - Average

Sugar price	Herbert	Burdekin	Bundaberg	Maryborough
\$/ts		(\$/ha)		
350	1,142	1,608	(6)	(392)
300	700	1,000	(377)	(653)
250	258	391	(749)	(913)

Source: RCS/BSES

4.7 MAJOR COST AREAS

Within all districts seven cost areas made up some 90% of all costs in cane production. Proportionally the seven main costs varied across districts and this is dependent on district practices. In the Maryborough region, the group had a significantly larger number of harvester owner operators. These growers had higher labour costs and lower harvesting costs. The large number of very small farms in the Bundaberg region contributed to higher labour costs for the Bottom 20% of growers.

Table 19: Major costs areas in cane growing before finance and depreciation

	Herbert		Burdekin		Bundaberg		Maryborough	
	Top 20%	Bottom 20%	Top 20%	Bottom 20%	Top 20%	Bottom 20%	Top 20%	Bottom 20%
Harvest	27%	22%	30%	21%	23%	14%	10%	21%
Fert/chem	27%	27%	15%	17%	20%	16%	13%	15%
Fuel	5%	4%	4%	5%	4%	5%	10%	5%
R&M	9%	9%	8%	9%	8%	11%	15%	16%
Overheads	10%	11%	7%	12%	5%	8%	7%	6%
Labour ¹	14%	22%	17%	14%	27%	36%	34%	29%
TOTAL	92%	96%	80%	78%	87%	91%	89%	92%

¹ Includes paid and unpaid labour.
Source: RCS/BSES

4.8 LABOUR PRODUCTIVITY

Labour productivity, measured as full time equivalents (FTE) was one of the more interesting, and at times, controversial measures. In order to compare on an equal footing, time included all unpaid labour, paid (permanent and casual) and harvester teams. While it is acknowledged that this is one of the hardest areas to estimate, in each year there were in excess of 100 growers contributing information. We also believe that, over the life of

the project, many growers became more conscious of their time – both from a recording perspective and from how it was utilised on-farm.

Overall labour productivity improved significantly over the life of the project as indicated in Table 20. By the end of the project the average labour productivity for the participating group was 7,000 tonnes of cane per full time equivalent.

Table 20: Labour productivity					
		1992/93	1993/94	1994/95	1995/96
Labour	tc/FTE	4,603	6,280	6,293	7,098
Source: RCS/BSES					

Within the regions however, there were significant variations in the productivity of labour as indicated in Table 21 and Table 22. The Top 20% in the northern regions achieved in excess of 10,000 tc/FTE while the southern farms were only able to between 4,000 and 6,000 tc/FTE. The differences within regions are also significant as the Top 20% within each region had productivity increases of 30% (Bundaberg), 35% (Herbert), 39% (Burdekin) to 44% (Maryborough).

Table 21: Labour productivity (tc/FTE) - Top 20%				
	Herbert	Burdekin	Bundaberg	Maryborough
1992/93	8,111	8,895	3,846	4,413
1993/94	9,530	8,965	3,957	5,207
1994/95	9,447	13,836	4,720	5,590
1995/96	13,371	11,727	4,891	7,697
Average¹	10,115	10,856	4,354	5,727
¹ Is a summary of the aggregated results for illustrative purposes (ie. it is not a statistical average)				
Source: RCS/BSES				

It should also be noted that there were a small number of farms achieving in excess of 20,000 tc/FTE in the two northern regions.

Table 22: Labour productivity (tc/FTE) - Average

	Herbert	Burdekin	Bundaberg	Maryborough
1992/93	5,789	5,746	3,088	2,067
1993/94	6,909	7,788	2,034	4,864
1994/95	7,751	9,737	3,900	4,195
1995/96	9,519	8,003	4,360	4,816
Average¹	7,492	7,819	3,346	3,986
¹ Is a summary of the aggregated results for illustrative purposes (ie. it is not a statistical average) Source: RCS/BSES				

4.9 EARNINGS BEFORE INTEREST AND TAX (EBIT)

Earnings before interest and tax (EBIT) provides a measure of the cash (after allowance for depreciation) available for the farm business owners. As a consequence it is important to use EBIT as one of the major indicators of overall business performance. While EBIT is expected to vary with sugar price, other factors such as weather also impact on this. In all regions, EBIT was in excess of \$1,300/ha for the Top 20%. However, in the southern districts, the average was \$635/ha in Bundaberg and \$395/ha in Maryborough.

From these findings, it is clear that it is possible to achieve high returns (after allowing for true labour costs) in all regions.

Table 23: Earnings before interest and tax (4 year average)

	Herbert	Burdekin	Bundaberg	Maryborough
Top 20% (\$/ha)	1,657	2,648	1,606	1,301
Average (\$/ha)	1,115	1,892	635	395
Difference (%)	49%	40%	153%	230%
Source: RCS/BSES				

Chart 8: EBIT (\$/ha) – Top 20%

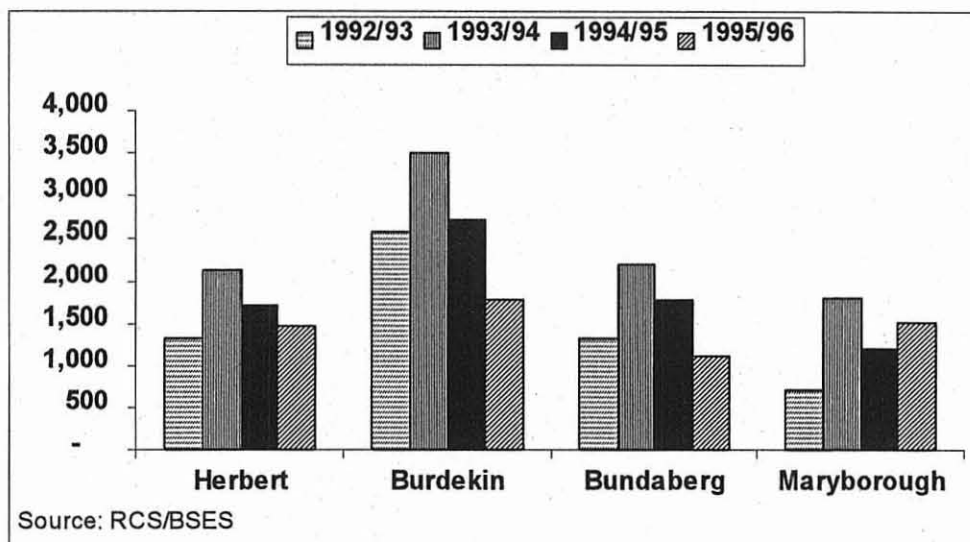
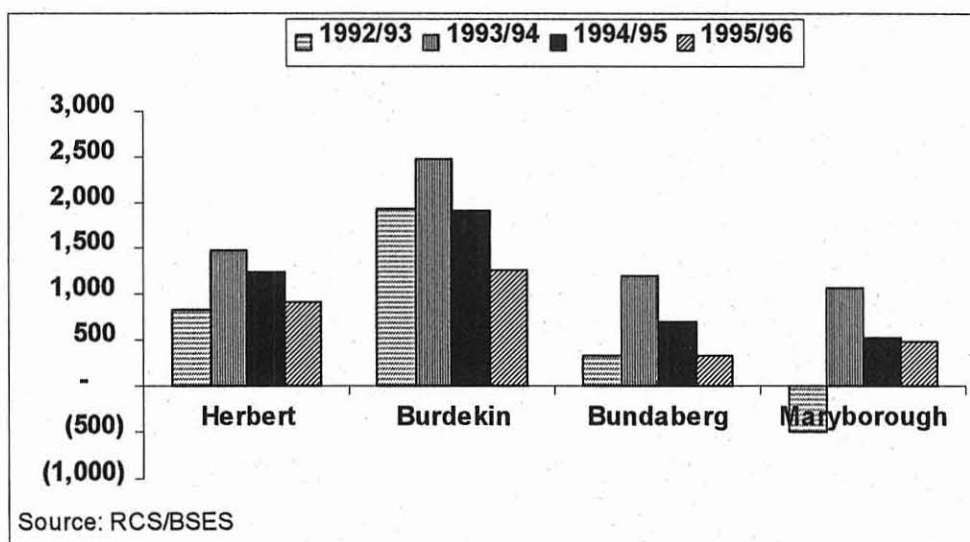


Chart 9: EBIT (\$/ha) – Average



Impact of sugar yields on EBIT²

It is also important to understand the key drivers of EBIT. To remove any effect of fluctuating sugar price, we have compared nominal returns (based on actual sugar price) as well as an adjusted EBIT based on 1993 harvest season sugar price. Table 24 demonstrates that, for the entire group of participants, adjusted EBIT also followed the trend in sugar production confirming that productivity is a key driver in profitability.

Table 24: Comparison of sugar yield with EBIT(adjusted)					
		1992/93	1993/94	1994/95	1995/96
Sugar Yield	ts/ha	14.93	15.63	15.09	14.25
EBIT Adjusted	\$/ha	792	1,236	940	842

Source: RCS/BSES

4.10 RETURN ON ASSETS MANAGED (ROAM)

Return on assets managed (ROAM) is a measure of wealth creation. As such, it is an important KPI to ensure that a business investment maintains parity of wealth over time with respect to alternative investment options. This factor is important as land is frequently perceived as the safest and best "superannuation" investment. Unfortunately, for the majority of growers this is not the case. Based on RCS experience in analysis of the growth in rural land values in other sectors, farmland which experiences better than share index growth over the long term falls into the following categories. It is either:

- Land which changes from one use to a higher use value (*eg.* rural to industrial, etc.);
- It is developed to a higher agricultural use (*eg.* pastoral to horticulture);
- The area is newly opened up for the particular industry (*eg.* the Burdekin in the late 1980's, early 1990's).

Table 25 indicates that the Top 20% in all districts achieved a ROAM in excess of 10% whereas the Burdekin was the only district to achieve this for the entire group. In keeping with other KPI's, the differences between the Top 20% and the average are significant and most pronounced in the two southern regions.

Table 25: Return on assets managed (4 year average)				
	Herbert	Burdekin	Bundaberg	Maryborough
Top 20%	13%	17%	15%	21%
Average	9%	13%	6%	7%

Source: RCS/BSES

² Note: All adjusted EBIT analysis was made on participants who provided four years of data. Thus, the sample size varies for this set of analysis.

Chart 10: ROAM – Top 20%

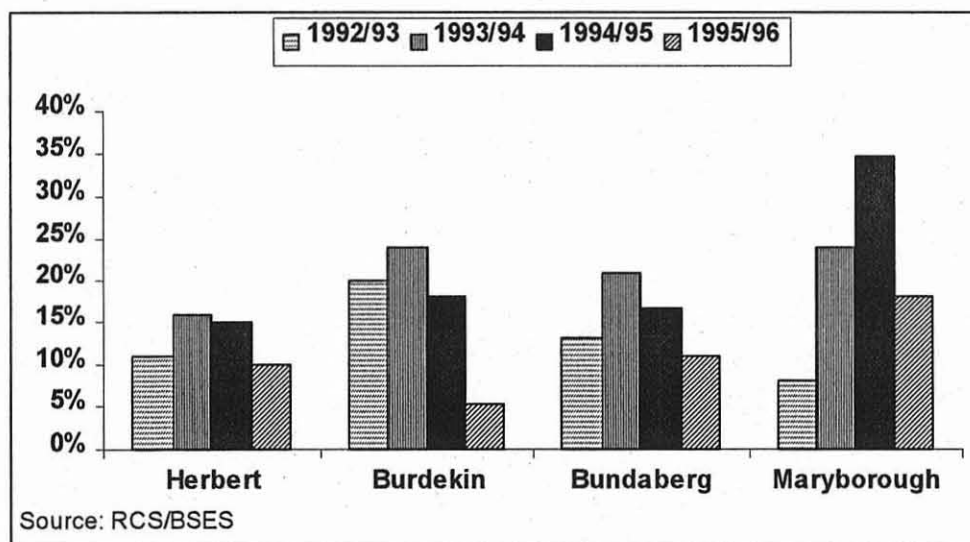
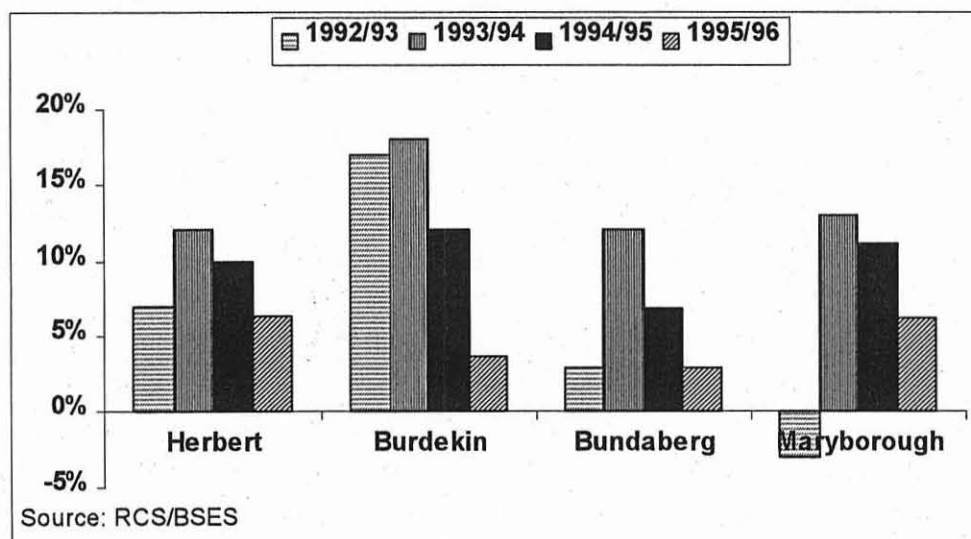


Chart 11: ROAM – Average



4.11 WATER

The importance of water, whilst obvious, is highlighted in Table 26 and Chart 12. Effective water use for all project participants was estimated from local rainfall and irrigation applied. As seen in Table 26, the results of the 1995/96 year demonstrate the impact of lower

water allocations available in the Bundaberg and Maryborough regions and lower rainfall in the Herbert. As expected, there is a strong correlation between sugar production and effective water use. The flow-on impacts of water availability are clearly illustrated in Chart 13, which shows that, within the project, participants with the greatest effective water availability had the highest sugar yields and were in the Top 20% of producers when ranked on sugar yield.

Table 26: Water usage - all participants

	1992/93	1993/94	1994/95	1995/96
Effective Rainfall ¹ (MI/ha)	7.93	11.30	7.06	5.84
Effective Water Use (MI/ha)	10.28	13.09	9.88	6.96
Total	18.21	24.39	16.94	12.80

¹ Determined on a regional basis
Source: RCS/SRDC

Chart 12: Effective water use –v- sugar yield

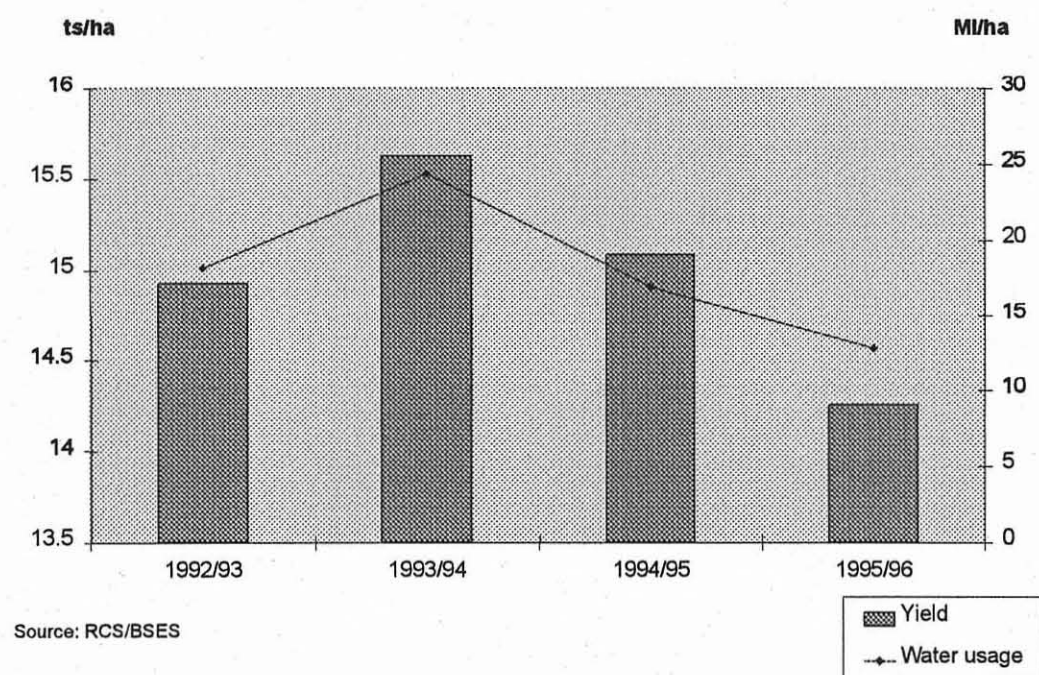
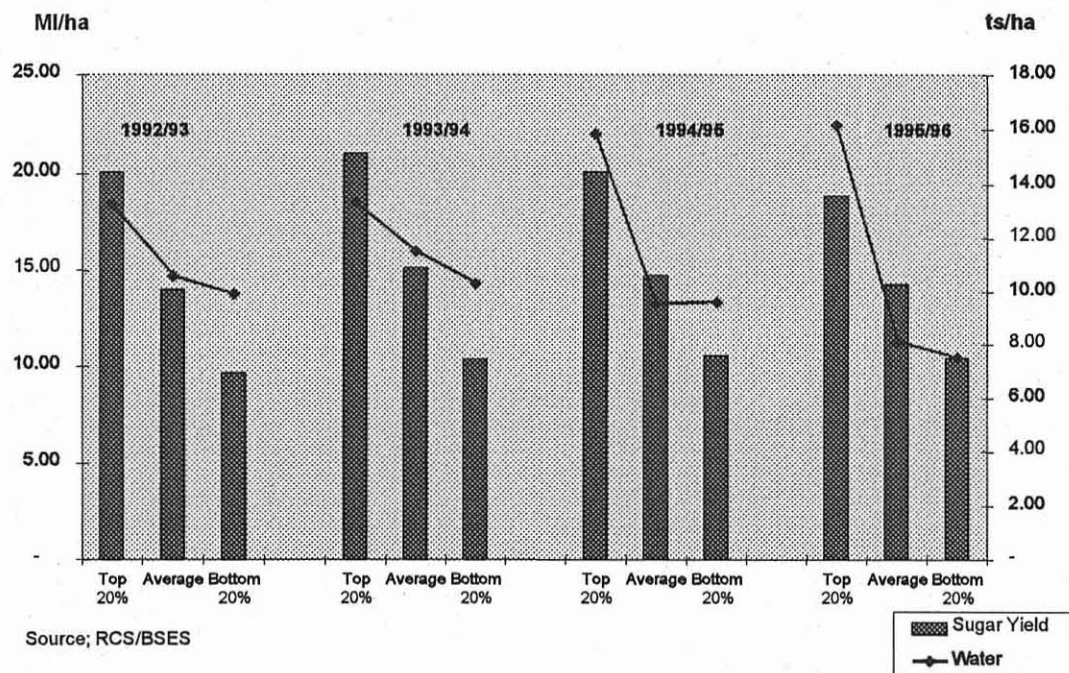


Chart 13: Effective water use –v- sugar yield

Note: The three groups here are sorted by sugar yield (ts/ha) instead of LG Margin as is usually the case.



4.12 RATOONS

Ratoon length changed slightly over the life of the project but this was considered not to be a significant change.

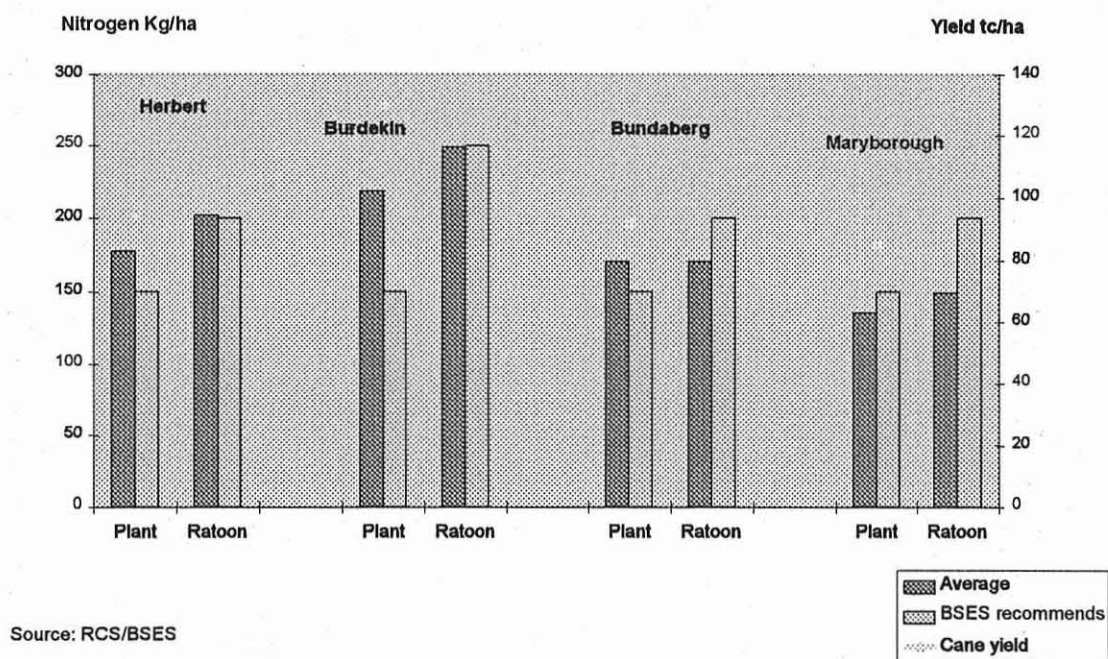
Table 27: Ratoon usage in the region				
	1992/93	1993/94	1994/95	1995/96
Ratoons/ crop cycle	3.80	3.81	3.88	3.90
Source: RCS/BSES				

4.13 NITROGEN

The level of nitrogen use varies from BSES recommendations for all four regions, particularly in plant cane. Over the four year period of the project, plant cane applications were higher than BSES recommendations (Maryborough excepted). Ratoon applications of nitrogen were close to BSES recommendations in the Herbert and Burdekin regions but lower in Maryborough and Bundaberg.

Fertiliser usage by the Top 20% was significantly higher in plant cane than the group average in all regions however had similar usage on ratoon crops.

Chart 14: Nitrogen use for plant and ratoon cane

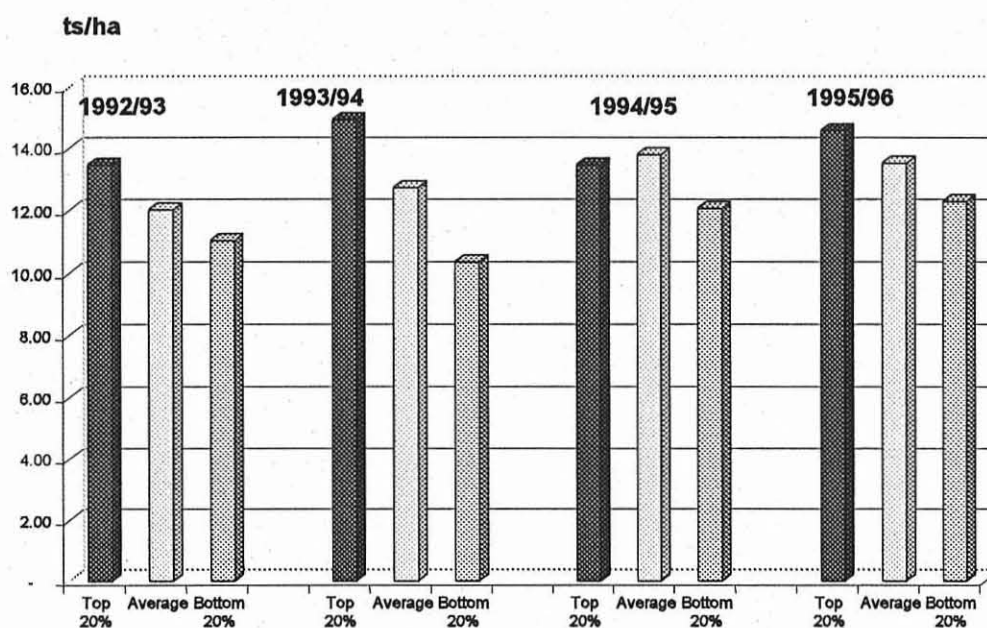


5 HERBERT

5.1 SUGAR YIELD

Sugar yield in the Herbert region differed from the Burdekin and Bundaberg regions in that it produced the highest sugar yield in 1993/94 and then remained constant or slightly improved over the life of the project. As the Herbert is a predominantly rainfed region weather conditions have a significant impact on production.

Chart 15: Sugar yield - Herbert

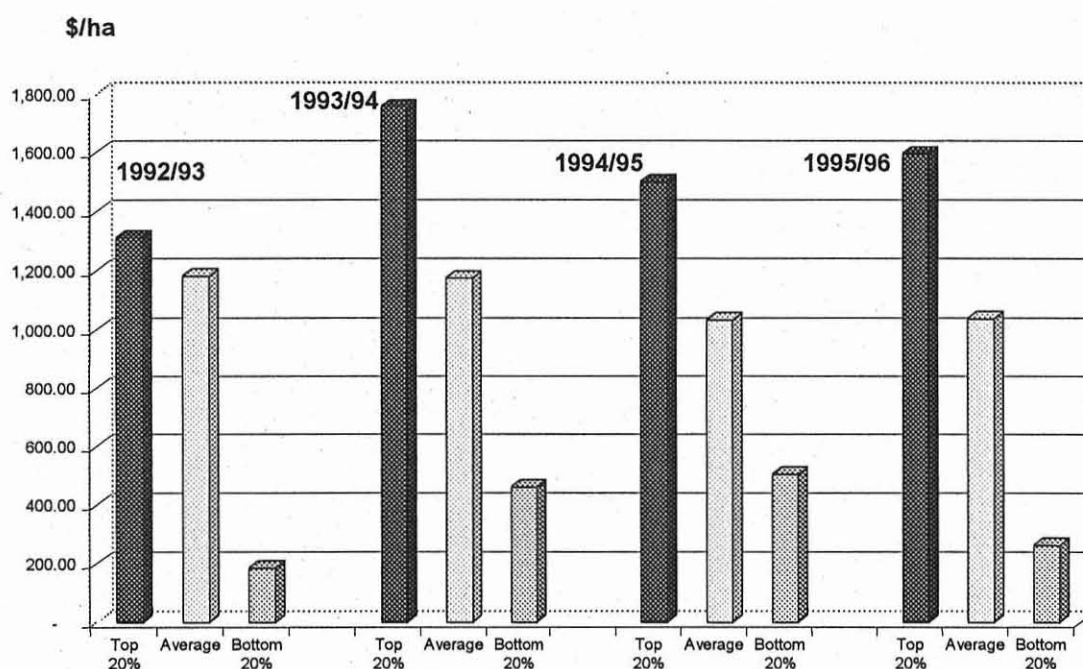


Source: RCS/BSES

5.2 EBIT (ADJUSTED)

The returns after adjustment for changes in sugar price indicated that EBIT (adjusted) was highest for 1993/94, with the remainder of the years averaging just under \$1,500/ha for the Top 20% and \$1,100/ha for the group average.

Chart 16: EBIT (adjusted) - Herbert



Source: RCS/BSES

5.3 FARM SIZE

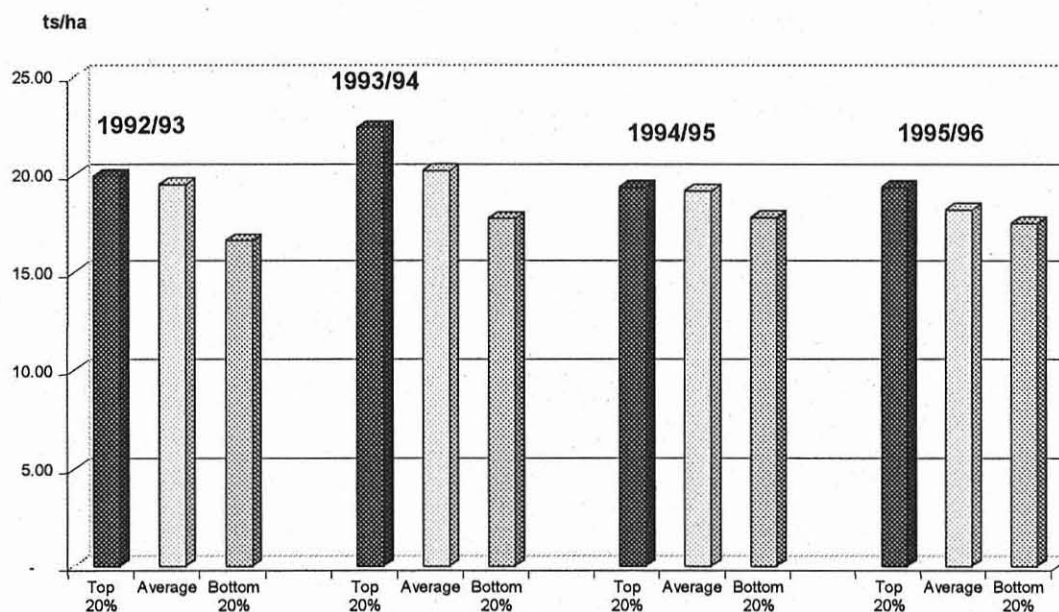
Farm sizes in the Herbert ranged from 24 ha to 299 ha with the average 116 ha. The tonnes harvested per enterprise ranged from 2,313tc to 28,707tc with the average just under 10,000 tc.

6 BURDEKIN

6.1 SUGAR YIELD

In 1993/94, higher sugar yields reflected better seasonal conditions, however in all cases the Top 20% had higher sugar per hectare than the group average.

Chart 17: Sugar yield - Burdekin

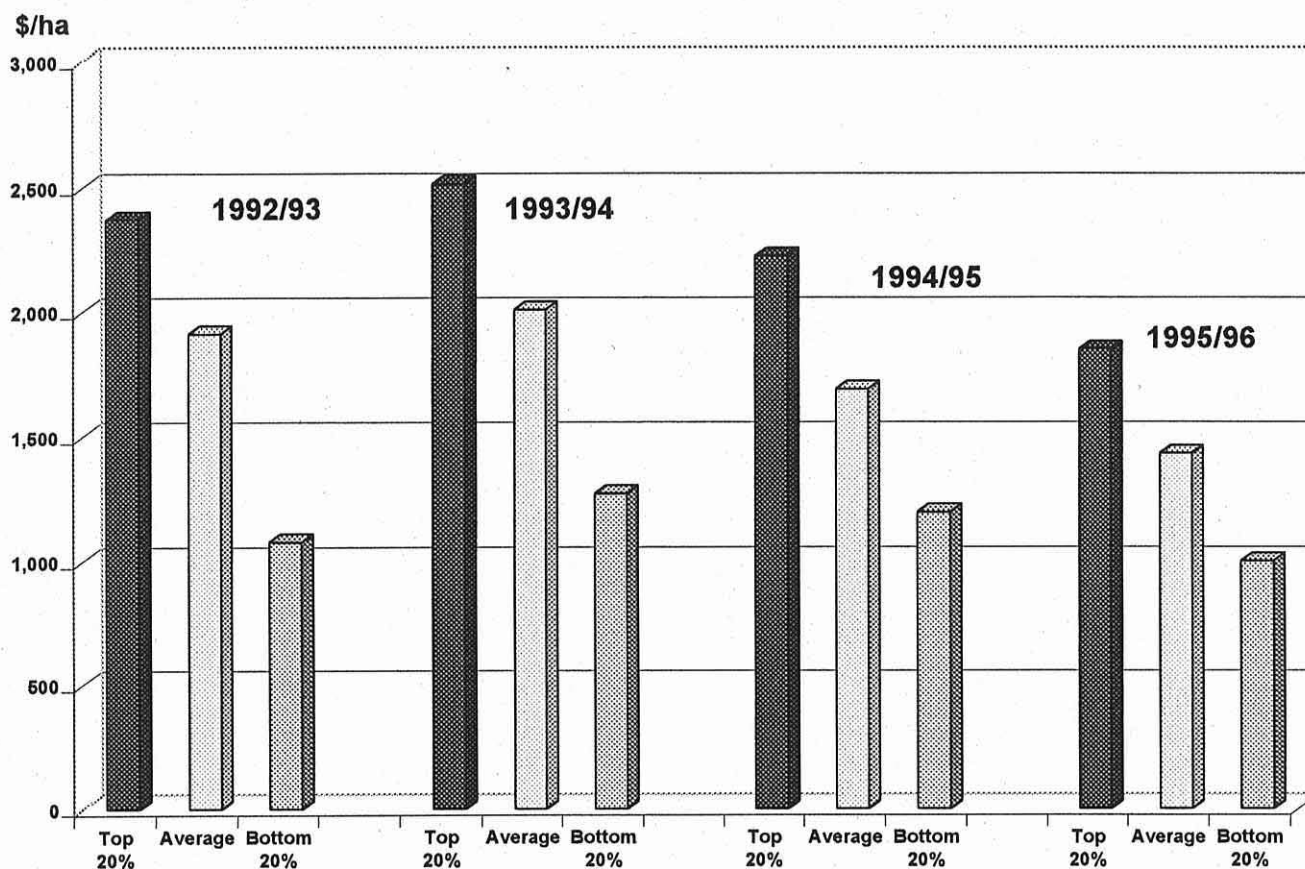


Source: RCS/BSES

6.2 EBIT (ADJUSTED)

As indicated in the following chart, the adjusted EBIT indicated the Top 20% averaged in excess of \$2,000/ha in all years (1996 crop year excepted). The Bottom 20% averaged around half this in all years.

Chart 18: EBIT (Adjusted) - Burdekin

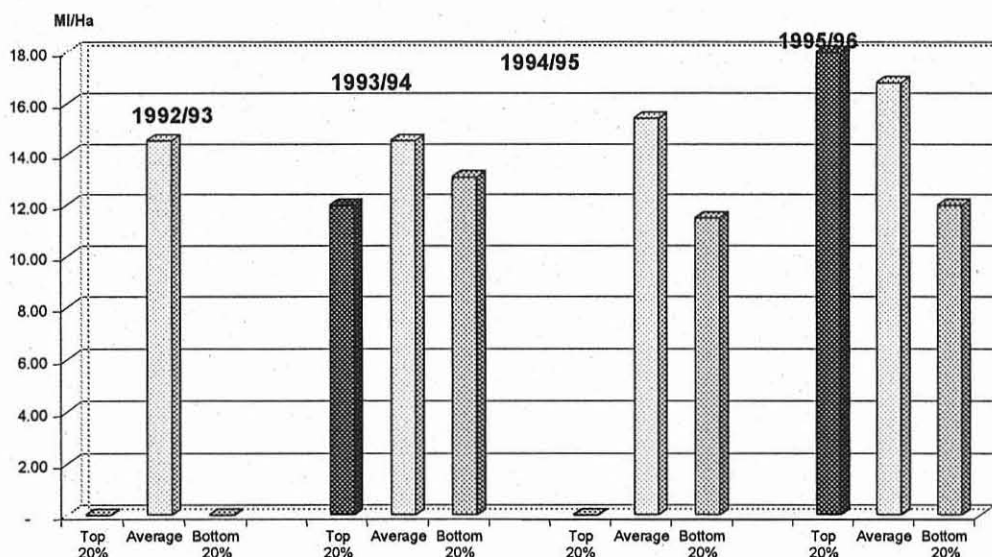


Source: RCS/BSES

6.3 WATER USE

Water use was difficult to gauge as most participants did not meter water. Hence, data are scarce in the early years of the project. During the project life more participants recorded water use and these results are summarised in the chart below. The only data with some degree of reliability is the last year of the project where at least 16 MI/ha was applied by the majority of those recording.

Chart 19: Water usage - Burdekin



Source: RCS/BSES

6.4 FARM SIZE

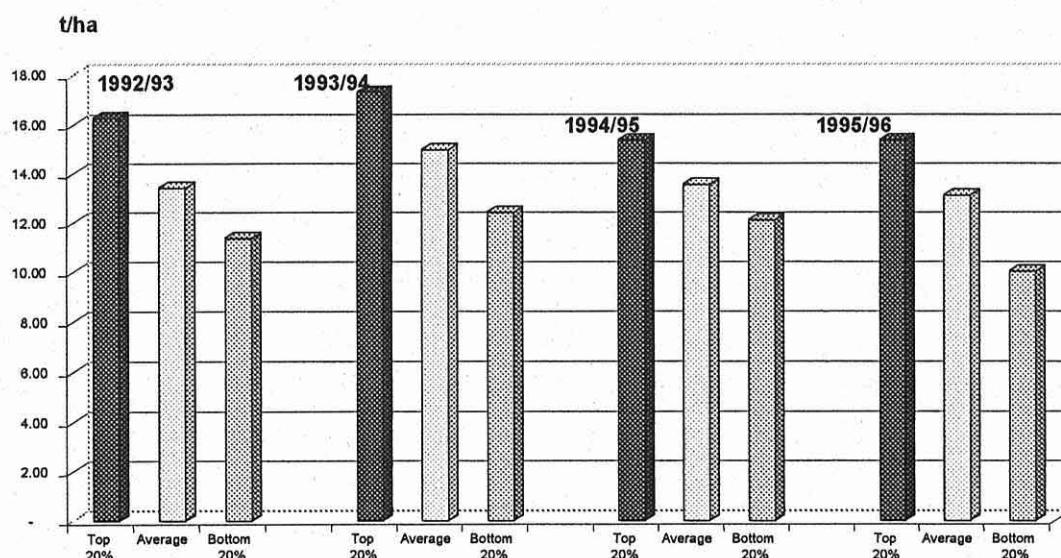
In the Burdekin the size of the participating farms varied from 35 ha to 887 ha with average size of 140 ha. In 1996 the average tonnage harvested per enterprise was 17,553tc ranging from 3,651tc to 101,861tc.

7. BUNDABERG

7.1 SUGAR YIELD

Bundaberg was the second most productive district in the project after the Burdekin. Again, 1993/94 was the most productive year during the project period. Productivity during the other years of the project was consistent as seen in the chart below.

Chart 20: Sugar yield - Bundaberg

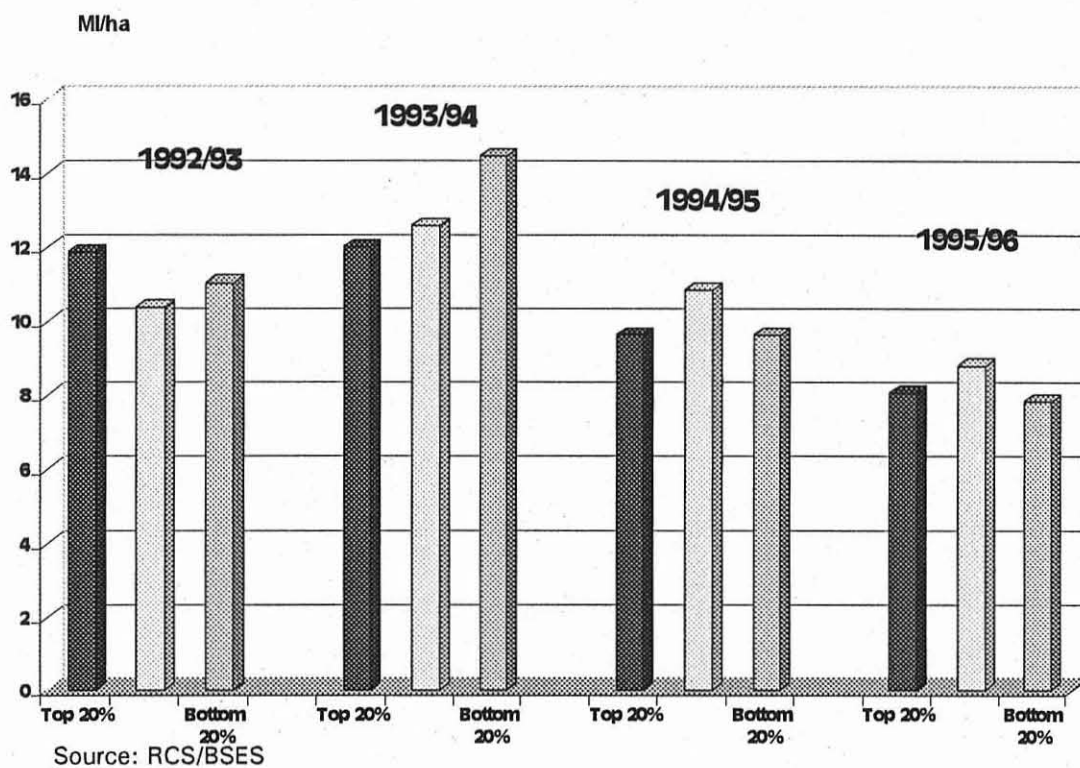


Source: RCS/BSES

7.2 WATER USE

It is very obvious that effective water use was particularly high in 1993/94. The low allocation years of 94/95 and 95/96 are reflected in the water use data. There is also little difference in water use between the three performance groups particularly in the latter stages of the project.

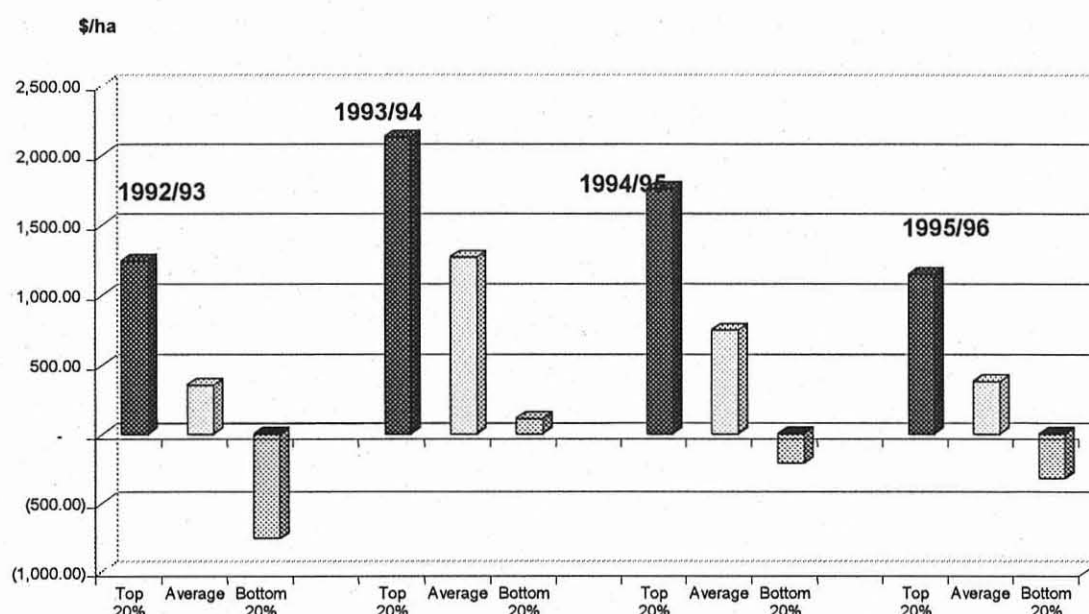
Chart 21: Water use - Bundaberg



7.3 EBIT (ADJUSTED)

Adjusted EBIT was highest in 1993/94, which reflects the sugar yield in that year, and gradually declined over the life of the project. There was a great variation in Adjusted EBIT amongst the performance groups with the lower 20% returning negative Adjusted EBIT's during the life of the project (1993/94 excepted). These data indicate that significant improvements could be made in EBIT in many businesses in Bundaberg. In 1996 the average Adjusted EBIT was \$1,203/ha with the range between \$519/ha and \$2,702 per ha.

Chart 22: EBIT (adjusted) - Bundaberg



Source: RCS/BSES

7.4 FARM SIZE

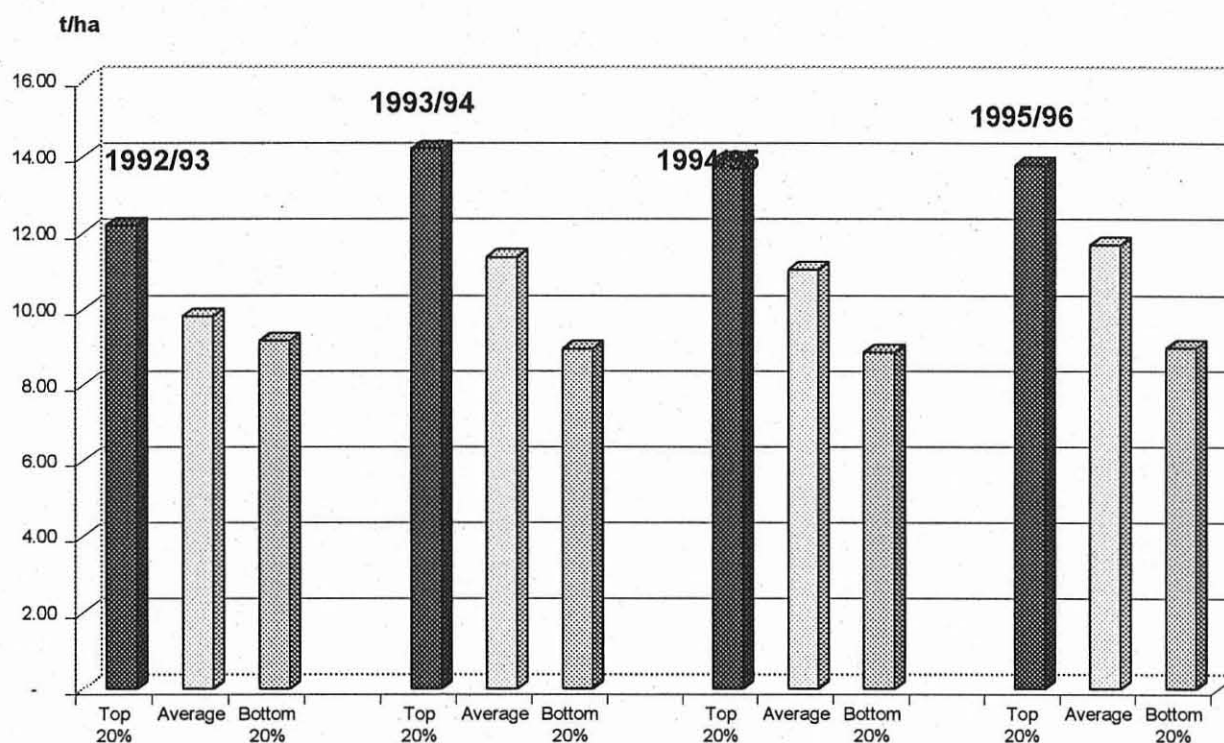
In Bundaberg the size of the farms ranged from 7 ha to 207 ha with the average 65 ha. In 1996, the tonnage harvested per enterprise ranged from 690tc to 17,522tc with an average of 6,216tc.

8 MARYBOROUGH

8.1 SUGAR YIELD

The sugar yield in Maryborough increased over the life of the project. Sugar yield in Maryborough was lower than Bundaberg, reflecting varietal differences.

Chart 23: Sugar yield - Maryborough

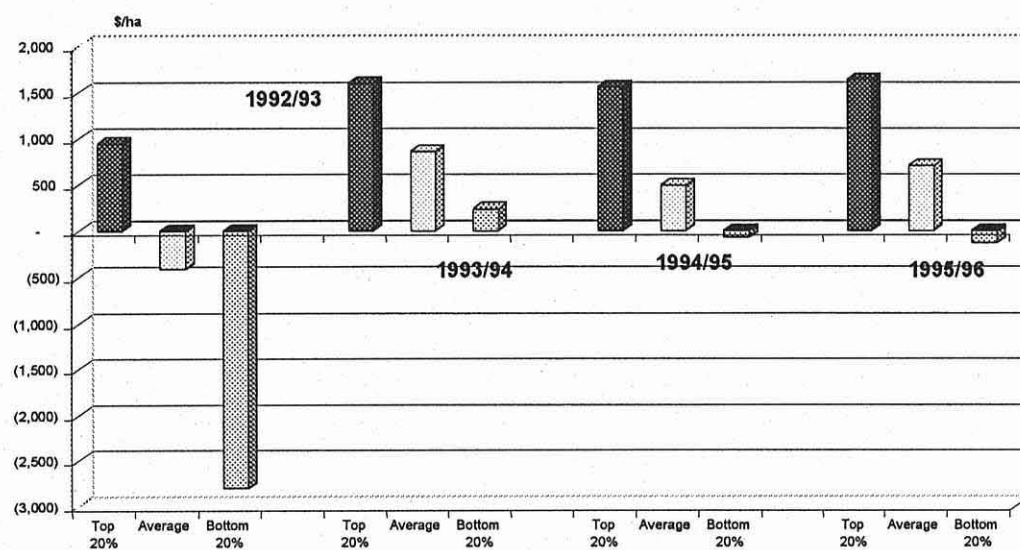


Source: RCS/BSES

8.2 EBIT (ADJUSTED)

Adjusted EBIT's in the Maryborough region were low during the life of the project. The higher performing group had significantly higher Adjusted EBIT than the average, and the lower performing group had very low or negative Adjusted EBIT over the life of the project. Adjusted EBIT's varied between \$1,633/ha and \$130/ha with an average of \$706/ha.

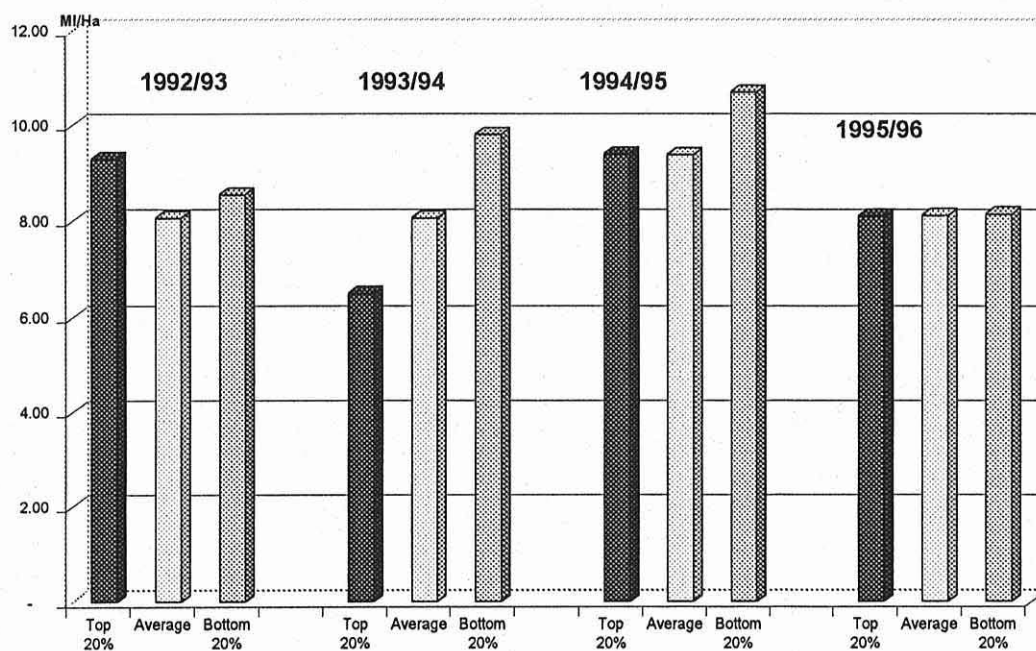
Chart 24: EBIT (adjusted) - Maryborough



Source: RCS/BSES

8.3 WATER USE

The water use did not explain the yield performance.

Chart 25: Water usage in Maryborough

Source: RCS/BSES

8.4 FARM SIZE

Farms sizes in Maryborough ranged between 21 ha and 272 ha. In 1996 the average tonnes harvested per enterprise was 8,253tc ranging between 20,835tc and 1,949tc.

9 DATA ANALYSIS TO DETERMINE KEY BUSINESS DRIVERS

9.1 STATISTICAL ANALYSIS OF THE DATA.

In an effort to understand the main factors contributing to profitability, regression analyses were conducted in 1996 on all the available data from the 1995-1996 financial year. The BSES statistician, using the following variables, conducted the analysis:

- long term gross margin per hectare
- long term gross margin per tonne
- short term gross margin per hectare
- short term gross margin per tonne
- return on investment
- earnings before interest and tax
- total area assigned
- total area harvested
- tonnes cane harvested
- tonnes cane per hectare
- ccs
- tonnes sugar per hectare
- average ratooning cycle
- proportion of farm with modern varieties
- proportion of the farm fallow
- proportion of the farm green cane trash blanketed
- farm ownership
- proportion of the farm irrigated
- proportion of the farm flood irrigated
- proportion of the farm winch irrigated
- proportion of the farm spray irrigated
- proportion of the farm lateral move irrigated
- proportion of the farm trickle irrigated
- proportion of the farm irrigated by other methods
- irrigation applied MI/ha
- effective rainfall
- effective water usage
- total farm hectare/person years
- tonnes cane per hectare/per person
- interest payments
- lease charges
- short term costs per hectare
- short term costs per tonne
- overhead costs
- total assets
- total liabilities

In the analyses, the dependent variables were: earnings before interest and tax (EBIT), return on investment (ROI), short term gross margins per hectare (STGM-ha), short-term gross margins per tonne (STGM-t), long term gross margin per hectare (LTGM/ha) and long term gross margin per tonne (LTGM-t).

The analyses were undertaken in two ways:

1. All locations (Herbert, Burdekin, Bundaberg, Maryborough) combined; and
2. Each location separately.

Results from the combined analysis are presented in the table below.

Table 28: Combined regression analysis across all locations.		
Dependent variable	Significant Independent Variable	R² %
EBIT	Location	39
	Above + short term costs/tonne	73
	Above + ts/ha	85
ROI	Location	13
	Above + short term costs/tonne	43
	Above + total assets	64
	Above + ts/ha	81
LTGM-t	Location	26
	Above + short term costs/tonne	68
	Above + ccs	76
	Above + total farm hectares/person	81
LTGM-ha	Location	45
	Above + ts/ha	76
	Above + Short term costs/ha	89
STGM-t	Location	10
	Above + short term costs/tonne	62
	Above + ccs	90
STGM-ha	Location	45
	Above + ts/ha	85
	Above + Short term costs/ha	94
Source: RCS/BSES		

The R² column is the proportion of the variation accounted for by the regression. For example, in EBIT 73 % of the variation is accounted for by location and short term costs.

Data in the above table indicates that location is an important factor in all the analyses. Location accounts for 39% of the variation in EBIT, 45 % of the variation in long term gross margins per hectare and 45 % of the short-term gross margin per hectare. It is obvious from this data that the profitability is strongly influenced by location and care should be taken when analysing whole of industry data or generalising across the industry. It is also important that in future benchmarking projects the regions for benchmarking are not influenced by location.

The above analysis also indicates that both short-term costs per hectare and tonnes

sugar per hectare are important in the enterprise performance and profitability. Thus to maximise profitability enterprise owners should attempt to minimise short-term costs but ensuring that production in tonnes sugar per hectare is maximised.

It is also interesting to note that when looking at short and long term gross margin per tonne of sugarcane, CCS is an important variable explaining an additional 28% and 8 % of the variation respectively.

Table 29: Regression analysis by location

Dependent Variables	Independent Variables (R ²)							
	Maryborough		Bundaberg		Burdekin		Herbert	
EBIT	Short term costs/tonne	70	Short term costs/tonne	63	Tonnes sugar/ha	60	Tonnes sugar/ha	56
	Above + effective water use	79	Above + Tonnes sugar/ha	81	Above + Short term costs/t	79	Above + overheads	79
	Above + tonnes cane/ha	85	Above + Total farm ha/person year	90	Above + ccs	83	Short term costs/ha	88
ROI	Tonnes cane/ha	48	Short term costs/tonne	59	Assets	35	Short term costs/tonne	35
	Above + short term costs/t	83	Above + tonnes cane harvested	73	Above + Tonnes sugar/ha	72	Above + assets	59
	Above + Tonnes cane harvested	86	Above + Area assigned	78	Above + short term costs/t	79	Above + Tonnes sugar/ha	80
LTGM-ha	Short term costs/tonne	75	Short term costs/tonne	63	Tonnes sugar/ha	60	Tonnes sugar/ha	68
	Above + tonnes sugar/ha	80	Above + tonnes sugar/ha	83	Above + short term costs/tonne	78	Short term costs/ha	83
	Above + Tonnes cane/ha	87	Above + Total farm ha/person year	92	Above + ccs	82	Above + Total farm ha/person year	90
	Above + fallow	91						
STGM-ha	Tonnes cane/ha	72	Tonnes sugar/ha	77	Tonnes sugar/ha	63	Tonnes sugar/ha	85
	Above + short term costs/ha	91	Above + Short term costs/tonne	94	Short term costs/tonne	79	Short term costs/ha	98
	Above + ccs	97	Above + ccs	97				

Source: RCS/BSES

In general, short term costs per tonne and tonnes sugar per hectare were the two most important variables in accounting for a large proportion of the variation in EBIT, ROI,

LTGM/ha and STGM/ha. In the southern districts (Maryborough/Bundaberg) short term costs per tonne was the major factor contributing to the variation but in the northern districts (Burdekin/Herbert) tonnes sugar per hectare accounted for most of the variation.

In the Herbert overheads accounted for an additional 23 % of variation in EBIT and an additional 11 % in ROI. This is the only district where overheads significantly influenced financial performance.

In the Bundaberg district the total farm hectares per person year accounted for an additional 9 % of the variation in EBIT and an additional 11% of the variation in long term gross margins.

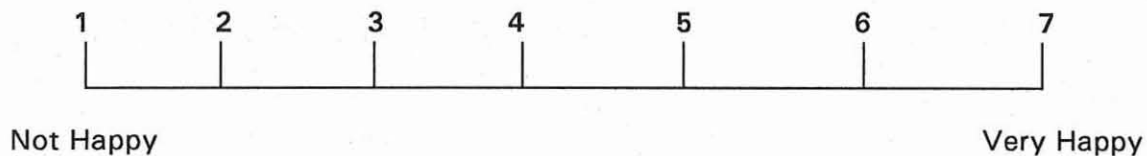
The above data shows no clear indication that environmental or management factors solely account for large variations in the performance indicators. The major variation is caused by a combination of short-term costs and tonnes sugar per hectare. Improving performance should involve a strategy of reducing short-term costs while maximising productivity.

10 SOCIAL AND ECONOMIC SURVEY

A business evaluation survey was been carried out in the study of various social and economic issues and the responses obtained from different regions are outlined below. It is also important to note that not all participants responded to the questions and the results below are a summary of those who did responded.

10.1 BUSINESS PERFORMANCE

Participants were asked to rank their satisfaction with their business performance using the following scale.



Participants were also asked to rank which of the following issues had the most negative impact on profitability:

- ≤ Finance - debt levels and therefore interest effecting overall performance.
- ≤ Gross Income - farm is not big enough, or
- not growing enough cane at present.
- ≤ Gross Margin - direct costs (water, fertiliser, harvesting etc) are too high.
- ≤ Overheads - general overhead costs are too high.

The information from these questions is summarised on a regional basis in the following table.

Table 30: Ranking of financial performance by participants (%)

	Not Happy		Ranking			Very Happy	
	1	2	3	4	5	6	7
Burdekin		6	13	19	37	29	
Herbert			8	30	30	30	
Bundaberg		8	4	28	32	24	4
Maryborough		9		18	55	18	

Source: RCS/BSES

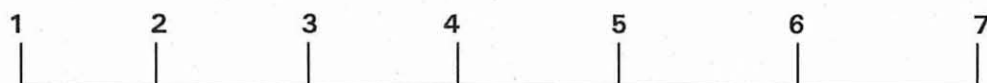
The above data show that most of the participants were happy with their financial performance. Very few participants ranked their financial performance as average or below average. Such data indicates that the industry was profitable during the years in which the project operated.

Table 31: Factors which have an adverse impact on profitability (%)				
	Finance	Gross Income	Gross Margin	Overheads
Herbert	9	36	46	9
Burdekin	38	37	6	19
Bundaberg	22	35	30	13
Maryborough	9	73	9	9
Source: RCS/BSES				

The above table shows that across all districts gross income was identified as the major factor which has a negative impact on profitability. Most of the participants from the Maryborough group identified gross income as a major issue which is reflected in their EBIT data. The importance of other issues on profitability differed across regions. Gross margin was nominated in the Herbert and Bundaberg. Finance was nominated as an issue in the Burdekin and this is possibly influenced by debt incurred during the recent expansion. Overheads were less of a concern in all districts.

10.2 LABOUR AND MANAGEMENT

Participants were asked to rank their satisfaction with labour productivity (tonnes cane/person) using the following scale.



Not Happy

Very Happy

Participants were also asked which one of the following do you think best describes work on preparedness on the farm?

- ≤ Always prepared
- ≤ Prepared 80% of the time
- ≤ Prepared 50% of the time
- ≤ Mostly having to work hard to catch-up

Table 32: Labour productivity by participants (%)						
Not Happy		Ranking			Very Happy	
1	2	3	4	5	6	7
Burdekin		6	32	25	32	6
Herbert		15	31		46	8
Bundaberg	8	16	24	12	32	8
Maryborough		15	31		46	8

Participants from all districts were happy to very happy with labour productivity on their farms. No participants were unhappy with their labour productivity and only 8% of

Bundaberg participants rated this issue with a ranking of 2. This indicates that most canegrowers are happy with the quantity of cane they have to manage.

Table 33: Table Preparedness for work on the farm (%)

	Work hard to catch up	Prepared 50% of the time	Prepared 80% of the time	Always prepared
Herbert	8		84	8
Burdekin	19	13	31	37
Bundaberg	4	13	58	25
Maryborough			100	

It appears that the majority of participants in the project are prepared for work in the enterprise most of the time. This would indicate that the size of most participant's enterprise is manageable and canegrowers can plan their activities well. It may also indicate that there is some spare capacity with the labour component of the enterprise. There were very few participants who had to work hard to catch up on the enterprise tasks and most of these were in the Burdekin. It is possible that as the farm size in the Burdekin is larger and the labour within the enterprise is extended compared to other districts.

10.3 BUSINESS TARGETS

In this question participants were asked to set business goals for the next two years. They were given their current performance in EBIT (\$/ha), yield, and labour. The question posed was as follows.

Business Targets

EBIT (\$/ha)
Yields (tonnes/ha)
Labour Productivity
(tonnes/person)

Current Average

Goal (2yrs)

As EBIT is a key driver in the profitability of an enterprise only the results for this variable have been presented.

Table 34: Current and Future EBIT Goals of the enterprises

	Current EBIT \$/ha	EBIT Goal in 2 years \$/ha	% increase
Herbert	2,250	2,630	17
Burdekin	1,400	1,675	20
Bundaberg	1,000	1,500	50
Maryborough	1,100	1,370	25

It can be seen that all respondents aimed to increase their EBIT over the two year goal period. The southern region had the highest goals with the Burdekin and Herbert much lower. This reflects the lower EBIT currently being experienced by the southern participants.

10.4 RECREATION/HOLIDAY ISSUES

This question attempted to identify the actual and desired recreational holidays each family in the enterprise had taken during 1994. As the results vary between districts they are presented on a district basis.

Table 35: Difference between holidays taken and that desired

	0-1 week		1-2 weeks		2-3 weeks		3-4 weeks		4-5 weeks		5+ weeks	
	Actual	Desired	Actual	Desired	Actual	Desired	Actual	Desired	Actual	Desired	Actual	Desired
	(% of respondents)											
Herbert			27%		18%	18%	9%	18%	37%	45%	9%	18%
Burdekin	14%		36%		29%	20%	7%	30%	7%	50%	7%	
Bundaberg	24%	5%	21%		28%	65%	10%			25%	17%	5%
Maryborough	42%		29%		29%	14%		29%		57%		
Average	27%	5%	28%		26%	29%	9%	26%	22%	44%	11%	12%

Burdekin

It is obvious that a large number of participants had less than three weeks holidays in 1994 and most would like to have 4-5 weeks holidays. As the Burdekin is a fully irrigated district it is difficult to take extended holidays.

Herbert

From the survey data it was found that all growers in the region currently have at least one week of holidays per year and 46% of growers have at least 4 weeks holiday per year. The most desired level for holidays was between 4 and 5 weeks.

Bundaberg

The survey data shows that 24% of growers in the Bundaberg region currently have holidays of less than one week per year and only 27% have more than 3 weeks. 90% of growers would like to increase their holidays to more than 2 weeks per year. (65% desires between 2 and 3 weeks/yr.)

Maryborough

From the survey data it was found that 24% of growers in the region currently have holidays of less than one week per year and no growers in the region have up to 3 weeks holidays in the year. 14% of growers would like to increase holidays to at least 2 weeks and a further 57% intend to increase holidays to between 4 and 5 weeks.

10.5 SOIL MONITORING

The soil monitoring question related to the change in soil testing operations on the enterprises from 1993-1996.

Burdekin (16 replies)

- In 1996 13% more growers soil tested with each new plant crop than in 1993.
- In 1996 7% less growers soil tested in problem areas only than in 1993.

Herbert (24 replies)

- In 1996 12% more growers soil tested on a regular basis than in 1993.
- In 1996 17% more growers soil tested with each new plant crop than in 1993.
- In 1996 17% less growers soil tested in problem areas only than in 1993.
- In 1996 4% less growers soil tested only when using new land than in 1993.

Bundaberg (23 replies)

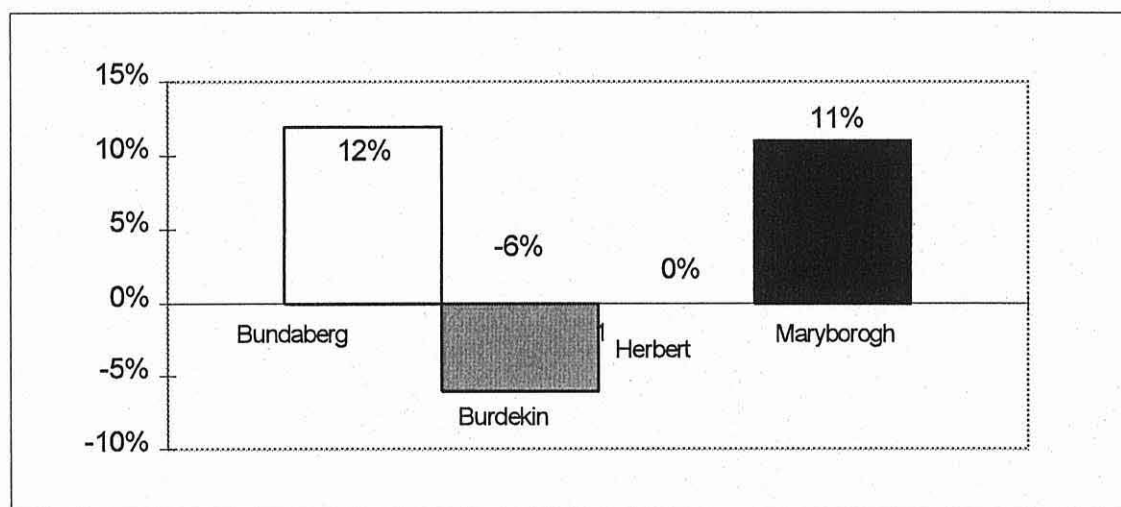
- In 1996 9% more growers soil tested with each new crop than in 1993.
- In 1996 13% more growers didn't soil test at all than in 1993.
- In 1996 4% less growers soil tested problem areas only than in 1993.

Maryborough

Between 1993 and 1996 there was no change.

10.6 WATER USE AND IRRIGATION SCHEDULING

Chart 26: % of participants who measured quantity of water applied



Source: RCS/BSES

Burdekin (16 replies)

- In 1996 6% less growers measured the quantity of water applied than in 1993.

Herbert (25 replies)

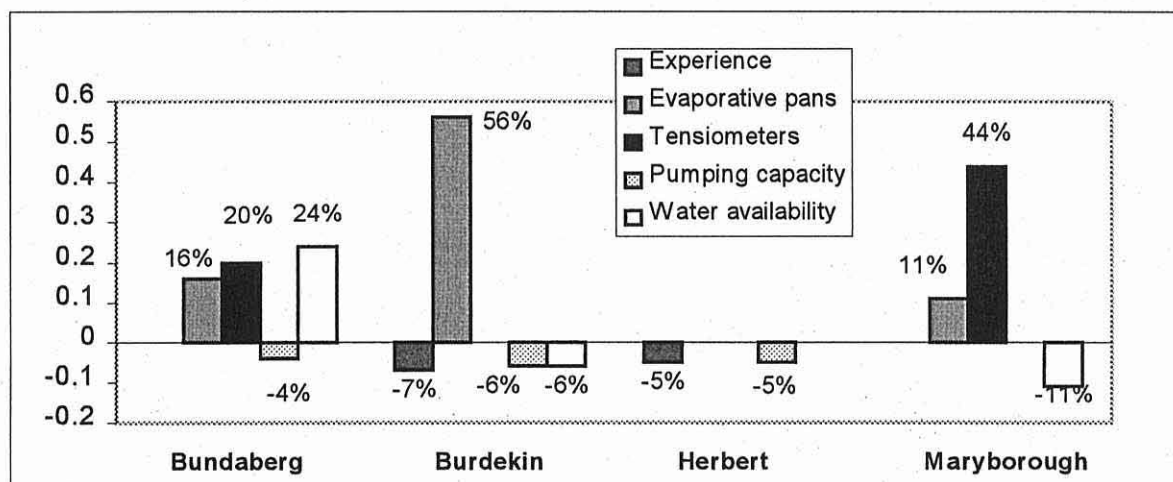
- In 1993 96% and in 1996 92% of growers did not answer the question or felt it was not applicable or said no.

Bundaberg (25 replies)

- In 1996 12% more growers measured the quantity of water applied than in 1993.

Maryborough (9 replies)

- Between 1993 and 1996 11% more growers measured the quantity of water applied.

Chart 27: Basis of decision to irrigate -% increase from 1993-1996

Source: RCS/BSES

Burdekin (16 replies)

- In 1996 7% less growers decided to irrigate based on their experience than in 1993.
- In 1996 56% more growers decided to irrigate based on the use of evaporation pans than in 1993.
- In 1996 6% less growers decided to irrigate based on pumping capacity and water availability than in 1993.

Herbert (25 replies)

- In 1993 and 1996 88% of growers did not answer the question or felt it was not applicable.
- In 1996 5% less growers decided to irrigate based on their experience or pumping capacity than in 1993.

Bundaberg (25 replies)

- In 1996 16% more growers decided to irrigate based on use of evaporation pans than in 1993.
- In 1996 20% more growers decided to irrigate based on use of tensionmeters than in 1993.
- In 1996 24% more growers decided to irrigate based on water availability than in 1993.

Maryborough (9 replies)

- In 1996 10% less growers decided to irrigate based on crop growth than in 1993.
- In 1996 11% more growers decided to irrigate based on use of evaporation pans than in 1993.
- In 1996 44% more growers decided to irrigate based on use of tensiometers than in 1993.
- In 1996 11% less growers decided to irrigate based on water availability than in 1993.

10.7 WATER TESTING

This question asked participants if they tested the quality of their irrigation water.

Burdekin (16 replies)

- 63% of growers test their ground water irregularly.
- 19% of growers test their ground water annually and 6% more frequently than annually.

Herbert (25 replies)

- 80% of growers did not answer the question or felt it was not applicable.
- 4% of growers test their ground water irregularly.
- No growers test their ground water annually or more frequently than annually.

Bundaberg (25 replies)

- 73% of growers did not answer the question or felt it was not applicable.
- 12% of growers test their ground water annually or more frequently than annually.

Maryborough (9 replies)

- 78% of growers did not answer the question or felt it was not applicable.

10.8 HARVEST MONITORING

This question asked if the harvesters that cut the participants cane had been modified since 1993.

Burdekin

- 75% of growers had modified the harvester since 1993.

Herbert

- 86% of growers had modified the harvester since 1993.

Bundaberg

- 84% of growers had modified the harvester since 1993.

Maryborough

- 67% of growers had modified the harvester since 1993.

Burdekin

- 69% of growers monitor the performance of the harvester for cane loss.
- 86% of growers monitors the performance of the harvester for ground job.

Herbert

- 83% of growers monitor the performance of the harvester for cane loss.
- 92% of growers monitor the performance of the harvester for ground job.

Bundaberg

- 80% of growers monitor the performance of the harvester for cane loss.
- 92% of growers monitor the performance of the harvester for ground job.

Maryborough

- 89% of growers monitor the performance of the harvester for cane loss.
- 89% of growers monitor the performance of the harvester for ground job.

10.9 FINANCIAL MONITORING**Burdekin**

- In 1996 there was a 25% decrease in growers using a reconciled cashbook system.
- In 1996 there was a 19% increase in growers using a computerised cashbook system with 33% of these growers operating the Quicken package, and 33% operating Cash Magic.

Herbert

- In 1996 there was a 15% increase from 1993 in growers using a computerised cashbook system with 89% of these growers operating the Quicken package.
- In 1996 there was a 6% decrease in growers using a reconciled cashbook system than in 1993.

Bundaberg

- In 1996 there was a 9% decrease in growers using a reconciled cashbook system, a 13% increase in growers using a computerised system but still only 26% of all growers use a computerised system. 80% of these growers that use a computerised system operated the Quicken package.

Maryborough

- In 1996 there was an 11% decrease in growers using a reconciled cashbook system from 1993.
- In 1996 there was an 11% increase from 1993 in growers using a computerised cashbook system with 43% of these growers operating the Quicken package.

10.10 BUDGETING FREQUENCY

Burdekin

- 38% of growers' budget half yearly, 31% budget annually, 25% budget monthly and 15% never budget.

Herbert

- 39% of growers prepare budget annually, 26% budget half-yearly, 17% budget monthly and 9% never budget.

Bundaberg

- 43% of growers budget annually, 9% budget half yearly, 22% budget monthly and 22% don't budget at all.

Maryborough

- 11% of growers budget annually, 44% budget monthly.
- 44% of growers never budget.

10.11 CROP RECORDING

Burdekin

- 63% of growers use an informal system of block recording.
- 86% record yield, 81% record variety and 75% record fertiliser used and age of ratoon.

Herbert

- 60% of growers use an informal system of block recording.
- 80% record variety, 68% record yield and of ratoon.

Bundaberg

- 50% of growers use an informal system of block recording, 35% use a formal system.
- 77% of growers recorded age of ratoon, 77% recorded yield and variety, 58% recorded fertiliser used, 46% recorded rainfall.

Maryborough

- 56% of growers use a formal system of block recording and 44% use an informal system.
- 100% record variety, 89% record age of ratoon and 78% record yield.

10.12 SOURCES OF INFORMATION

Burdekin

- 100% of growers gather information for their business from the Canegrower magazine, BSES Bulletin or other sugar publications.
- 94% gather information from personal networks and BSES personnel, 86% gathers from their own personnel networks and also from conferences.

Herbert

- 100% of growers gather information for their business from the Canegrower magazine, BSES Bulletin or other sugar publications.
- 88% gather information from personal networks, 88% gather information from Conferences, workshops or field days and 96% gather information from BSES personnel

Bundaberg

- 100% of growers gather information for their business from the Canegrower magazine, BSES Bulletin or other sugar publications.
- 83% gather information from conferences, workshops or field days and BSES personnel, 83% gather information from personal networks.

Maryborough

- 100% of growers gather information for their business from the Canegrower magazine, BSES Bulletin or other sugar publications, from personal networks and BSES personnel.
- 78% gather from conferences, workshops or field days.

10.13 OTHER INFORMATION

Burdekin

- 43% of growers feel there is no need to change the present system of information distribution whereas 43% are unsure and 14% said yes.(n=14)
- 53% operate a fax machine (n=15), 87% operate a computer in their business and 23% of these with a computer (n=13) have a modem, 77% of those with computer (n=13) intend to upgrade their computer facilities within the next 2 years.
- 60% attended an industry workshop, conference or trade day within the last month (n=15).
- 87% do not receive any international publications, 56% normally read their publications (n=15).

Herbert

- 62% of growers feel there is no need to change the present system of information distribution whereas 31% are unsure and 7% said feel yes there is a need to change the present information system.(n=23)

- 32% operate a fax in their business (n=25), 60% operate a computer in their business (n=25) and 20% of those with computers (n=15) have a modem, 73% of those with computers (n=15) intend to upgrade their computer facilities within the next 2 years.
- 64% attended an industry workshop, conference or trade day within the last month (n=25).
- 96% do not receive any international publications.(n=24)

Bundaberg

- 58% of growers feel there is no need to change the present system of information distribution while 33% feel unsure and 8% said yes. (n=24)
- 40% have a fax machine (n=25), 52% operate a computer in their business and 31% of those with a computer (n=13) have a modem, 38% of those with a computer (n=13) intend to upgrade their computer facilities within the next 2 years.
- 54% attended an industry workshop, conference or trade day within the last month.(n=24)
- 96% do not receive any international publications (n=24)

Maryborough

- 75% of growers feel there is no need to change the present system of information distribution whereas 25% are unsure.(n=8)
- 67% operate a fax machine in their business (n=9), 78% operate a computer (n=9) and 71% of these with a computer (n=7) have a modem, 71% with a computer (n=7) intend to upgrade their computer facilities within the next 2 years.
- 89% attended an industry workshop, conference or trade day within the last month.
- 44% did not receive any international publications (n=9) whereas 56% did receive international publications with 100% of these coming from the USA, 67% normally read their publications, 33% didn't answer the question.

10.14 TRAINING AND EDUCATION

Burdekin (total = 16)

- 69% of growers have attended formal training courses/workshops within the last 12 months.(n = 16)
- 11% (of those who attended formal training courses/workshops (n = 11)) attended a chemical accreditation course with 100% of these going for 0-2 days.
- 46% (of those who attended formal training courses/workshops (n = 11)) attended a conference or seminar (n = 11)
- 18% (of those who attended formal training courses/workshops (n = 11)) attended other courses (n = 11)

Herbert (total = 25)

- 72% of growers have attended formal training courses/workshops within the last 12 months.(n = 25)
- 44% attended a chemical accreditation course (n = 18)
- 28% attended a conference or seminar.(n = 18)
- 28% attended other courses with 100% of these going for 0-3 days.
- 16% did not answer the question.

Bundaberg (total = 26)

- 50% of growers have attended formal training courses/ workshops within the last 12 months. (n = 26)
- 31% of those that attended formal training/workshops (n = 13) attended a chemical accreditation course with 100% of these going for 1-3 days. 54% attended a conference and 15% attended other courses
- 35% did not answer the question.

Maryborough (total = 9)

- 55% of growers have attended formal training courses/workshops within the last 12 months. (n = 9)
- 100% attended a conference or seminar (of those who have attended formal training courses (n = 5)) with 100% of these going for 4 days.
- 100% attended other courses (of those who have attended formal training courses (n = 5)) with 100% of these going for 4 days.
- 20% attended chemical accreditation course (of those who have attended formal training courses (n = 5))
- 33% did not answer the question.

10.15 RESEARCH AND DEVELOPMENT

Burdekin (total = 16)

- 73% of growers can recall actually seeing or hearing about the results or recommendations from any SRDC funded projects.(n=15)
- 82% heard or saw the results through the newspaper/magazine with 36% from meetings, radio or at a conference.(n=11)

Herbert (total = 25)

- 79% of growers can recall actually seeing or hearing about the results or recommendations from any SRDC funded projects.(n=24)
- 63% heard or saw the results through the newspaper/magazine with 58% from meetings (n=19)

Bundaberg (total = 26)

- 78% of growers can recall actually seeing or hearing about the results or recommendations from any SRDC funded projects.(n=23)
- 72% heard or saw the results through the newspaper/magazine and 61% through meetings(n=18). 31% didn't answer the question.

Maryborough (total = 9)

- 86% of growers can recall actually seeing or hearing about the results or recommendations from any SRDC funded projects.(n=8)
- 71% heard or saw the results through the newspaper/magazine, from meetings and 71% from conference/seminar (n=7).

10.16 MANAGEMENT

Burdekin (total = 16)

Over the next 3 years the growers' goals are to :

- 38% plan to increase Cane Yield by 6.5-8.5%, 23% plan to increase by 2.5-4.5% and 15% no change. 19% didn't answer the question.
- 30% plan to decrease Total Costs by 7-11%, 60% say there will be no change. 36% didn't answer the question.
- 33% say that EBIT will remain unchanged. 63% didn't answer the question.
- 81% didn't answer the question on ROAM.
- 33% plan to increase Tonnes Cane / Person by 6-8% and another 33% plan to increase by 16-20%. 44% didn't answer the question.
- 17% plan to take more Holidays by 33%, 42% say there will be no change, 42% say increase by 50+%. 25% didn't answer the question.

Herbert (total = 25)

Over the next 3 years the growers' goals are to :

- 43% plan to increase Cane Yield by 10-12%. 39% didn't answer the question.
- 17% plan to decrease Total Costs by 4-10%, 9% plan to decrease by 11-14%, 9% say there will be an increase by 11-12%. 52% didn't answer the question.
- 26% plan to increase EBIT by 10-14%. 61% didn't answer the question.
- 17% plan to increase ROAM by 11-15%, 13% say there will be no change, 56% didn't answer the question.
- 43% plan to increase Tonnes Cane/Person by 10-15%. 48% didn't answer the question.
- 22% plan to take more Holidays by 12-15%, 22% say there will be no change. 43% didn't answer the question.

Bundaberg (total = 26)

Over the next 3 years the growers' goals are to :

- 53% plan to increase Cane Yield by 0-10%, 33% plan to increase by 11-20%, 13% plan to increase by greater than 21%. 42% didn't answer the question.
- 43% plan to decrease Total Costs by 3-9%, 73% didn't answer the question.
- 63% plan to increase EBIT by less than 100%, the rest by more than 100%. 77% didn't answer the question.
- 69% didn't answer the question on ROAM ie. results inconclusive.
- 77% plan to increase Tonnes Cane/Person by 11-20%, 15% plan to increase by 40+%. 50% didn't answer the question.

58% say there will be no change to the amount of Holidays they take. 17% plan to

Maryborough (total = 9)

Over the next 3 years the growers' goals are to :

- 78% plan to increase Cane Yield by 3-5%.
- 56% plan to decrease Total Costs by 3-5%.
- 56% plan to decrease EBIT by 5-8%.
- 44% plan to increase ROAM by 50%, 22% say there will be no change.
- 44% plan to increase Tonnes Cane/Person by 8-10%.
- 22% say there will be no change. 56% didn't answer the question.

11 PROJECT IMPACT AND RECOMMENDATIONS

11.1 IMPACT AND IMPLICATIONS OF THE PROJECT

This project provided the first comprehensive set of benchmarks for the Australian sugarcane industry. While there have been regional benchmarks undertaken, by accounting firms, these packages were deficient as they only worked on financial data provided for taxation purposes and were not generically available to the industry at large.

The prophet project has developed a comprehensive benchmarking package that is commercially available for all sugarcane growers. The package provides benchmarks in the 5 areas of productivity, profitability, pecuniary, property, and people. This is the only benchmarking process that looks at the whole of the business as well as matching the crop year with the expenditure on that crop. The benchmarking package is now available commercially with active groups in NSW, Mackay and the Herbert.

Success of the prophet project also revolves around the synergies of providing good technical and financial advice. Such a combination ensures that enterprise decisions are made considering both the technical and financial implications. The partners in this project have complementary skills with RCS strong in the business analysis area and BSES strong in the technical aspects of sugarcane production. RCS and BSES are now partners in the commercial benchmarking activities.

Data and strategies from the prophet project have also been used by BSES in developing the program called "Managing Low Sugar Prices." This program was developed by all extension staff and has been circulated to all BSES customers as well as the industry political bodies. The program involves the financial as well as productivity issues and the inclusion of financial data highlights a new era in extension advice in the sugar industry. A proactive extension program has also been delivered to BSES customers involving these strategies. BSES staff have also addressed a number of the rural lending institutions outlining the strategies involved in the program.

The prophet project and other associated activities have trained a key group of extension staff in the farm business management arena. As a result advice to the industry now involves a financial component which is raising awareness of financial issues and impacts within the industry. This is a much needed change in the thinking of industry participants however there is still significant advances to be made.

11.2 FUTURE RECOMMENDATIONS

There are three key recommendations that BSES and RCS would make as a result of the Prophet project. These are:

- 1 Improving grower awareness of benchmarking;
- 2 Linking financial performance and block performance data; and
- 3 Training of advisory staff.

Grower awareness

The issue. Benchmarking is not seen as important by many canegrowers, or perhaps more salient, benchmarking is not related to improving one's own business performance.

Strategies to address the issue. A concerted campaign is needed to increase grower awareness of the importance of relating physical activities with financial monitoring. The core strategies must recognise that growers need repetitive exposure to the concept before they will become involved. This core strategy has been successful in the grazing industry and other rural enterprises. Other specific strategies should include:

- Inclusion of benchmarking as a topic in as many grower meetings as possible; and
- Inclusion of benchmarking as a topic at all information days and major field days.

A targeted media campaign that provides easy-to-read and provocative material in mainstream, sugar journals (canegrowers, BSES Bulletin, etc.) on benchmarking and business improvement.

Linking paddock performance with financial performance

The issue. There is no systematic approach in the industry to linking financial performance with strategies or farming methods in the paddock.

Strategies to address the issue. A series of case study farmers should be monitored to determine the relationship between farming methods or actions and financial performance. Strategies could include:

- Intensive comparison between farms or between blocks on farms. In order to conduct such an analysis detailed block recording is essential. Unfortunately record keeping is not a strong ethos within the industry;
- Revisit key "Prophet" participants to see what impact the project has had on their business. Changes and the reasons for these changes would need to be identified and correlated; and
- Develop a series of case studies, which demonstrate the outcomes in different cane growing environments.

Integrating technical advice with financial implications

The issue. Many advisory staff have a poor understanding of benchmarking and how it might be used to improve business performance.

Strategies to address the issue. There is a need to provide additional support to extension officers to enable them to understand the most cost-effective level of production. Specific strategies include:

- Extension staff training days in the fundamentals of business management and the relationships between production and profit;
- RCS working with extension staff at field days to improve integration between production and profit; and
- Recruiting more clients to the commercial benchmarking program so that more advisory staff can be involved in this program.

11.3 DISSEMINATION OF THE PROJECT RESULTS

The project results are being disseminated in a number of ways.

The participants of the projects have utilised this information in their own business and the testimonials provided in the report indicate the benefits received.

Information from this project has been used in the BSES program "Managing low sugar prices." This initiative has been targeted at all BSES customers and the industry political organisations as well as the rural lending institutions in the sugar districts. Positive feedback has also been received on this initiative.

Gavin McMahon of BSES and David Hanlon of RCS have prepared an invited paper for the 2000 ASSCT conference. The paper titled "Managing low sugar prices on farms – short term and longer term strategies" was based on the prophet project and will be presented in the opening session.

Articles were prepared for the BSES Bulletin, Australian Sugarcane and the Canegrower magazines. Numerous short articles were prepared for the local regional media within the industry.

Meetings were held with bankers and accountants to explain the project and its outcomes. Although positive feedback and requests were received from the bankers no formal joint activities ever eventuated. The accountants were not receptive to the project as they saw it as a threat to their own services.

Presentations were made to various BSES industry functions such as the "Information Meeting" held across north Queensland which had 1,000 attendees.

ANNEX I

Herbert – 1995/96 sample report pages

Key Performance Indicators

Analysis Group: Sugar (Herbert)
 Number In Group: 30

Region: Herbert
 Grower No:

Measure	Ranking In Group	Jul95 - Jun96	3-Year Avg	Top 20% Avg	Group Avg	Benchmark
(1) Productivity						
Cane Yield (t/ha)				108.02	101.53	106.50
Sugar Yield (t/ha)				14.56	13.59	14.08
Rel. CCS				13.60	13.40	13.62
Total Costs Excluding Finance (\$/t)				15.4	19.1	15.6
Long Term Gross Margin (\$/ha)				1602	1096	1740
(2) People						
Tonnes Cane / Person				13,371	9,519	11,409
Total Farm ha / Person				122.9	93.8	106.2
Gross Product (\$/person)				400,137	281,237	355,975
Owner's Holidays (wks/owner labour year)				-	-	-
Training (days/labour year)				-	-	-
(3) Pecuniary (finance)						
Interest Payments (\$/ha)				124	150	149
Lease Charges (\$/ha)				160	118	105
Expense Ratio				57%	70%	53%
(4) Profitability (economics)						
Capitalisation Ratio				22%	22%	27%
EBIT (\$/ha)				1,470	920	1,595
ROAM (%)				10.0%	6.4%	12.6%
Return - Land Business (15% lease)				3.7%	3.9%	4.6%
Return - Sugar Business				6.3%	2.4%	7.9%
(5) Property						
Cane Yield (t/ML)				18.95	17.74	17.07
Effective Water Use (ML/ha) - (4 users)				-	7.35	-
Energy Cost (per \$1,000 Gross Income)				19	35	25
EMP (Environmental Monitoring Program)				-	-	-

GROSS MARGIN / ha

Analysis Group: Sugar (Herbert)
 Number in Group: 30

Region: Herbert
 Grower No:

	Your (\$)	Your (\$/ha)	Top 20% Avg (\$/ha)	Group Avg (\$/ha)	Bot 20% Avg (\$/ha)	Your Target
GROSS INCOME						
Cane Sales @ Std Prices			3,257	3,000	2,663	
+ Seed Cane Sales			1	0	0	
+ Seed Cane Used			14	27	26	
- Stool Cane Purchases			0	0	0	
GROSS INCOME			3,272	3,028	2,688	
ENTERPRISE EXPENSES						
Seed Cane			6	7	0	
Planting Costs (contract)			13	19	15	
Harvesting & Haul Out Costs			634	573	516	
Fertilizer & Chemicals			408	438	486	
Fuel & Lubricants			62	101	125	
Water Charges			1	2	0	
Electricity (cane only)			0	5	2	
Mill Deductions & Levies			54	53	51	
Casual Labour			23	24	65	
R & M Plant			81	171	253	
R & M Structures			9	4	2	
R & M Irrigation			0	2	0	
Equipment & Contract Hire			27	28	23	
Sundry			2	4	10	
TOTAL SHORT TERM COSTS			1,319	1,428	1,546	
Wages - Permanent Labour			24	71	112	
Wages - Unpaid Labour			159	221	274	
Depreciation			169	211	291	
TOTAL LONG TERM COSTS			351	503	677	
TOTAL COSTS			1,670	1,932	2,223	
GROSS MARGINS						
Short Term G.M.			1,953	1,599	1,142	
Short Term G.M. / ML water			343	277	182	
Long Term G.M.			1,602	1,096	465	
Long Term G.M. / ML water			281	189	73	
OVERHEADS						
Total Overhead Costs			131	175	231	

GROSS MARGIN / t

Analysis Group: Sugar (Herbert)
 Number In Group: 30

Region: Herbert
 Grower No:

	Your (\$)	Your (\$/t)	Top 20% Avg (\$/t)	Group Avg (\$/t)	Bot 20% Avg (\$/t)	Your Target
GROSS INCOME						
Cane Sales @ Std Prices			30.14	29.53	28.65	
+ Seed Cane Sales			0.01	0.00	0.00	
+ Seed Cane Used			0.13	0.27	0.27	
- Stool Cane Purchases			0.00	0.00	0.00	
GROSS INCOME			30.29	29.80	28.92	
ENTERPRISE EXPENSES						
Seed Cane			0.06	0.07	0.00	
Planting Costs (contract)			0.11	0.18	0.14	
Harvesting & Haul Out Costs			5.87	5.68	5.55	
Fertilizer & Chemicals			3.77	4.37	5.32	
Fuel & Lubricants			0.57	0.99	1.35	
Water Charges			0.01	0.01	0.00	
Electricity (cane only)			0.00	0.05	0.02	
Mill Deductions & Levies			0.50	0.52	0.55	
Casual Labour			0.22	0.23	0.64	
R & M Plant			0.74	1.70	2.75	
R & M Structures			0.08	0.04	0.02	
R & M Irrigation			0.00	0.01	0.00	
Equipment & Contract Hire			0.25	0.27	0.27	
Sundry			0.01	0.03	0.09	
TOTAL SHORT TERM COSTS			12.19	14.15	16.69	
Wages - Permanent Labour			0.22	0.70	1.17	
Wages - Unpaid Labour			1.48	2.18	2.94	
Depreciation			1.56	2.08	3.11	
TOTAL LONG TERM COSTS			3.25	4.96	7.23	
TOTAL COSTS			15.45	19.11	23.92	
GROSS MARGINS						
Short Term G.M.			18.09	15.65	12.22	
Short Term G.M. / ML water			3.17	2.71	1.99	
Long Term G.M.			14.84	10.69	4.99	
Long Term G.M. / ML water			2.60	1.84	0.80	
OVERHEADS						
Total Overhead Costs			1.21	1.75	2.50	

PRODUCTIVITY MEASURES

Analysis Group: Sugar (Herbert)
 Number In Group: 30

Region: Herbert
 Grower No:

Measure

Your Farm

Your LTGM / Ha = \$899

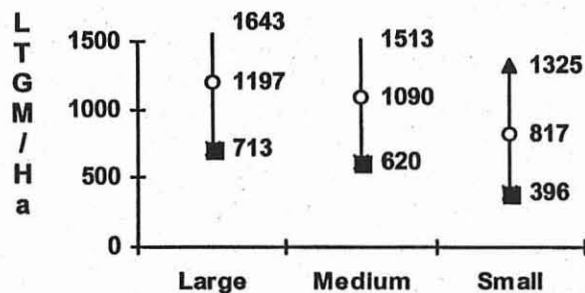
1. Tonnes Cane Harvested

5,520

Distribution of LTGM / ha in 3 groups categorised by total tonnes of cane harvested.

- Groups: * Small < 6000 tonnes
 * Medium 6000-10000 tonnes
 * Large > 10000 tonnes

Small



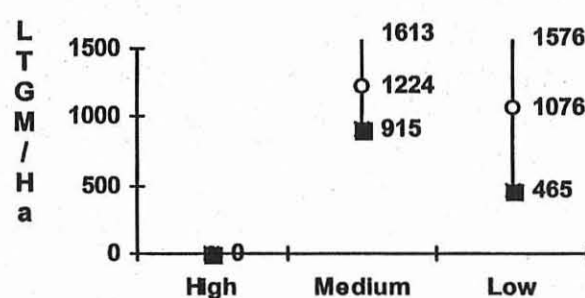
2. Sugar Yield (per ha harvested)

11.98

Distribution of LTGM / ha in 3 groups categorised by average yield per hectare harvested.

- Groups: * Low < 15 t sugar /ha
 * Medium 15-18 t sugar /ha
 * High > 18 t sugar /ha

Low

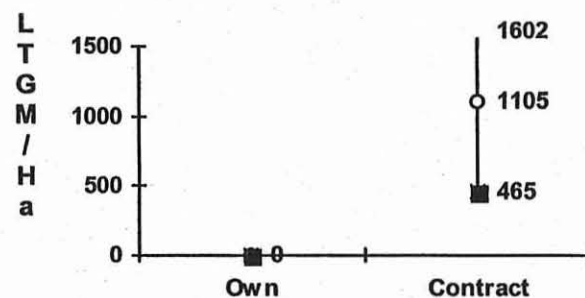


3. Own vs Contract Harvest

Contract

Distribution of LTGM / ha in 2 groups categorised by the cane harvester (owner or contractor).

- Groups: * Own
 * Contractor (incl. Cooperatives)

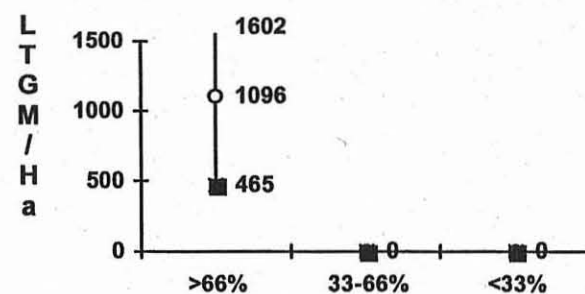


4. Burnt vs Green

100.1

Distribution of LTGM / ha in 3 groups categorised by proportion of farm grown with a green trash blanket.

- Groups: * < 33% GCTB
 * 33-66% GCTB
 * > 66% GCTB



ANNEX II

Burdekin – 1995/96 sample report pages

Key Performance Indicators

Analysis Group: Sugar (Burdekin)
 Number In Group: 26

Region: Burdekin
 Grower No:

Measure	Ranking in Group	Jul95 - Jun96	3-Year Avg	Top 20% Avg	Group Avg	Benchmark
(1) Productivity						
Cane Yield (t/ha)				132.27	122.90	133.20
Sugar Yield (t/ha)				19.48	17.98	19.63
Rel. CCS				14.69	14.63	14.69
Total Costs Excluding Finance (\$/t)				18.9	21.4	17.1
Long Term Gross Margin (\$/ha)				1956	1489	2434
(2) People						
Tonnes Cane / Person				11,727	8,003	12,782
Total Farm ha / Person				90.9	66.3	98.6
Gross Product (\$/person)				391,486	267,091	450,045
Owner's Holidays (wks/owner labour year)				-	-	-
Training (days/labour year)				-	-	-
(3) Pecuniary (finance)						
Interest Payments (\$/ha)				274	249	372
Lease Charges (\$/ha)				120	152	112
Expense Ratio				61%	70%	54%
(4) Profitability (economics)						
Capitalisation Ratio				24%	23%	28%
EBIT (\$/ha)				1,739	1,242	2,226
ROAM (%)				9.6%	7.0%	13.6%
Return - Land Business (17% lease)				4.6%	4.5%	5.3%
Return - Sugar Business				4.9%	2.6%	8.3%
(5) Property						
Cane Yield (t/ML)				7.37	8.12	9.53
Effective Water Use (ML/ha) - (6 users)				17.50	16.17	14.25
Energy Cost (per \$1,000 Gross Income)				66	67	55
EMP (Environmental Monitoring Program)				-	-	-

GROSS MARGIN / ha

Analysis Group: Sugar (Burdekin)
 Number in Group: 26

Region: Burdekin
 Grower No:

	Your (\$)	Your (\$/ha)
GROSS INCOME		
Cane Sales @ Std Prices		
+ Seed Cane Sales		
+ Seed Cane Used		
- Stool Cane Purchases		
GROSS INCOME		
ENTERPRISE EXPENSES		
Seed Cane		
Planting Costs (contract)		
Harvesting & Haul Out Costs		
Fertilizer & Chemicals		
Fuel & Lubricants		
Water Charges		
Electricity (cane only)		
Mill Deductions & Levies		
Casual Labour		
R & M Plant		
R & M Structures		
R & M Irrigation		
Equipment & Contract Hire		
Sundry		
TOTAL SHORT TERM COSTS		
Wages - Permanent Labour		
Wages - Unpaid Labour		
Depreciation		
TOTAL LONG TERM COSTS		
TOTAL COSTS		
GROSS MARGINS		
Short Term G.M.		
Short Term G.M. / ML water		
Long Term G.M.		
Long Term G.M. / ML water		
OVERHEADS		
Total Overhead Costs		

Top 20% Avg (\$/ha)	Group Avg (\$/ha)	Bot 20% Avg (\$/ha)	Your Target
4,434	4,084	3,875	
1	2	0	
30	30	23	
0	0	0	
4,465	4,116	3,898	
6	10	19	
45	49	35	
614	636	648	
369	451	555	
110	126	125	
63	114	113	
182	151	159	
165	138	135	
11	13	9	
130	196	308	
17	11	0	
127	51	15	
25	31	44	
0	1	0	
1,906	1,987	2,165	
127	118	116	
246	301	296	
230	221	237	
603	640	649	
2,509	2,627	2,814	
2,559	2,129	1,733	
-	146	-	
1,956	1,489	1,084	
-	107	-	
217	247	260	

GROSS MARGIN / t

Analysis Group: Sugar (Burdekin)
 Number in Group: 26

Region: Burdekin
 Grower No:

	Your (\$)	Your (\$/t)	Top 20% Avg (\$/t)	Group Avg (\$/t)	Bot 20% Avg (\$/t)	Your Target
GROSS INCOME						
Cane Sales @ Std Prices			33.49	33.30	32.93	
+ Seed Cane Sales			0.01	0.02	0.00	
+ Seed Cane Used			0.23	0.24	0.19	
- Stool Cane Purchases			0.00	0.00	0.00	
GROSS INCOME			33.73	33.55	33.12	
ENTERPRISE EXPENSES						
Seed Cane			0.05	0.08	0.14	
Planting Costs (contract)			0.35	0.40	0.30	
Harvesting & Haul Out Costs			4.61	5.18	5.49	
Fertilizer & Chemicals			2.84	3.78	4.80	
Fuel & Lubricants			0.84	1.01	1.05	
Water Charges			0.51	0.99	0.93	
Electricity (cane only)			1.36	1.19	1.37	
Mill Deductions & Levies			1.25	1.11	1.15	
Casual Labour			0.09	0.11	0.08	
R & M Plant			0.98	1.60	2.65	
R & M Structures			0.14	0.09	0.00	
R & M Irrigation			0.94	0.40	0.13	
Equipment & Contract Hire			0.19	0.26	0.36	
Sundry			0.00	0.01	0.00	
TOTAL SHORT TERM COSTS			14.42	16.27	18.45	
Wages - Permanent Labour			0.94	0.98	0.96	
Wages - Unpaid Labour			1.82	2.41	2.54	
Depreciation			1.72	1.76	1.92	
TOTAL LONG TERM COSTS			4.48	5.14	5.43	
TOTAL COSTS			18.91	21.41	23.87	
GROSS MARGINS						
Short Term G.M.			19.31	17.28	14.67	
Short Term G.M. / ML water			-	1.31	-	
Long Term G.M.			14.82	12.14	9.24	
Long Term G.M. / ML water			-	0.96	-	
OVERHEADS						
Total Overhead Costs			1.64	2.02	2.25	

PRODUCTIVITY MEASURES

Analysis Group: Sugar (Burdekin)
 Number in Group: 26

Region: Burdekin
 Grower No:

Measure

Your Farm

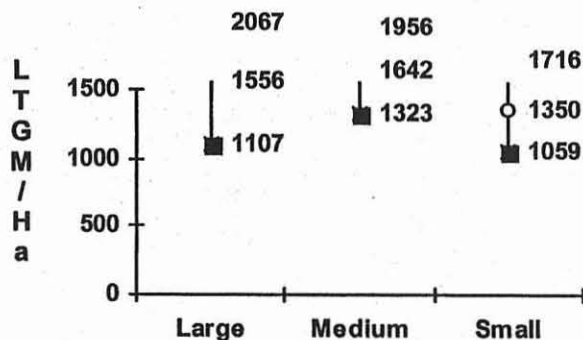
Your LTGM / Ha = \$1,661

1. Tonnes Cane Harvested

21,817

Distribution of LTGM / ha in 3 groups categorised by total tonnes of cane harvested.

- Groups: * Small < 8000 tonnes
 * Medium 8000-15000 tonnes
 * Large > 15000 tonnes

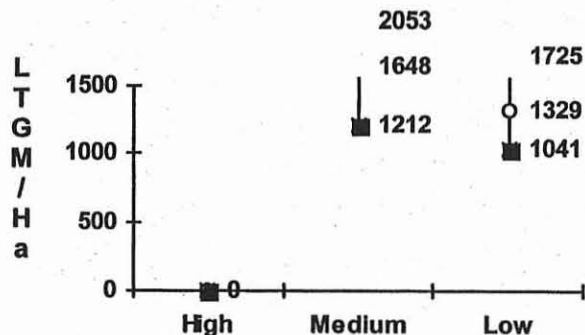


2. Sugar Yield (per ha harvested)

16.90

Distribution of LTGM / ha in 3 groups categorised by average yield per hectare harvested.

- Groups: * Low < 18 t sugar /ha
 * Medium 18-21 t sugar /ha
 * High > 21 t sugar /ha

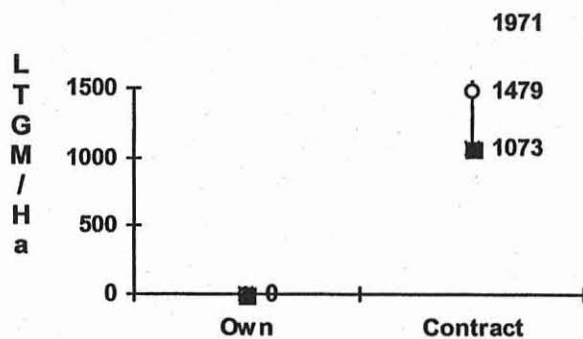


3. Own vs Contract Harvest

Own

Distribution of LTGM / ha in 2 groups categorised by the cane harvester (owner or contractor).

- Groups: * Own
 * Contractor (incl. Cooperatives)

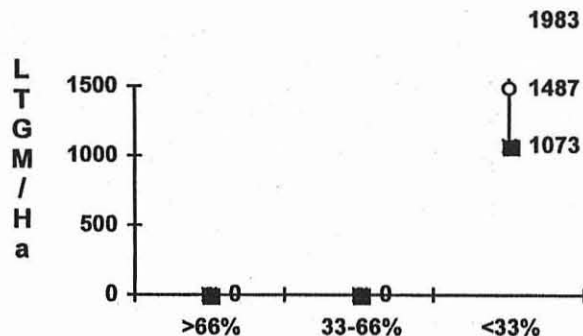


4. Burnt vs Green

0.1

Distribution of LTGM / ha in 3 groups categorised by proportion of farm grown with a green trash blanket.

- Groups: * < 33% GCTB
 * 33-66% GCTB
 * > 66% GCTB



ANNEX III

**Bundaberg – 1995/96 sample report
pages**

Key Performance Indicators

Analysis Group: Sugar (Bundaberg)
 Number In Group: 32

Region: Bundaberg
 Grower No:

Measure	Ranking in Group	Jul95 - Jun96	3-Year Avg	Top 20% Avg	Group Avg	Benchmark
(1) Productivity						
Cane Yield (t/ha)				105.18	88.95	106.75
Sugar Yield (t/ha)				15.32	12.97	15.65
Rel. CCS				14.73	14.56	14.78
Total Costs Excluding Finance (\$/t)				21.9	28.3	21.4
Long Term Gross Margin (\$/ha)				1249	523	1552
(2) People						
Tonnes Cane / Person				4,891	4,360	4,772
Total Farm ha / Person				46.8	49.3	45.3
Gross Product (\$/person)				163,786	143,965	169,129
Owner's Holidays (wks/owner labour year)				-	-	-
Training (days/labour year)				-	-	-
(3) Pecuniary (finance)						
Interest Payments (\$/ha)				24	101	50
Lease Charges (\$/ha)				5	65	3
Expense Ratio				55%	78%	50%
(4) Profitability (economics)						
Capitalisation Ratio				34%	33%	36%
EBIT (\$/ha)				1,105	325	1,433
ROAM (%)				11.0%	2.9%	13.9%
Return - Land Business (10% lease)				4.6%	4.9%	4.6%
Return - Sugar Business				6.4%	-2.0%	9.2%
(5) Property						
Cane Yield (t/ML)				10.84	9.95	9.88
Effective Water Use (ML/ha) - (30 users)				9.93	9.35	11.13
Energy Cost (per \$1,000 Gross Income)				63	82	63
EMP (Environmental Monitoring Program)				-	-	-

GROSS MARGIN / ha

Analysis Group: Sugar (Bundaberg)
 Number In Group: 32

Region: Bundaberg
 Grower No:

	Your (\$)	Your (\$/ha)
GROSS INCOME		
Cane Sales @ Std Prices		
+ Seed Cane Sales		
+ Seed Cane Used		
- Stool Cane Purchases		
GROSS INCOME		
ENTERPRISE EXPENSES		
Seed Cane		
Planting Costs (contract)		
Harvesting & Haul Out Costs		
Fertilizer & Chemicals		
Fuel & Lubricants		
Water Charges		
Electricity (cane only)		
Mill Deductions & Levies		
Casual Labour		
R & M Plant		
R & M Structures		
R & M Irrigation		
Equipment & Contract Hire		
Sundry		
TOTAL SHORT TERM COSTS		
Wages - Permanent Labour		
Wages - Unpaid Labour		
Depreciation		
TOTAL LONG TERM COSTS		
TOTAL COSTS		
GROSS MARGINS		
Short Term G.M.		
Short Term G.M. / ML water		
Long Term G.M.		
Long Term G.M. / ML water		
OVERHEADS		
Total Overhead Costs		

Top 20% Avg (\$/ha)	Group Avg (\$/ha)	Bot 20% Avg (\$/ha)	Your Target
3,535	2,949	2,361	
3	1	0	
27	48	18	
0	0	0	
3,565	2,999	2,379	
2	7	0	
15	19	31	
457	405	382	
491	517	498	
107	126	147	
83	109	119	
117	111	102	
49	38	29	
34	37	36	
174	236	269	
2	10	3	
20	29	17	
3	12	6	
0	5	14	
1,554	1,660	1,651	
0	129	216	
528	438	479	
235	249	234	
763	815	929	
2,317	2,475	2,580	
2,012	1,338	728	
205	145	70	
1,249	523	-201	
130	57	-24	
144	204	302	

GROSS MARGIN / t

Analysis Group: Sugar (Bundaberg)
 Number In Group: 32

Region: Bundaberg
 Grower No:

	Your (\$)	Your (\$/t)	Top 20% Avg (\$/t)	Group Avg (\$/t)	Bot 20% Avg (\$/t)	Your Target
GROSS INCOME						
Cane Sales @ Std Prices			33.63	33.10	32.49	
+ Seed Cane Sales			0.03	0.01	0.00	
+ Seed Cane Used			0.26	0.56	0.23	
- Stool Cane Purchases			0.00	0.00	0.00	
GROSS INCOME			33.91	33.67	32.71	
ENTERPRISE EXPENSES						
Seed Cane			0.02	0.08	0.01	
Planting Costs (contract)			0.15	0.23	0.40	
Harvesting & Haul Out Costs			4.22	4.63	5.31	
Fertilizer & Chemicals			4.70	5.90	6.78	
Fuel & Lubricants			1.03	1.45	2.09	
Water Charges			0.77	1.27	1.73	
Electricity (cane only)			1.10	1.26	1.40	
Mill Deductions & Levies			0.46	0.41	0.39	
Casual Labour			0.33	0.42	0.48	
R & M Plant			1.66	2.66	3.62	
R & M Structures			0.02	0.11	0.04	
R & M Irrigation			0.18	0.34	0.27	
Equipment & Contract Hire			0.03	0.14	0.08	
Sundry			0.00	0.06	0.18	
TOTAL SHORT TERM COSTS			14.65	18.97	22.78	
Wages - Permanent Labour			0.00	1.58	2.98	
Wages - Unpaid Labour			5.04	4.99	6.44	
Depreciation			2.25	2.82	3.31	
TOTAL LONG TERM COSTS			7.29	9.38	12.73	
TOTAL COSTS			21.95	28.35	35.50	
GROSS MARGINS						
Short Term G.M.			19.26	14.71	9.94	
Short Term G.M. / ML water			1.95	1.58	0.92	
Long Term G.M.			11.97	5.32	-2.79	
Long Term G.M. / ML water			1.25	0.58	-0.33	
OVERHEADS						
Total Overhead Costs			1.40	2.40	4.10	

PRODUCTIVITY MEASURES

Analysis Group: Sugar (Bundaberg)
 Number in Group: 32

Region: Bundaberg
 Grower No:

Measure

Your Farm

Your LTGM / Ha = \$790

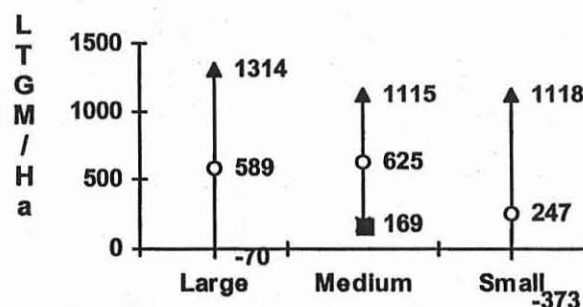
1. Tonnes Cane Harvested

3,429

Distribution of LTGM / ha in 3 groups categorised by total tonnes of cane harvested.

Medium

- Groups: * Small < 3000 tonnes
 * Medium 3000-6000 tonnes
 * Large > 6000 tonnes



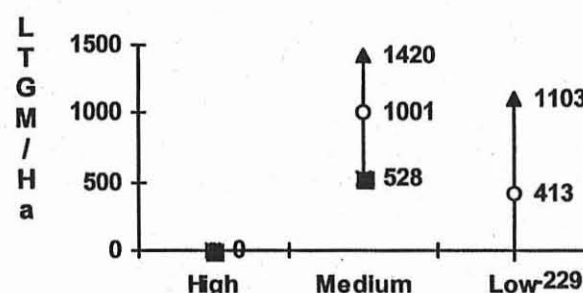
2. Sugar Yield (per ha harvested)

13.65

Distribution of LTGM / ha in 3 groups categorised by average yield per hectare harvested.

Low

- Groups: * Low < 15 t sugar /ha
 * Medium 15-18 t sugar /ha
 * High > 18 t sugar /ha

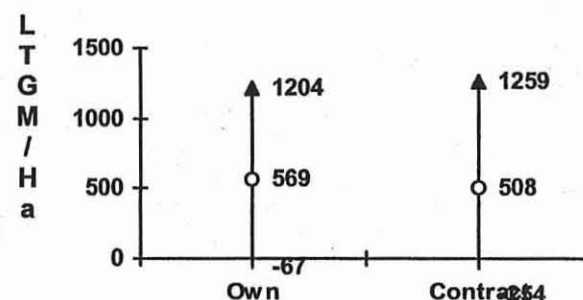


3. Own vs Contract Harvest

Contract

Distribution of LTGM / ha in 2 groups categorised by the cane harvester (owner or contractor).

- Groups: * Own
 * Contractor (incl. Cooperatives)

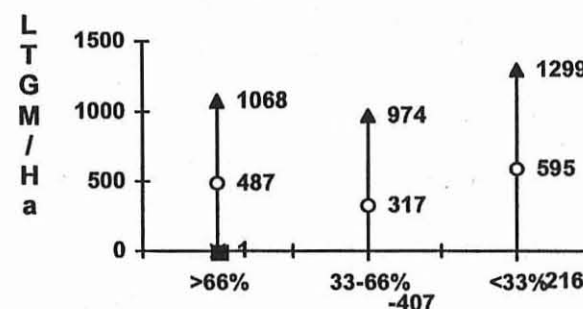


4. Burnt vs Green

100.1

Distribution of LTGM / ha in 3 groups categorised by proportion of farm grown with a green trash blanket.

- Groups: * < 33% GCTB
 * 33-66% GCTB
 * > 66% GCTB



ANNEX IV

**Maryborough – 1995/96 sample report
pages**

Key Performance Indicators

Analysis Group: Sugar (Maryborough)
 Number In Group: 10

Region: Maryborough
 Grower No:

Measure	Ranking In Group	Jul95 - Jun96	3-Year Avg	Top 20% Avg	Group Avg	Benchmark
(1) Productivity						
Cane Yield (t/ha)				99.02	86.85	101.24
Sugar Yield (t/ha)				13.77	11.69	13.27
Rel. CCS				13.89	13.79	13.78
Total Costs Excluding Finance (\$/t)				15.4	25.4	19.1
Long Term Gross Margin (\$/ha)				1561	596	1449
(2) People						
Tonnes Cane / Person				7,697	4,816	6,292
Total Farm ha / Person				81.2	54.9	63.4
Gross Product (\$/person)				237,118	146,904	204,050
Owner's Holidays (wks/owner labour year)				-	-	-
Training (days/labour year)				-	-	-
(3) Pecuniary (finance)						
Interest Payments (\$/ha)				55	13	32
Lease Charges (\$/ha)				60	38	60
Expense Ratio				47%	66%	55%
(4) Profitability (economics)						
Capitalisation Ratio				37%	42%	91%
EBIT (\$/ha)				1,505	484	1,302
ROAM (%)				18.2%	6.2%	29.2%
Return - Land Business (10% lease)				4.5%	6.4%	6.4%
Return - Sugar Business				13.8%	2.8%	10.7%
(5) Property						
Cane Yield (t/ML)				12.77	10.32	13.38
Effective Water Use (ML/ha) - (5 users)				9.50	9.64	9.21
Energy Cost (per \$1,000 Gross Income)				55	76	72
EMP (Environmental Monitoring Program)				-	-	-

GROSS MARGIN / ha

Analysis Group: Sugar (Maryborough)
 Number In Group: 10

Region: Maryborough
 Grower No:

	Your (\$)	Your (\$/ha)	Top 20% Avg (\$/ha)	Group Avg (\$/ha)	Bot 20% Avg (\$/ha)	Your Target
GROSS INCOME						
Cane Sales @ Std Prices			3,080	2,668	2,103	
+ Seed Cane Sales			0	3	0	
+ Seed Cane Used			28	58	53	
- Stool Cane Purchases			0	0	0	
GROSS INCOME			3,108	2,729	2,156	
ENTERPRISE EXPENSES						
Seed Cane			0	1	3	
Planting Costs (contract)			0	20	0	
Harvesting & Haul Out Costs			233	388	389	
Fertilizer & Chemicals			281	406	409	
Fuel & Lubricants			118	116	145	
Water Charges			56	110	94	
Electricity (cane only)			65	91	7	
Mill Deductions & Levies			52	39	36	
Casual Labour			4	3	2	
R & M Plant			304	254	189	
R & M Structures			0	8	27	
R & M Irrigation			21	12	5	
Equipment & Contract Hire			18	13	0	
Sundry			0	2	0	
TOTAL SHORT TERM COSTS			987	1,429	1,307	
Wages - Permanent Labour			140	114	0	
Wages - Unpaid Labour			268	349	835	
Depreciation			150	240	350	
TOTAL LONG TERM COSTS			559	703	1,186	
TOTAL COSTS			1,546	2,133	2,493	
GROSS MARGINS						
Short Term G.M.			2,120	1,299	849	
Short Term G.M. / ML water			264	152	93	
Long Term G.M.			1,561	596	-337	
Long Term G.M. / ML water			198	73	-39	
OVERHEADS						
Total Overhead Costs			57	112	278	

GROSS MARGIN / t

Analysis Group: Sugar (Maryborough)
 Number In Group: 10

Region: Maryborough
 Grower No:

	Your (\$)	Your (\$/t)	Top 20% Avg (\$/t)	Group Avg (\$/t)	Bot 20% Avg (\$/t)	Your Target
GROSS INCOME						
Cane Sales @ Std Prices			31.04	30.72	31.19	
+ Seed Cane Sales			0.00	0.03	0.00	
+ Seed Cane Used			0.26	0.74	0.86	
- Stool Cane Purchases			0.00	0.00	0.00	
GROSS INCOME			31.30	31.49	32.05	
ENTERPRISE EXPENSES						
Seed Cane			0.00	0.01	0.06	
Planting Costs (contract)			0.00	0.24	0.00	
Harvesting & Haul Out Costs			2.61	4.58	5.67	
Fertilizer & Chemicals			2.71	4.79	6.00	
Fuel & Lubricants			1.13	1.33	2.22	
Water Charges			0.52	1.30	1.37	
Electricity (cane only)			0.60	1.01	0.08	
Mill Deductions & Levies			0.52	0.44	0.52	
Casual Labour			0.04	0.04	0.04	
R & M Plant			2.96	2.89	2.80	
R & M Structures			0.00	0.09	0.34	
R & M Irrigation			0.20	0.11	0.07	
Equipment & Contract Hire			0.18	0.15	0.00	
Sundry			0.00	0.03	0.00	
TOTAL SHORT TERM COSTS			9.94	16.72	19.19	
Wages - Permanent Labour			1.29	1.26	0.00	
Wages - Unpaid Labour			2.70	4.47	13.13	
Depreciation			1.48	2.93	5.28	
TOTAL LONG TERM COSTS			5.47	8.66	18.42	
TOTAL COSTS			15.41	25.39	37.60	
GROSS MARGINS						
Short Term G.M.			21.36	14.77	12.86	
Short Term G.M. / ML water			2.70	1.75	1.44	
Long Term G.M.			15.89	6.11	-5.55	
Long Term G.M. / ML water			2.05	0.76	-0.66	
OVERHEADS						
Total Overhead Costs			0.57	1.40	3.99	

PRODUCTIVITY MEASURES

Analysis Group: Sugar (Maryborough)
 Number in Group: 10

Region: Maryborough
 Grower No:

Measure

Your Farm

Your LTGM / Ha = \$503

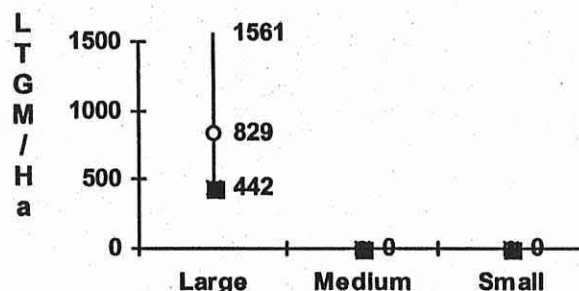
1. Tonnes Cane Harvested

9,223

Large

Distribution of LTGM / ha in 3 groups categorised by total tonnes of cane harvested.

- Groups: * Small < 3000 tonnes
 * Medium 3000-6000 tonnes
 * Large > 6000 tonnes



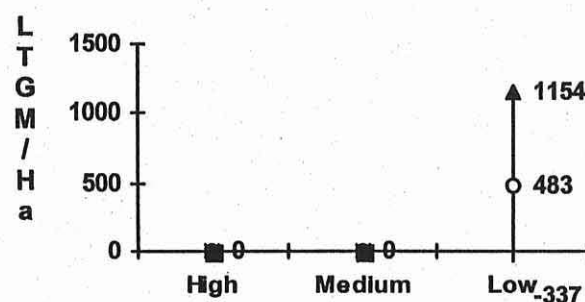
2. Sugar Yield (per ha harvested)

15.20

Medium

Distribution of LTGM / ha in 3 groups categorised by average yield per hectare harvested.

- Groups: * Low < 15 t sugar /ha
 * Medium 15-18 t sugar /ha
 * High > 18 t sugar /ha

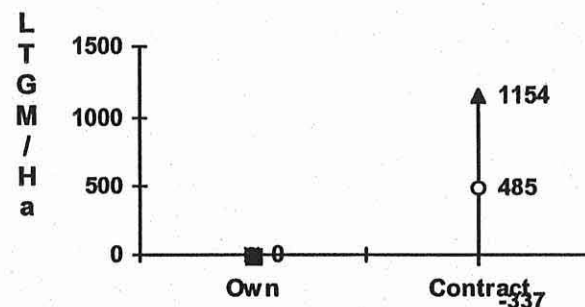


3. Own vs Contract Harvest

Contract

Distribution of LTGM / ha in 2 groups categorised by the cane harvester (owner or contractor).

- Groups: * Own
 * Contractor (incl. Cooperatives)

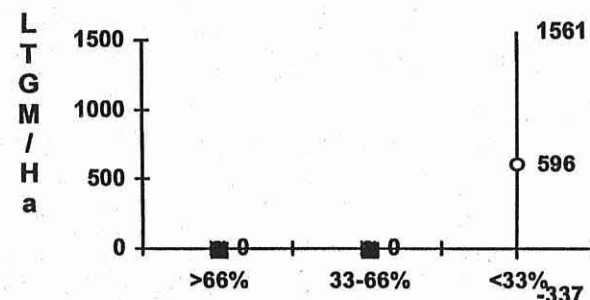


4. Burnt vs Green

0.1

Distribution of LTGM / ha in 3 groups categorised by proportion of farm grown with a green trash blanket.

- Groups: * < 33% GCTB
 * 33-66% GCTB
 * > 66% GCTB



ANNEX V

**Grower comments collected during the
project**

PARTICIPANT COMMENTS

The following comments were recorded during the life of the project as part of the feedback process. These comments can not to be quoted or printed without prior permission from the participants themselves and they have been included in the report for SRDC information only.

They have not been presented in any particular order.

"To me it is a worthwhile project and if it was commercial I would pay for it. It leads to other things: to set about qualifying where we are and where we want to go. Perhaps the greatest benefit was twisting our arms to look at our figures."

John Kirby
(Bundaberg)

"This has provided the chance to focus on specific areas to be improved. I can now set goals to work towards overall improvement. I would prefer 2 workshops a year because of the motivation they give ... I need that motivation to be renewed a couple of times a year"

David Morselli
(Herbert)

"Absolutely essential to all cane growers. It is the improved performance of us as individuals growers that has the greatest impact on the industry. This is the only opportunity I've had to measure cane farming as a business - and it is a business"

Paul Coppo
(Herbert)

Michael presented his 'Prophet' report to the Canegrowers Strategic Planning committee as a means of individuals improving farm performance. The committee has been looking a ways of getting new information and knowledge to growers. Michael's comment being - "the growers must first know where he stands and be able to identify his areas of deficiency" ie something like the 'Prophet' report will do this.

Michael Pisano
(Herbert)

"Workshops are very important to our progress and my level of understanding in the business of cane farming."

Simon Algeo
(Bundaberg)

"Brilliant idea - is it possible to do a business analysis like this. Would like to see to what extent the sugar production is supporting the cattle property at Collinsville"

Ray Menkins
(Burdekin)

"This is a service we would pay for, particularly given the support by you and the EO's. Workshop was fantastic and it has give me the encouragement to enter the industry"

Andrew Vella
(Herbert)

"Extremely happy with report - greatest interest is in changing Short Term Costs & EBIT ratio in the coming year.

Darryl Anastasi
(Bundaberg)

"Was not overly interested last year - but now think it is great. I'm looking at the cane business in a new way"

Kev Atkinson
(Bundaberg)

"Very pleased with the way the report came out. Did not expect to get this type of thing back when doing the survey last year. Looking forward to the workshop after the next report."

V Weber
(Bundaberg)

"Would be prepared to pay for such a service provided it is maintained at its present level. The support is very important."

David Lawson
(Bundaberg)

"Need more contact groups where farmers put their figures up for analysis by other farmers. Therefore with input, weaknesses can be improved."

Bunny Smith
(Burdekin)

"Happy with report - didn't know what my costs or GM where on a per tonne basis before report, however the ranking's confused me a little"

Kevin Helander
(Burdekin)

"Thought the Don Graham report was better than ours. Believes it was more detailed with less areas of variations however think that this system has a better whole business approach"

Stuart McCubbin
(Burdekin)

"Brilliant idea - is it possible to do a business analysis like this. Would like to see to what extent the sugar production is supporting the cattle property at Collinsville"

Ray Menkins
(Burdekin)

"Report good - look forward to the next one"

Jill Barbagallo
(Burdekin)

"Farm is very much in the development stage which makes comparing years difficult at this stage"

Gloria Durre
(Burdekin)

"Would like to see the report a bit simpler - needed workshop to understand. Project is brilliant for the industry and has my full support from this point of view"

Charlie Cacciola
(Burdekin)

"Good to compare within district.....figures scare him and was not inclined to read report - graphs and illustrations are fine to look at"

George Nielson
(Burdekin)

"Needs a number of years for project to be effective"

Mark Lewis
(Burdekin)

"This is a service we would pay for particularly given the support by you and the EO's. Workshop was fantastic and it has give me the encouragement to enter the industry"

Andrew Vella - John's son
(Herbert)

"Like the project - much more than I expected. Project must continue longer than the 4 years to be of full benefit"

Michael Pisano
(Herbert)

"Project very helpful - thought I was doing OK but didn't really know. Look forward to seeing the benefit over a number of years. One report at this stage can only be interpreted so far"

Sam Torrisi
(Herbert)

Concerned not enough in the group around his area. Would be prepared to pay for the service - no hesitation. Wrapped in project and thought the meeting was a great eye opener.

Allan Wallis
(Herbert)

Very impressed with report and presentation. Would love to see more people involved. Has had a lot of use for the results.

Jeff Morley
(Herbert)

Would like to see Salvo speak at group meeting about project. Industry in great need of knowing where they stand so they can then become competitive. Will support strongly.

Dawn Brown
(Herbert)

"Project gives me a better decision making base then normal accountants figures.

Neil Rielly "Novag Pty Ltd"
(Bundaberg)

"Report is very helpful - labour too high but have now corrected"

John Petersen
(Bundaberg)

"As a new person to the industry it has been important to be able to position myself and set expectations."

Rodney Penningh
(Bundaberg)

The project "is the greatest piece of feedback I have received particularly for a young grower"

Simon Algeo
(Bundaberg)

Very supportive of project however very disappointed there were errors in the first report. Has put a large effort into providing correct figures for this year however expects an improved report.

Keith Moller
(Bundaberg)

"Project has massive potential provided it is kept grower orientated - their participation must be kept enthusiastic."

John Palu
(Bundaberg)

Very happy with report and uses it to monitor farm performance. Will continue to be more useful when more years have been analysed.

John Russo
(Herbert)

"I now have a large involvement in the management of the farm. The reports are essential as they keep us focused on the areas which will give greatest improvement. More is gained from each report"

Andrew Vella - John's son
(Herbert)

'Having had no cane growing experience previous this has proved a valuable tool to monitor progress. Will see most benefit in the coming report as it will be the second crop. Being able to compare with the region is very important.' (Farming very poor country)

Alec Pyott
(Burdekin)

'Report has been very good to monitor improvement made over the years.'

Gloria Durre
(Burdekin)

Report is interesting however feels he already knows most of what we produce. Confirmed what he already knew. Does not feel he has alot to gain but see's benefit for less productive growwers.

Ray Menso
(Burdekin)

"Have had a large increase in productivity over past few years. Due to variety, water and farm management. The report has been very beneficial in the management of the above"

Ernie Rose
(Burdekin)

"Enjoyed being apart of project. Look forward to this and future reports now that my figures are more accurate and easier to record."

Peter Woods
(Burdekin)

"Don't get a lot out of the project but it is interesting to read. Know we are making money but believe we control cost as best as possible. Still feel every farm is different and therefore can't compare easily."

Ron Di Batolo
(Burdekin)

- a) Time Management - we must practice what we preach ie. There were 8 people involved in running the workshop.
- b) Unpaid Labour - should be around \$40,000/person year.
- c) Disagrees with DH that the leasing of farms in Australia could be an option.

'Despite the above opinions I think the project is essential to the industry, especially the Bundaberg region.'

Keith Moller
(Bundaberg)