file CRDC 210C

AUSTRALIAN COTTON COMPARATIVE ANALYSIS

2002 CROP

Cotton Research & Development

BOYCE CHARTERED ACCOUNTANTS

DEAR GROWER

BOYCE
CHARTERED ACCOUNTANTS

Cotton
RESEARCH & DEVELOPMENT

We are pleased to present to you the Australian Cotton Comparative Analysis.

The Comparative Analysis is a joint initiative between Cotton Research & Development (CRDC) and BOYCE Chartered Accountants to produce the industry benchmark for the economics of cotton growing in Australia.

The sample of participants this year captures a greater representation from the different valleys. It is our aim to increase the sample as we move forward with the analysis.

While the report focuses on the 2002 crop it also presents trends that have been measured against more than 10 years of data.

The report has been posted on the CRDC web page (www.crdc.com.au) and can be downloaded onto your individual computers as required.

We look forward to discussing the report with you.

Philip Thompson
Partner
BOYCE Chartered Accountants
Moree

Ralph Schulze
Executive Director
CRDC
Narrabri

CONTENTS

		Page
1.	INTRODUCTION TO THE AUSTRALIAN COTTON COMPARATIVE ANALYSIS – 2002 CROP	4
2.	REPORT ON THE 2002 CROP	8
2.1	The 2002 crop – Analytical Review	8
	2.1.1 Introduction	8
	2.1.2 Key Performance Indicators	9
	2.1.3 Five Year Averages	15
	2.1.4 Other Observations	16
	2.1.5 Features of the Top Performers	17
2.2	Return on Assets	21
	2.2.1 What Return on Assets am I Getting?	21
	2.2.2 ROA Calculator 2002	22
	2.2.3 Why Measure ROA?	24
2.3	Conclusion	25
3.	COMPARATIVE STATISTICS	28
3.1	Participants	28
	3.1.1 Comparison of participants information to the analysis	28
3.2	Average	30
	3.2.1 Graphs	30
	3.2.1.1 Comparison of average income and expense items	30
	3.2.1.2 Yield	31
	3.2.1.3 Value per bale	32
	3.2.2 The past ten years	34
	3.2.3 Comparison between the 2002 year and the 2001 year	36
	3.2.4 Comparison of the average of the different valleys	38
3.3	Top 20% Farmers	40
	3.3.1 Graphs	40
	3.3.1.1 Comparison of top 20% income and expense items	40
	3.3.1.2 Comparison of the yield for the average and the top 20%	41
	3.3.1.3 Comparison of the value per bale for the average and the top 20%	42
	3.3.1.4 Comparison of the operating profit for the average and the top 20%	43
	3.3.2 The past ten years	44
3.4	Five Year Average for Top 20% and Average Participants	46
3.5	Low Cost Farmers	48
	3.5.1 The past ten years	48
	3.5.2 Graph – Comparison of expenses and yield for low cost and average	50
4.	APPENDICES	52
Appendix A – Definition of Terms		52
Appendix B – Guide to Income and Expense Allocations		53
Appendix C – Table on Assessability of Cotton Proceeds		55
Appendix D – Common sharefarming and leasing arrangements		56
Appendix E – Cash price graph for year ended 30 June 2002		57

1

INTRODUCTION TO THE AUSTRALIAN COTTON COMPARATIVE ANALYSIS 2002 CROP

1. INTRODUCTION

The 2002 Australian Cotton Comparative Analysis (ACCA) is the second report in conjunction with the Cotton Research & Development Corporation (CRDC).

In this report, we present an analytical review of the 2002 results, a comparison with prior years and comments on emerging trends.

Feedback from participants and growers has been very positive. The clear message in this and previous reports has been the required focus on yield as opposed to cost reduction or price enhancement.

FOCUS ON YIELD AS OPPOSED TO COSTS OR PRICE

OUR SAMPLE

- As in previous years, the analysis only includes the results of farmers who were able to plant, grow and pick their crop using normal irrigation practices.
- While recognising marketing as an important part of management, growers and interested parties were concerned that participants in the top 20% may be there only due to receiving a high cotton price and not as a result of good farming practices. Alternatively, good cotton growers, due to adverse currency positions, may have been excluded from the top 20%.

  As many growers review their operation against the top 20% to look for areas of improvement, it was suggested that the top 20% and bottom 20% be selected using an average price. We have therefore selected the top 20% and bottom 20% by substituting the price that the grower received with a price of $381. This was the average cash price for the financial year. Using this average price, the participants with the highest and lowest operating profits per hectare were noted for inclusion in the top and bottom 20%.

  Even though the average price was used to select the participants in the top and bottom 20%, the growers' actual figures are reported in this analysis.

1. INTRODUCTION

THE NEED TO BENCHMARK

Financial analysis using comparative statistics helps farmers identify relative strengths and weaknesses. Accompanying budgets and long term business plans will then focus on ways to overcome weaknesses and build on strengths. In other words, this comparative analysis is a management tool to implement change and to identify where effort should be directed on a day to day basis.

Obviously, this analysis does not provide all the answers. It is a benchmark or a standard to strive for. It is up to management to develop and implement specific action plans, based on their improved knowledge, to reach new goals set.

These reliable, independent figures are the starting point for farmers to develop "best practice".

We encourage participants in this survey to discuss their results with us and to clarify any queries, so everyone can develop a better understanding of the industry.

The confidential information in this report is not for publication or reproduction without authorisation. We ask that recipients respect this request.

2

REPORT ON THE 2002 CROP

2.1 THE 2002 CROP - ANALYTICAL REVIEW

2.1.1 INTRODUCTION

The 2002 crop will be remembered as a relatively normal growing season made difficult through low cotton prices with an average cash price for the twelve months being below A$400/bale.

For the average grower the total income was higher than the 2001 year ($159/ha increase) while growing costs remain constant at $2,828/ha.

Expenditure variances saw chemicals costing $99/ha less than 2001, fertiliser increasing by $31/ha, water charges increasing by $46/ha with the balance of expenses being consistent with prior years.

This year we have again included trend lines in some of the graphs presented. Interesting trends from 1993 to 2002 have emerged including the following:

- The net price per bale is very flat and remains below $470/bale
- The yield per hectare is on a steady incline but remains below 8.5 bales/ha
- The average operating profit per hectare for the average and top 20% of growers is decreasing.

2. REPORT ON THE 2002 CROP

2.1.2. KEY PERFORMANCE INDICATORS

1. YIELD (BALES / HA)

	AVERAGE	TOP 20%	DIFF
2002	8.62	9.72	1.10
2001	7.90	8.83	0.93
5 year average	8.00	9.00	1.00

? What is your water use efficiency?

? Do your employees know your yield expectations?

2. VALUE ($ / BALE)

	AVERAGE	TOP 20%	DIFF
2002	$421	$381	($40)
2001	$440	$449	$9
5 year average	$446	$450	$4

- Large variance between the highest and lowest price received.
- The price at the start of the season was $412. This price increased marginally in the first half of the year to $430 before falling to a low of $300/bale in November 2001 and reaching $430 by mid June 2002.
- A large number of adverse currency positions were realised.

? What strategies do you have in place to combat adverse currency and reduced hectares?

? Do you understand all the strategies that are available?

? How long can you roll forward currency?

2. REPORT ON THE 2002 CROP

3. OPERATING COSTS ($ / HA)

	AVERAGE	TOP 20%	DIFF
2002	$2,828	$2,583	$245
2001	$2,839	$2,671	$168
5 year average	$2,796	$2,641	$155

- Areas where expenditure increased by more than $10/ha were picking, fertiliser, licence fees, seed and water charges.
- There is still a surprising range with the operating costs of fully irrigated cotton varying between $2,400/ha and $3,600/ha (before finance costs).
- The average operating costs for the "low cost growers" was $2,285/ha.
- The top 20% of growers spent significantly more than the average growers on cartage, fertiliser and R & M – pumps and earthworks.

? What steps can you take to keep your operating costs below $2,600/ha?

? Are you monitoring the costs, which are much higher than the average?

? Have you investigated group purchasing arrangements?

2. REPORT ON THE 2002 CROP

4. COST OF PRODUCTION ($ / BALE)

	AVERAGE	TOP 20%	DIFF
2002	$328	$266	$62
2001	$359	$302	$57
5 year average	$349	$297	$52

- A low cost of production per bale is the most significant feature of the top 20%. This is achieved by producing more bales of cotton from the same cost base.
- Long-term average figures for the top producers prove that it is possible to achieve a benchmark in the $260 to $310 per bale range in a "normal" insecticide year.
- The extra yield of 0.25 - 0.5 bales per hectare costs very little.

? Are you continually focusing on your cost of production per bale?

? What are the top 20% doing?

5. COMPARISON OF VALLEYS

Below is a comparison of statistics for each valley.

	Gwydir	MacIntyre	Macquarie	Namoi	Emerald	Walgett
Gross Income ($/ha)	$4,210	$3,635	$3,266	$3,581	$3,045	$2,628
Insecticides and Ingard ($/ha)	$402	$325	$387	$318	$338	$371
Insurance ($/ha)	$122	$80	$81	$67	$96	$76
Wages ($/ha)	$393	$248	$328	$258	$191	$177
Operating Profit ($/ha)	$1,148	$1,061	$224	$1,066	$396	$155
Hectares Grown	1,462	1,254	1,139	655	1,655	357
Yield / ha	9.15	9.26	8.01	8.05	7.70	7.03

- The Gwydir Valley displays higher insect costs and a significantly higher labour cost. (High labour costs are a quick indicator of overall high costs of operations).

6. LABOUR (HECTARES PER PERSON)

	AVERAGE	TOP 20%	DIFF
2002	193	228	35
2001	180	230	50
5 year average	186	215	29

- The long-term averages reveal that the top 20% are achieving better results due to economies of scale on labour usage.
- An increasing number of farms are looking to outsource various operations based on priority agreements with contractors.
- Labour utilisation numbers often reduce when there is a marginal increase in hectares grown.

? Are there some farm operations that could be outsourced?

2. REPORT ON THE 2002 CROP

7. AVAILABLE TRACTOR HORSE POWER (HORSE POWER / 500 HA)

	AVERAGE	TOP 20%	DIFF
2002	339	425	86
2001	414	360	54
5 year average	411	382	29

- Comments made for labour are also applicable for available tractor horsepower.
- Having the correct equipment to get the operations done on time is the most important consideration. On the other hand, over capitalisation impacts on several cost centres that can increase costs, i.e. labour and R & M.

? Are you fully utilising all machinery that you currently own or can some capital be freed up?

? What security are you using for the financing of your machinery?

8. AVAILABLE PICKING CAPACITY (PICKER HEADS / 500 HA)

	AVERAGE	TOP 20%	DIFF
2002	1.71	2.86	(1.15)
2001	2.32	1.39	0.93
5 year average	2.09	1.86	0.23

- The trend here is that many of the top 20% are picking less off their own cotton and do not own their own pickers.
- With greater hectares, more contractors were required to pick the crop.

? Do you have the capacity to pick your crop in 21 days (using your own pickers or having reliable contractors)?

? Have you analysed the full cost of owning pickers?

? What does it cost you not to pick within 21 days?

9. ROTATION

	AVERAGE	TOP 20%	DIFF
2002	34%	28%	(6%)
2001	35%	45%	10%
5 year average	37%	33%	(4%)

- Water has been the major determining factor in the amount of rotation.
- Growers are very aware of the benefits of a sustainable fallow program.
- Short-term financial analysis does not prove that rotation is beneficial. Additional factors need to be considered when deciding how much country to rotate – management, agronomic, and environmental.

? What is the balance between rotation and the industry's reducing margins?

2. REPORT ON THE 2002 CROP

2.1.3 FIVE YEAR AVERAGES

It is interesting to look closely at the combined average figures for landholding farmers for the past five years and compare those figures with the combined average for the top 20% of landholding farmers for the same period. What makes the top 20% so much better than average?

In the past five years the top 20% of landholding farmers made 103% more profit (after interest) than the average ($1,122/ha compared to $552/ha).

The difference is attributed to the following factors:

Land productivity (yield)	76%	or	$436
Price (marketing)	6%	or	$32
Direct cost savings - excluding			
Wages - Proprietors (fine tuning)	26%	or	$148
Interest savings (less debt)	(8%)	or	($46)
	100%		$570

With better land productivity (measured by higher yields) being the major feature of the top performers, farmers should, if they wish to improve their performance significantly, concentrate on growing their revenue rather than searching for dramatic cost, cutting measures.

2.1.4 OTHER OBSERVATIONS

Over the years, many "rules of thumb" have been developed and quoted by farmers, financiers and accountants:

- Cotton farmers are, in principle, debt free if, at year-end, their equity in cotton pools covers their total borrowings.
- No more than 60% of current crop proceeds should be tipped forward for tax purposes using pooling arrangements (whilst not developing country).

  If this decision is made, ensure that effective tax planning is carried out if you roll into a low water year.

EFFECTIVE TAX PLANNING IS REQUIRED IF TIPPING FORWARD COTTON POOLS

- The contingent tax liability associated with crop proceeds tipped forward (pools) should always be calculated and bought to account at year end when measuring your wealth.
- Debt should not exceed 150% of average gross farm income (100% when interest rates are above 12%).
- High wage costs and machinery horsepower are a quick indicator of overall high costs of operations.
- Don't underestimate the value of knowledge, within your industry and worldwide. It can be difficult to keep up to date on the latest practices, but falling behind can cost you considerable amounts of money.

2. REPORT ON THE 2002 CROP

2.1.5. FEATURES OF THE TOP PERFORMERS

Over the past fifteen years, many cotton farmers have been able to achieve top-class results, even in years when seasonal or financial circumstances were less than favourable.

Outlined below are some of the distinguishing characteristics and features of successful cotton growers:

- Controlled operating costs

  Operating costs (before interest) for farmers have averaged $2,641/ha for the past five years. With fine-tuning, the best farmers have been able to keep their operating costs under control without sacrificing yield, while still adequately maintaining all assets. The performance of the "low cost" farmers operating at their optimum scale over the past five years proves that a target for operating costs of $2,200 to $2,600/ha is achievable. These figures translate to operating costs per bale of $280 to $350.

STEP 1 IN MARKETING YOUR CROP IS TO KNOW YOUR COST OF PRODUCTION PER BALE

- Consistent marketing strategies

  There are a large number of marketing alternatives available to cotton farmers. The strategies adopted by individual farmers depend on:

  a. Individual outlook on risk
  b. World-wide economic outlook
  c. Taxation implications
  d. Cash flow implications
  e. Water availability
  f. Level of knowledge on how to use the complex alternatives.

  To date, the perfect marketing strategy has proved to be elusive. Farmers need to make marketing decisions with the aim of maximising their crop income and remembering that a net return in excess of $480/bale should produce a sizeable profit.

  The top farmers know their cost of production per bale, they then base marketing decisions on that cost and work on yield to increase their profit.

- Productive labour

  Top-class results cannot be produced without having a top-class team of employees who are efficient, focused, motivated and stable. The best farms ensure that employees are kept informed with weekly team meetings, are trained to do their job properly, and are given responsibility and an opportunity to participate in on-farm decision making. It is also essential that employees are properly remunerated and take their holidays every year. The most efficient farms are operating with one permanent person for every 228 hectares.

- Reliable machinery

  All good farmers appreciate the importance of timing, so they ensure that they own or have access to sufficient reliable machinery to carry out all operations efficiently and on time. For farmers who decide to own tractors to carry out all field operations, capacity of 450 to 500 engine horsepower per 500 hectares is generally required. The ideal picking capacity for farms is subject to a great deal of debate, with many efficient operators concluding that the whole picking operation should be carried out by contractors. The best farmers aim to complete their picking operation within 21 days.

- Sustainable farming techniques (rotation)

  Many of the benefits of a stringent rotation program are not quantifiable in the short term and the benefits that are quantifiable, are often disguised by other variables that can effect yield in any season. The cotton industry is relatively young in Australia and the fertility of soils in some areas has not been depleted sufficiently to create a sense of urgency amongst farmers to address the real issues.

  If farmers are going to maintain a sustainable cotton production system, maintain high yields, and achieve high levels of profitability in the long term, the issue of rotation needs to be addressed urgently.

  Obviously, the idea is to aim for a 1:1 rotation in the long term, with new fields initially being farmed for three to four years, before going into a 3:1 rotation, 2:1 rotation, then a year in-year out, 1:1 program.

  The top performers are continually looking at varied crops for rotation. These decisions are being made for agronomic and financial reasons. Industry awareness is required to learn from these operators.

2. REPORT ON THE 2002 CROP

- Water use efficiency

  Growers are now taking closer notice of measuring water use efficiency, as limited water availability obligates growers to use their allocation efficiently. Trends are developing that indicate the top 20% of growers have greater water efficiency than the average grower.

- Conservative levels of debt

  With the cotton industry still relatively young, many farmers are carrying large amounts of debt, with debt levels of 40% to 50% being common. By adopting sound, sustainable practices, the best farmers have been able to generate a significant cash surplus to repay borrowings. The best farmers are in an enviable position of being able to survive in tough times, and in some circumstances expand the scale of their operations. It must be remembered that debt can only be repaid out of a cash surplus after allowing for taxation, drawings and capital purchases, or from the sale of other assets.

  MORE AND MORE GROWERS ARE MEASURING THEIR WATER USE EFFICIENCY

  Our current low interest rate environment should encourage growers to look at protecting their borrowings through interest rate management. Financiers are offering many varied products that provide this protection.

  Farmers are considered to be in a solid financial position (category A) if their debts are covered by the value of equity in cotton pools at 30 June.

- Efficient financial management

  Good farmers run a tidy computerised farm as well as a tidy office, with all financial affairs being up to date and under control.

  Annual budgets are prepared by the top performers on a conservative basis, with realistic yet challenging targets. Performance is then monitored monthly, comparing actual results with the previously prepared budget. With up-to-date management reports, top performers are able to analyse performance and fine tune operations on a regular basis. They also keep their financiers well informed at all times.

- Timing

  All operations are carried out "on time" on the best farms. Fields are ready to plant as soon as the season permits, machinery is always ready to carry out the next task and team members always know what they have to do a week or a month ahead. Waterings are never late. Being "on time" is a result of good planning and good communication.

- Planning and long term vision

  At the heart of every good operation is a person with vision; vision of where the business is going on a day-to-day basis, on an annual basis, and on a long-term basis (10 years plus). The best farmers always seem to have time on their hands because they have clearly defined goals. They have communicated those goals to their team members, then taken on the role of a coach, guiding and encouraging their team who carry out the day-to-day activities.

- High yields

  High yields are the reward for getting all aspects of a farming operation right. No single farming technique, method of operation or management decision is going to have a significant impact. Top performers do all the little things thoroughly and on time, and as a consequence "reap the rewards".

  The best farmers consistently achieve yields in excess of 8.0 bales/ha year after year (assuming adequate water availability). Total farm averages of 9.75 bales/ha have been achieved and are now a realistic goal, especially using the excellent cotton varieties that are continually being developed.

2. REPORT ON THE 2002 CROP

2.2 RETURN ON ASSETS

2.2.1 WHAT RETURN ON ASSETS AM I GETTING?

Trend lines indicate that the top 20% and the average growers profits are trending down. This is through a period where we are seeing the price of land and water increase dramatically.

In the 2001 ACCA we encouraged the goals of maintaining a strong valuation base; avoiding capitalisation of interest; and continuing to measure the ongoing return on assets. Any erosion in the return on assets can only be for a short period of time.

How do I calculate my simple return on assets (ROA)?

The simple ROA is calculated by dividing your operating profit per hectare (before interest) by the value of a fully developed, protected and licenced hectare.

ANY EROSION IN ROA CAN ONLY BE FOR A SHORT PERIOD OF TIME

We have included a worksheet to calculate your individual ROA. The process is is easy to follow and is as below:-

i) From the farm operating profit – (loss) per ha spreadsheet find your yield and price per bale. Match these up to calculate your operating profit (before interest) based on costs of $2,828/ha (average for 2002 crop).

ii) Find the profit closest to your farm along the base of the return on assets based on various profits and land variations spreadsheets (page 22). (For participants take the profit straight from your report).

iii) Select a value per developed, licenced and protected hectare. (You may want to add a value per hectare based on your machinery investment e.g. $1,500,000 machinery divided by 1,500 hectares increases your investment by $1,000/ha).

iv) Match the two up and calculate your simple return on assets.

2.2.2 ROA CALCULATOR 2002

FARM OPERATING PROFIT/(LOSS) PER HECTARE BASED ON ALTERNATIVE YIELDS AND PRICES - BEFORE INTEREST

$/BALE	AVERAGE YIELD PER HECTARE																				
	7.2	7.4	7.6	7.8	8	8.2	8.4	8.6	8.8	9	9.2	9.4	9.6	9.8	10	10.2	10.4	10.6	10.8	11	11.2	11.4
550	1,132	1,242	1,352	1,462	1,572	1,682	1,792	1,902	2,012	2,122	2,232	2,342	2,452	2,562	2,672	2,782	2,892	3,002	3,112	3,222	3,332	3,442
540	1,060	1,168	1,276	1,384	1,492	1,600	1,708	1,816	1,924	2,032	2,140	2,248	2,356	2,464	2,572	2,680	2,788	2,896	3,004	3,112	3,220	3,328
530	988	1,094	1,200	1,306	1,412	1,518	1,624	1,730	1,836	1,942	2,048	2,154	2,260	2,366	2,472	2,578	2,684	2,790	2,896	3,002	3,108	3,214
520	916	1,020	1,124	1,228	1,332	1,436	1,540	1,644	1,748	1,852	1,956	2,060	2,164	2,268	2,372	2,476	2,580	2,684	2,788	2,892	2,996	3,100
510	844	946	1,048	1,150	1,252	1,354	1,456	1,558	1,660	1,762	1,864	1,966	2,068	2,170	2,272	2,374	2,476	2,578	2,680	2,782	2,884	2,986
500	772	872	972	1,072	1,172	1,272	1,372	1,472	1,572	1,672	1,772	1,872	1,972	2,072	2,172	2,272	2,372	2,472	2,572	2,672	2,772	2,872
490	700	798	896	994	1,092	1,190	1,288	1,386	1,484	1,582	1,680	1,778	1,876	1,974	2,072	2,170	2,268	2,366	2,464	2,562	2,660	2,758
480	628	724	820	916	1,012	1,108	1,204	1,300	1,396	1,492	1,588	1,684	1,780	1,876	1,972	2,068	2,164	2,260	2,356	2,452	2,548	2,644
470	556	650	744	838	932	1,026	1,120	1,214	1,308	1,402	1,496	1,590	1,684	1,778	1,872	1,966	2,060	2,154	2,248	2,342	2,436	2,530
460	484	576	668	760	852	944	1,036	1,128	1,220	1,312	1,404	1,496	1,588	1,680	1,772	1,864	1,956	2,048	2,140	2,232	2,324	2,416
450	412	502	592	682	772	862	952	1,042	1,132	1,222	1,312	1,402	1,492	1,582	1,672	1,762	1,852	1,942	2,032	2,122	2,212	2,302
440	340	428	516	604	692	780	868	956	1,044	1,132	1,220	1,308	1,396	1,484	1,572	1,660	1,748	1,836	1,924	2,012	2,100	2,188
430	268	354	440	526	612	698	784	870	956	1,042	1,128	1,214	1,300	1,386	1,472	1,558	1,644	1,730	1,816	1,902	1,988	2,074
420	196	280	364	448	532	616	700	784	868	952	1,036	1,120	1,204	1,288	1,372	1,456	1,540	1,624	1,708	1,792	1,876	1,960
410	124	206	288	370	452	534	616	698	780	862	944	1,026	1,108	1,190	1,272	1,354	1,436	1,518	1,600	1,682	1,764	1,846
400	52	132	212	292	372	452	532	612	692	772	852	932	1,012	1,092	1,172	1,252	1,332	1,412	1,492	1,572	1,652	1,732
390	(20)	58	136	214	292	370	448	526	604	682	760	838	916	994	1,072	1,150	1,228	1,306	1,384	1,462	1,540	1,618
380	(92)	(16)	60	136	212	288	364	440	516	592	668	744	820	896	972	1,048	1,124	1,200	1,276	1,352	1,428	1,504
370	(164)	(90)	(16)	58	132	206	280	354	428	502	576	650	724	798	872	946	1,020	1,094	1,168	1,242	1,316	1,390
360	(236)	(164)	(92)	(20)	52	124	196	268	340	412	484	556	628	700	772	844	916	988	1,060	1,132	1,204	1,276
350	(308)	(238)	(168)	(98)	(28)	42	112	182	252	322	392	462	532	602	672	742	812	882	952	1,022	1,092	1,162

1. Pick your price per bale & yield / ha. 2. Match them up & get your profit per hectare based on 2002 average growing costs.
3. Find your closest profit range on the bottom of the next graph.

RETURN ON ASSETS BASED ON VARIOUS PROFITS & LAND VALUATIONS

This calculator will be posted on the CRDC webpage & will allow you to change certain variables which best suit your circumstances.

$/HA	PROFIT PER HECTARE FROM PREVIOUS WORKSHEET																				
	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,300	2,500	2,700	2,900	3,100	3,300
$18,000	3.3%	3.9%	4.4%	5.0%	5.6%	6.1%	6.7%	7.2%	7.8%	8.3%	8.9%	9.4%	10.0%	10.6%	11.1%	11.7%	12.8%	13.9%	15.0%	16.1%	17.2%	18.3%
$17,500	3.4%	4.0%	4.6%	5.1%	5.7%	6.3%	6.9%	7.4%	8.0%	8.6%	9.1%	9.7%	10.3%	10.9%	11.4%	12.0%	13.1%	14.3%	15.4%	16.6%	17.7%	18.9%
$17,000	3.5%	4.1%	4.7%	5.3%	5.9%	6.5%	7.1%	7.6%	8.2%	8.8%	9.4%	10.0%	10.6%	11.2%	11.8%	12.4%	13.5%	14.7%	15.9%	17.1%	18.2%	19.4%
$16,500	3.6%	4.2%	4.8%	5.5%	6.1%	6.7%	7.3%	7.9%	8.5%	9.1%	9.7%	10.3%	10.9%	11.5%	12.1%	12.7%	13.9%	15.2%	16.4%	17.6%	18.8%	20.0%
$16,000	3.8%	4.4%	5.0%	5.6%	6.3%	6.9%	7.5%	8.1%	8.8%	9.4%	10.0%	10.6%	11.3%	11.9%	12.5%	13.1%	14.4%	15.6%	16.9%	18.1%	19.4%	20.6%
$15,500	3.9%	4.5%	5.2%	5.8%	6.5%	7.1%	7.7%	8.4%	9.0%	9.7%	10.3%	11.0%	11.6%	12.3%	12.9%	13.5%	14.8%	16.1%	17.4%	18.7%	20.0%	21.3%
$15,000	4.0%	4.7%	5.3%	6.0%	6.7%	7.3%	8.0%	8.7%	9.3%	10.0%	10.7%	11.3%	12.0%	12.7%	13.3%	14.0%	15.3%	16.7%	18.0%	19.3%	20.7%	22.0%
$14,500	4.1%	4.8%	5.5%	6.2%	6.9%	7.6%	8.3%	9.0%	9.7%	10.3%	11.0%	11.7%	12.4%	13.1%	13.8%	14.5%	15.9%	17.2%	18.6%	20.0%	21.4%	22.8%
$14,000	4.3%	5.0%	5.7%	6.4%	7.1%	7.9%	8.6%	9.3%	10.0%	10.7%	11.4%	12.1%	12.9%	13.6%	14.3%	15.0%	16.4%	17.9%	19.3%	20.7%	22.1%	23.6%
$13,500	4.4%	5.2%	5.9%	6.7%	7.4%	8.1%	8.9%	9.6%	10.4%	11.1%	11.9%	12.6%	13.3%	14.1%	14.8%	15.6%	17.0%	18.5%	20.0%	21.5%	23.0%	24.4%
$13,000	4.6%	5.4%	6.2%	6.9%	7.7%	8.5%	9.2%	10.0%	10.8%	11.5%	12.3%	13.1%	13.8%	14.6%	15.4%	16.2%	17.7%	19.2%	20.8%	22.3%	23.8%	25.4%
$12,500	4.8%	5.6%	6.4%	7.2%	8.0%	8.8%	9.6%	10.4%	11.2%	12.0%	12.8%	13.6%	14.4%	15.2%	16.0%	16.8%	18.4%	20.0%	21.6%	23.2%	24.8%	26.4%
$12,000	5.0%	5.8%	6.7%	7.5%	8.3%	9.2%	10.0%	10.8%	11.7%	12.5%	13.3%	14.2%	15.0%	15.8%	16.7%	17.5%	19.2%	20.8%	22.5%	24.2%	25.8%	27.5%
$11,500	5.2%	6.1%	7.0%	7.8%	8.7%	9.6%	10.4%	11.3%	12.2%	13.0%	13.9%	14.8%	15.7%	16.5%	17.4%	18.3%	20.0%	21.7%	23.5%	25.2%	27.0%	28.7%
$11,000	5.5%	6.4%	7.3%	8.2%	9.1%	10.0%	10.9%	11.8%	12.7%	13.6%	14.5%	15.5%	16.4%	17.3%	18.2%	19.1%	20.9%	22.7%	24.5%	26.4%	28.2%	30.0%
$10,500	5.7%	6.7%	7.6%	8.6%	9.5%	10.5%	11.4%	12.4%	13.3%	14.3%	15.2%	16.2%	17.1%	18.1%	19.0%	20.0%	21.9%	23.8%	25.7%	27.6%	29.5%	31.4%
$10,000	6.0%	7.0%	8.0%	9.0%	10.0%	11.0%	12.0%	13.0%	14.0%	15.0%	16.0%	17.0%	18.0%	19.0%	20.0%	21.0%	23.0%	25.0%	27.0%	29.0%	31.0%	33.0%
$9,500	6.3%	7.4%	8.4%	9.5%	10.5%	11.6%	12.6%	13.7%	14.7%	15.8%	16.8%	17.9%	18.9%	20.0%	21.1%	22.1%	24.2%	26.3%	28.4%	30.5%	32.6%	34.7%
$9,000	6.7%	7.8%	8.9%	10.0%	11.1%	12.2%	13.3%	14.4%	15.6%	16.7%	17.8%	18.9%	20.0%	21.1%	22.2%	23.3%	25.6%	27.8%	30.0%	32.2%	34.4%	36.7%
$8,500	7.1%	8.2%	9.4%	10.6%	11.8%	12.9%	14.1%	15.3%	16.5%	17.6%	18.8%	20.0%	21.2%	22.4%	23.5%	24.7%	27.1%	29.4%	31.8%	34.1%	36.5%	38.8%
$8,000	7.5%	8.8%	10.0%	11.3%	12.5%	13.8%	15.0%	16.3%	17.5%	18.8%	20.0%	21.3%	22.5%	23.8%	25.0%	26.3%	28.8%	31.3%	33.8%	36.3%	38.8%	41.3%

2.2.3 WHY MEASURE ROA?

- In isolation ROA provides you with a measure to better assess alternative investments. It does not serve as the yardstick to base decisions such as entry or exit of the industry.
- ROA does not include any increase in the value of your assets. If, in a year, you achieve 7% ROA and the value of your assets increase by 5% then your total return is 12%.

  Linked directly to this is the fact that you now have a higher asset value, and next year, if you achieve the same profit your ROA will be lower.
- Use the calculator to predict what your future returns may be.

  e.g. Assume a profit of $800/ha against today's valuation of $10,000 ha – 8% return

  Now use the same profit against an increased market rate of $15,000/ha – 5.3% return

  To achieve an 8% return against a $15,000/ha valuation you need to reach a profit of $1,200/ha.
- The cotton price remains the greatest variable when looking forward or doing current comparisons between growers. As discussed in this and prior reports, land productivity (yield) contributes approximately 75% to the difference between the top 20% and the average. What difference does yield make on ROA?

  e.g. 2002 average growers profit of $803/ha against $10,000/ha – 8% return

  2002 top 20% growers profit of $1,108/ha against $10,000/ha – 11% return

  (Yield differential of 1.10/bale/ha).
- ROA needs to be balanced against such factors as risk, sustainability and reinvestment. The sole aim of increasing ROA may have a negative impact on sustainability and the need to reinvest through redevelopment.
- The linkage between ROA and yield is direct. The drive continues to be increase yield, and to increase profits and ROA. The need to balance this aim and long-term sustainability becomes the challenge facing the industry.

3. COMPARATIVE STATISTICS

2.3 CONCLUSION

This report has continued to measure the components that give farmers a stronger financial bottom line. The industry continues to reinvest in BMP, sustainability programs and in the communities in which it operates.

With increased productivity (yields) being the major feature of the top profits generated, the industry can begin to focus on sustainable measures to improve yields.

Improvements in operating and gene technology are contributing to improved yields. Maintaining a focus on sustainability and improved productivity will create a stronger and longer return on assets.

The cotton industry is well placed to achieve this goal.

Philip Thompson

Partner
BOYCE Chartered Accountants
MOREE NSW
pthompson@boyceca.com

3

COMPARATIVE STATISTICS

3.1 PARTICIPANTS

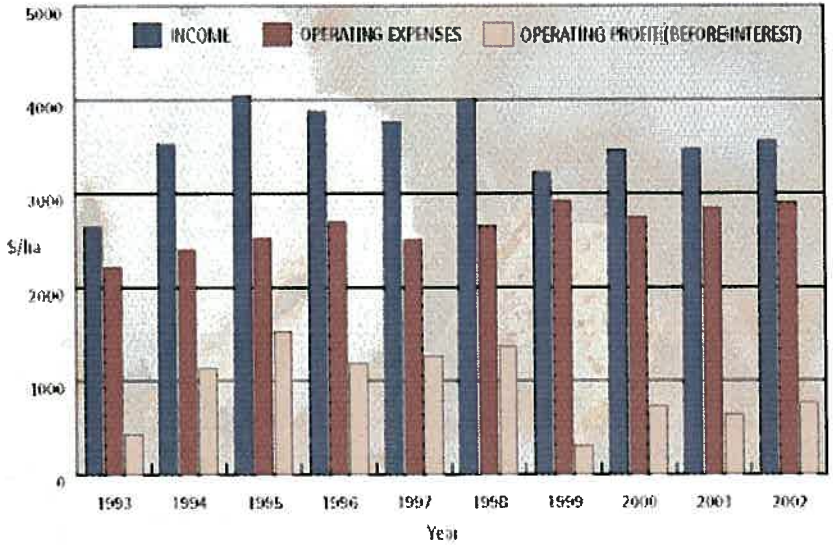
3.1.1 COMPARISON OF PARTICIPANTS INFORMATION TO THE ANALYSIS

	YOUR FARM (TOTAL)	YOUR FARM	ALL FARMS	TOP 20%	BOTTOM 20%	LOW COST	LARGE GROWERS (<3,250HA)	YOUR VALLEY
INCOME								
Cotton proceeds - Lint			3,587	3,685	3,073	2,916	3,627	
Cotton proceeds - Seed			455	523	363	381	473	
Ginning			(450)	(478)	(415)	(382)	(456)	
Levies			(32)	(30)	(28)	(25)	(35)	
Cotton proceeds - Hail claims			0	0	0	0	0	
			3,560	3,700	2,993	2,890	3,609	
EXPENSES								
Administration			40	31	54	51	34	
Cartage			76	104	64	53	81	
Chemical application			126	116	137	90	140	
Chemicals - Herbicides			124	105	134	93	126	
Chemicals - Insecticides			303	314	339	182	317	
Chemicals - Defoliants			83	77	94	74	87	
Chemicals - Other			12	4	17	9	19	
Chipping			82	86	103	71	86	
Consultants			50	56	47	61	42	
Contract picking			175	101	151	129	162	
Contract farming & ripping			64	44	45	69	45	
Cotton picking sundries			10	11	6	9	15	
Electricity			19	24	22	23	8	
Fertiliser			249	268	245	208	268	
Fuel & oil			155	151	181	107	183	
Hire of plant			18	3	34	43	8	
Insurance			89	77	83	62	64	
Leasing, depreciation & hire purchase charges			240	208	261	163	323	
Licence fee - Ingard			55	58	53	58	52	
Licence fee - Roundup ready			5	5	2	0	4	
Motor vehicle expenses			16	14	18	17	11	
R & M - Farming plant			128	122	109	110	168	
R & M - Pumps and earthworks			102	152	93	76	132	
Seed			70	70	65	70	69	
Water charges			103	29	96	95	98	
Wages - Employees			310	243	379	232	343	
Wages - Proprietors			50	66	42	56	14	
Other farm overheads			50	44	47	29	70	
			2,804	2,583	2,921	2,240	2,969	
OPERATING PROFIT/(LOSS)			756	1,117	72	650	640	
ADD:								
Wages - Proprietors			50	66	42	56	14	
FARM OPERATING PROFIT/(LOSS)			806	1,183	114	706	654	

	YOUR FARM (TOTAL)	YOUR FARM	ALL FARMS	TOP 20%	BOTTOM 20%	LOW COST	LARGE GROWERS (<3,250HA)	YOUR VALLEY
DEDUCT								
Interest and bank charges			281	388	238	258	166	
Interest - Crop terms			14	5	11	0	4	
			295	393	249	258	170	
FARM NET PROFIT/(LOSS)			$511	$790	($135)	$448	$484	
CROP RESULTS								
Hectares of cotton grown			1,077.59	1,040.63	1,181.54	746.30	4,607.33	
Total yield			9,062.59	10,109.94	8,120.61	5,102.18	41,406.10	
Yield per hectare			8.41	9.72	6.87	6.84	8.99	
Value per bale			$423.34	$380.82	$435.50	$422.66	$401.71	
Cost of production per bale			$333.50	$265.87	$424.94	$327.94	$330.13	
Operating profit/(loss) per bale			$6.63	$114.96	$10.56	$94.72	$71.58	
No. of bales per hectare required to cover operating expenses			6.63	6.78	6.71	5.30	7.39	
No. of bales per hectare required to cover total expenses			7.32	7.82	7.28	5.92	7.81	
LABOUR								
Number of Hectares per permanent person (excluding proprietors)			200.61	228.43	187.32	236.63	181.87	
AVAILABLE TRACTOR HORSE POWER								
Tractor horse power per 500 hectares			327.82	425.38	277.47	291.03	327.01	
AVAILABLE PICKING CAPACITY								
Picker heads per 500 hectares			1.72	2.86	1.63	1.22	2.32	
ROTATION								
Percentage of the current years crop being grown on fallow fields or new fields (developed within the last 3 years)			32.84%	27.88%	38.14%	23.53%	46.56%	
WATER USAGE								
Megalitres per hectare			9.31	9.47	7.99	7.33	10.48	
Megalitres per bale			1.11	0.97	1.16	1.07	1.17	

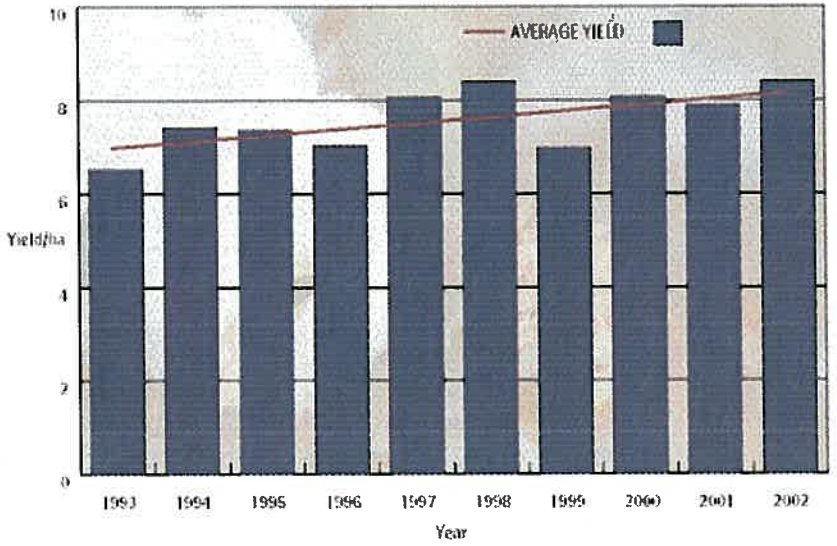
3.2 AVERAGE

3.2.1.1 AVERAGE - COMPARISON OF AVERAGE INCOME AND EXPENSE ITEMS

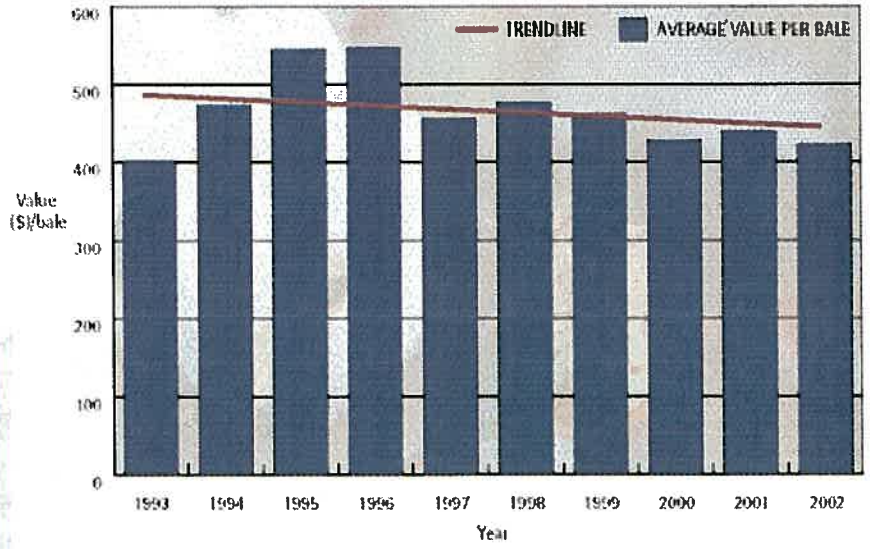


3. COMPARATIVE STATISTICS

3.2.1.2 AVERAGE - YIELD



3.2.1.3 AVERAGE - VALUE PER BALE



3. COMPARATIVE STATISTICS

NOTES

3.2.2 AVERAGE - THE PAST TEN YEARS (PER HA)

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001		2002
										INCOME	
2,960	2,629	3,526	4,035	3,865	3,758	3,989	3,130	3,458	3,563	Cotton proceeds - Lint	3,587
									366	Cotton proceeds - Seed	455
									(430)	Ginning	(450)
									(28)	Levies	(32)
64	15	0	10	12	7	19	101	5	1	Cotton proceeds - Hail claims	0
3,024	2,644	3,526	4,045	3,877	3,765	4,008	3,231	3,463	3,472		3,560
										EXPENSES	
35	42	57	67	57	44	41	42	50	42	Administration	40
84	67	74	54	79	91	87	85	67	73	Cartage	76
91	82	106	114	119	126	120	171	122	141	Chemical application	126
119	101	109	116	136	121	115	147	151	123	Chemicals - Herbicides	124
203	205	267	366	390	363	358	592	414	403	Chemicals - Insecticides	303
62	57	64	79	94	89	83	88	86	92	Chemicals - Defoliants	83
5	5	7	12	15	15	14	20	15	13	Chemicals - Others	12
82	74	69	94	79	84	92	92	84	84	Chipping	82
27	25	30	27	30	44	41	41	42	41	Consultants	50
77	89	109	161	128	166	188	165	198	170	Contract picking	175
25	42	54	25	37	52	60	55	63	73	Contract farming and ripping	64
17	7	10	10	12	15	17	13	12	12	Cotton picking sundries	10
22	25	44	37	32	15	24	21	28	25	Electricity	19
193	156	173	178	166	205	216	202	190	219	Fertiliser	249
151	151	143	109	146	114	115	108	132	183	Fuel and oil	155
20	15	12	17	10	7	10	12	14	16	Hire of plant	18
57	64	54	42	64	67	67	67	74	90	Insurance	89
										Leasing, depreciation	
203	269	237	292	269	183	220	254	251	235	and hire purchase charges	240
0	0	0	0	0	30	38	23	33	44	Licence fee - Ingard	55
				0	0	0	0	0	0	Licence fee - Roundup ready	5
25	25	27	20	25	17	20	17	17	17	Motor vehicle expenses	16
161	158	128	136	158	131	124	129	125	124	R & M - Farming plant	128
111	94	89	69	62	69	94	68	72	93	R & M - Pumps & earthworks	102
44	30	42	30	40	37	42	43	45	55	Seed	70
35	44	62	72	77	67	92	56	70	62	Water charges	103
247	255	314	250	319	247	260	285	293	304	Wages - Employees	310
64	82	74	91	106	72	68	61	53	60	Wages - Proprietors	50
54	49	42	52	47	37	45	63	43	45	Other farm overheads	50
2,214	2,213	2,397	2,520	2,697	2,508	2,651	2,920	2,744	2,839		2,804
810	431	1,129	1,525	1,180	1,257	1,357	311	719	633	OPERATING PROFIT/(LOSS)	756
										ADD:	
64	82	74	91	106	72	68	61	53	60	Wages - Proprietors	50
874	513	1,203	1,616	1,286	1,329	1,425	372	772	693	FARM OPERATING PROFIT/(LOSS)	806

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001		2002
										DEDUCT	
272	279	237	289	319	269	281	191	229	271	Interest and bank charges	281
27	37	12	20	20	27	10	24	23	20	Interest - Crop terms	14
299	316	249	309	339	296	291	215	252	291		295
$575	$197	$954	$1,307	$947	$1,033	$1,134	$157	$520	$402	FARM NET PROFIT/(LOSS)	$511
										CROP RESULTS	
726.43	618.37	606.18	535.51	515.58	651.11	762.73	880.03	1005.98	941.46	Hectares of cotton grown	1,077.59
5,564	4,034.00	4,506.53	3,954.52	3,632.15	5,255.82	6,411.67	6,144.49	8,128.17	7,437.97	Total yield (bales)	9,062.59
7.66	6.52	7.43	7.38	7.04	8.07	8.41	6.98	8.08	7.90	Yield per hectare (bales)	8.41
$386.34	$402.99	$474.34	$546.42	$548.50	$456.75	$476.73	$462.67	$428.60	$439.54	Value per bale	$423.34
$281.67	$331.23	$322.00	$340.47	$382.85	$310.75	$315.20	$418.34	$339.70	$359.39	Cost of production per bale	$333.50
$113.06	$74.03	$152.34	$207.28	$167.46	$155.79	$161.53	$44.33	$88.91	$80.15	Operating profit per bale	$89.84
										No. of bales per ha required	
5.58	5.36	5.05	4.60	4.92	5.39	5.56	6.31	6.40	6.46	to cover operating expenses	6.63
										No. of bales per ha required	
6.50	6.28	5.57	5.17	5.54	6.03	6.17	6.78	6.99	7.12	to cover total expenses	7.32
										LABOUR	
										Number of ha per permanent person	
157.89	162.19	111.66	127.74	135.55	155.81	185.63	185.22	188.49	179.94	(excluding proprietors)	200.61
										AVAILABLE TRACTOR HORSE POWER	
										Tractor horse power	
552.26	596.09	644.10	499.71	700.57	557.11	471.54	428.05	402.09	414.45	per 500 ha	327.82
										AVAILABLE PICKING CAPACITY	
5.11	5.24	4.15	3.11	4.79	3.40	2.37	2.13	1.91	2.32	Picker heads per 500 ha	1.72
										ROTATION	
										% of the current years crop	
										being grown on fallow fields or	
										new fields (developed within	
41.61	58.62	52.58	49.75	73.89	61.20	29.30	44.67	44.03	34.60	the last 3 years)	32.84
										WATER USAGE	
					8.38	8.19	8.14	9.48	9.43	Megalitres per hectare	9.31
					1.02	0.97	1.17	1.17	1.19	Megalitres per bale	1.11

3.2.3 AVERAGE - COMPARISON BETWEEN THE 2002 YEAR AND THE 2001 YEAR (PER HA)

	ALL FARMS 2002	ALL FARMS 2001	DIFFERENCE
INCOME			
Cotton proceeds - Lint	3,575	3,563	12
Cotton proceeds - Seed	423	366	57
Ginning	(447)	(430)	(17)
Levies	(36)	(28)	(8)
Cotton proceeds - Hail claims	0	1	(1)
3,515	3,472	43	
EXPENSES			
Administration	35	42	7
Cartage	71	73	2
Chemical application	132	141	9
Chemicals - Herbicides	131	123	(8)
Chemicals - Insecticides	292	403	111
Chemicals - Defoliants	88	92	4
Chemicals - Others	13	13	0
Chipping	74	84	10
Consultants	47	41	(6)
Contract picking	201	170	(31)
Contract farming and ripping	81	73	(8)
Cotton picking sundries	7	12	5
Electricity	15	25	10
Fertiliser	225	219	(6)
Fuel and oil	164	183	19
Hire of plant	3	16	13
Insurance	97	90	(7)
Leasing, depreciation and hire purchase charges	260	235	(25)
Licence fee - Ingard	54	44	(10)
Licence fee - Roundup Ready	8	0	(8)
Motor vehicle expenses	17	17	0
R & M - Farming plant	92	124	32
R & M - Pumps and earthworks	67	93	26
Seed	69	55	(14)
Water charges	161	62	(99)
Wages - Employees	322	304	(18)
Wages - Proprietors	37	60	23
Other farm overheads	51	45	(6)
	2,814	2,839	25
OPERATING PROFIT/(LOSS)	701	633	68
ADD:			
Wages - Proprietors	37	60	23
FARM OPERATING PROFIT/(LOSS)	738	693	(45)

3. COMPARATIVE STATISTICS

	ALL FARMS 2002	ALL FARMS 2001	DIFFERENCE
DEDUCT			
Interest and bank charges	370	271	(99)
Interest - Crop terms	18	20	2
	388	291	(97)
FARM NET PROFIT/(LOSS)	$350	$402	($52)
(Ignore minor computer rounding differences)			
CROP RESULTS			
Hectares of cotton grown	1,287.64	941.46	346.18
Total yield (bales)	11,026.56	7,437.97	3,588.59
Yield per hectare (bales)	8.56	7.90	0.66
Value per bale	$410.48	$439.54	($29.06)
Cost of production per bale	$328.57	$359.39	$30.82
Operating profit per bale	$81.91	$80.15	$1.76
No. of bales per hectare required to cover operating expenses	6.85	6.46	(0.39)
No. of bales per hectare required to cover total expenses	7.80	7.12	(0.68)
LABOUR			
Number of hectares per permanent person (excluding proprietors)	172.40	179.94	(7.54)
AVAILABLE TRACTOR HORSE POWER			
Tractor horse power per 500 hectares	308.85	414.45	105.60
AVAILABLE PICKING CAPACITY			
Picker heads per 500 hectares	1.30	2.32	1.02
ROTATION			
Percentage of the current years crop being grown on fallow fields or new fields (developed within the last 3 years)	36.46%	34.60%	1.86%
WATER USAGE			
Megalitres per hectare	9.56	9.43	(0.13)
Megalitres per bale	1.12	1.19	0.07

3.2.4 AVERAGE - COMPARISON OF THE AVERAGE OF THE DIFFERENT VALLEYS (PER HA)

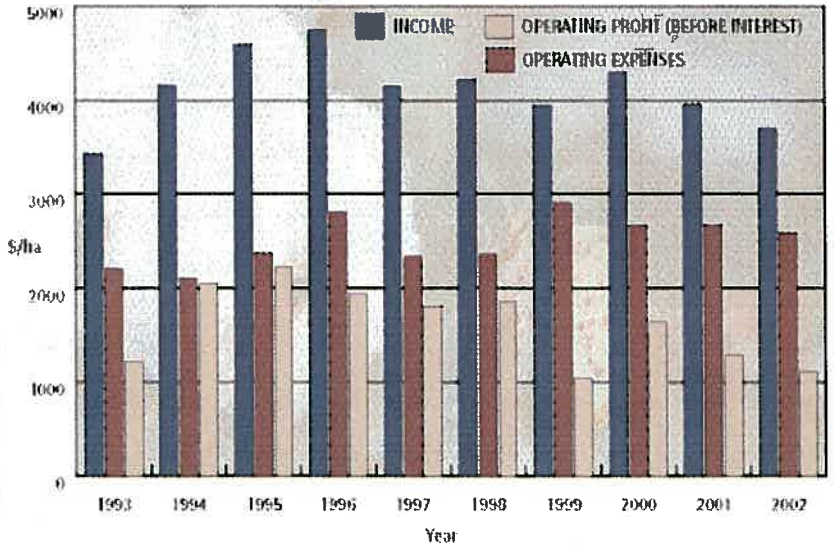
	ALL VALLEYS	GWYDIR	BARWON	MACINTYRE/ MACQUARIE	NAMOI	EMERALD	WALGETT/ BOURKE VALLEY
INCOME							
Cotton proceeds - Lint	3,587	4,257	3,633	3,139	3,626	3,036	2,599
Cotton proceeds - Seed	455	489	487	418	441	420	426
Ginning	(450)	(500)	(456)	(424)	(456)	(380)	(369)
Levies	(32)	(36)	(29)	(33)	(30)	(31)	(28)
Cotton proceeds - Hail claims	0	0	0	0	0	0	0
	3,560	4,210	3,635	3,100	3,581	3,045	2,628
EXPENSES							
Administration	40	37	29	55	42	29	33
Cartage	76	70	94	71	70	54	102
Chemical application	126	167	100	124	101	116	93
Chemicals - Herbicides	124	147	100	145	101	104	68
Chemicals - Insecticides	303	346	271	303	272	284	321
Chemicals - Defoliants	83	80	81	93	82	80	72
Chemicals - Other	12	10	6	22	8	15	16
Chipping	82	88	77	84	66	59	134
Consultants	50	38	61	51	61	39	55
Contract picking	175	173	141	180	155	290	250
Contract farming & ripping	64	49	60	68	103	108	40
Cotton picking sundries	10	15	10	8	4	13	5
Electricity	19	21	10	17	37	33	7
Fertiliser	249	264	266	224	206	289	219
Fuel & oil	155	181	136	192	103	67	127
Hire of plant	18	20	6	20	55	19	12
Insurance	89	122	80	71	67	96	76
Leasing, deprectation & hire purchase charges	240	228	215	314	192	168	219
Licence fee - Ingard	55	56	54	58	46	54	50
Licence fee - Roundup ready	5	9	8	1	6	18	5
Motor vehicle expenses	16	18	12	16	16	18	12
R & M - Farming plant	128	171	120	111	111	80	70
R & M - Pumps and earthworks	102	111	135	80	96	77	23
Seed	70	60	69	77	73	77	73
Water charges	103	91	86	143	68	157	56
Wages - Employees	310	393	248	346	265	191	177
Wages - Proprietors	50	34	51	41	80	66	112
Other farm overheads	50	63	48	44	31	48	46
	2,804	3,062	2,574	2,959	2,517	2,649	2,473
OPERATING PROFIT/(LOSS)	756	1,148	1,061	141	1,064	396	155
ADD:							
Wages - Proprietors	50	34	51	41	80	66	112
FARM OPERATING PROFIT/(LOSS)	806	1,182	1,112	182	1,144	462	267

3. COMPARATIVE STATISTICS

	ALL VALLEYS	GWYDIR	BARWON	MACINTYRE/ MACQUARIE	NAMOI	EMERALD	WALGETT/ BOURKE VALLEY
DEDUCT							
Interest and bank charges	281	328	352	213	229	276	149
Interest - Crop terms	14	8	1	10	0	19	17
	295	336	353	223	229	295	166
FARM NET PROFIT/(LOSS)	$511	$846	$759	($41)	$915	$167	$101
CROP RESULTS							
Hectares of cotton grown	1,077.59	1461.93	1,254.04	1,062.54	655.30	1,655.00	357.30
Total yield	9,062.59	13372.80	11,611.28	7,945.99	5,277.07	12,746.50	2,513.59
Yield per hectare	8.41	9.15	9.26	7.48	8.05	7.70	7.03
Value per bale	$423.34	$460.26	$392.45	$414.51	$444.70	$395.51	$373.58
Cost of production per bale	$333.50	$334.87	$278.13	$395.42	$312.46	$341.48	$351.58
Operating profit/(loss) per bale	$89.84	$125.39	$114.32	$19.09	$132.24	$54.03	$22.00
No. of bales per hectare required to cover operating expenses	6.63	6.66	6.56	7.13	5.66	6.65	6.62
No. of bales per hectare required to cover total expenses	7.32	7.39	7.46	7.67	6.17	7.40	7.07
LABOUR							
Number of Hectares per permanent man (excluding proprietors)	200.61	162.44	223.49	233.76	218.43	236.43	147.64
AVAILABLE TRACTOR HORSE POWER							
Tractor horse power per 500 hectares	327.82	320.28	355.87	287.95	420.57	277.19	397.43
AVAILABLE PICKING CAPACITY							
Picker heads per 500 hectares	1.72	2.34	2.30	1.03	1.83	0.00	0.56
ROTATION							
Percentage of the current years crop being grown on fallow fields or new fields (developed within the last 3 years)	32.84%	26.75%	26.01%	47.51%	47.37%	9.91%	41.87%
WATER USAGE							
Megalitres per hectare	9.31	9.29	9.35	9.35	7.01	10.11	13.23
Megalitres per bale	1.11	1.02	1.01	1.25	0.87	1.31	1.88

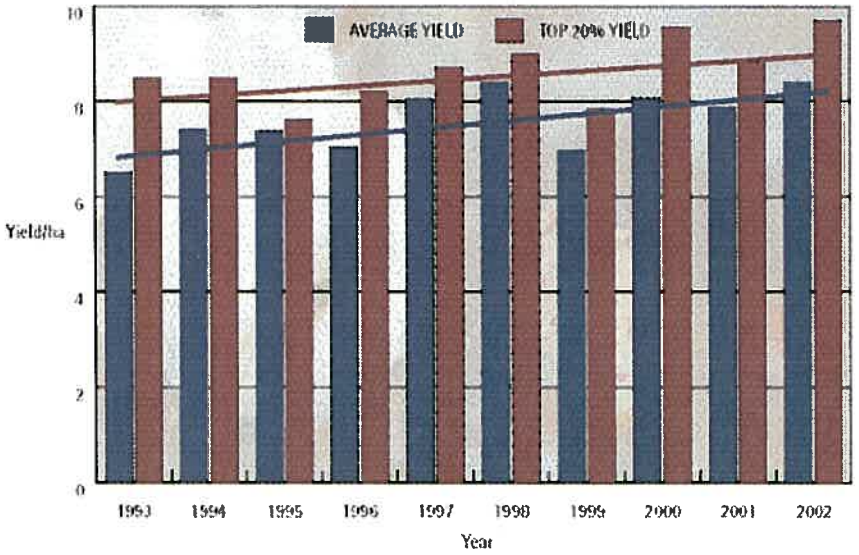
3.3 TOP 20% FARMERS

3.3.1.1 TOP 20% FARMERS - COMPARISON OF TOP 20% INCOME AND EXPENSE ITEMS

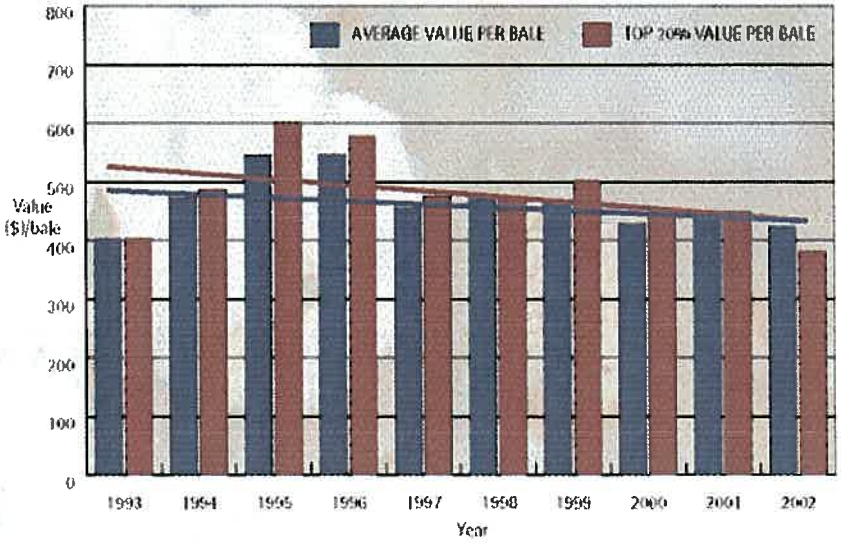


3. COMPARATIVE STATISTICS

3.3.1.2 TOP 20% FARMERS - COMPARISON OF THE YIELD FOR THE AVERAGE AND THE TOP 20%

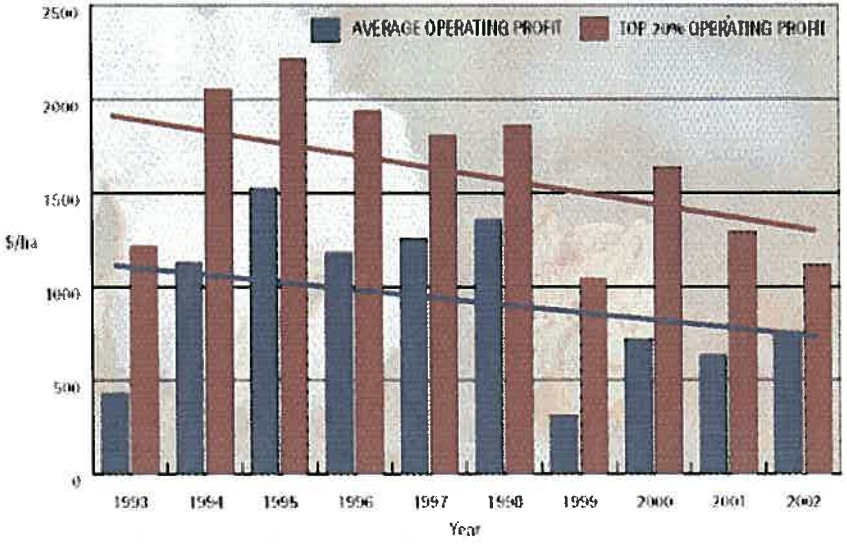


3.3.1.3 TOP 20% FARMERS - COMPARISON OF THE VALUE PER BALE FOR THE AVERAGE AND THE TOP 20%



3. COMPARATIVE STATISTICS

3.3.1.4 TOP 20% FARMERS - COMPARISON OF THE OPERATING PROFIT FOR THE AVERAGE AND THE TOP 20%



3.3.2 TOP 20% FARMERS - THE PAST TEN YEARS (PER HA)

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001		2002
										INCOME	
3,595	3,432	4,161	4,591	4,767	4,154	4,227	3,786	4284	4,076	Cotton proceeds - Lint	3,685
									412	Cotton proceeds - Seed	523
									(493)	Ginning	(478)
									(33)	Levies	(30)
0	0	0	0	0	0	0	161	23	0	Cotton proceeds - Hail claims	0
3,595	3,432	4,161	4,591	4,767	4,154	4,227	3,947	4,307	3,962		3,700
										EXPENSES	
57	27	47	69	69	22	34	48	38	44	Administration	31
106	111	89	25	109	109	90	148	75	67	Cartage	104
104	94	124	101	119	124	110	172	124	142	Chemical application	116
106	82	84	104	138	126	114	158	137	116	Chemicals - Herbicides	105
193	250	252	358	284	376	318	558	409	394	Chemicals - Insecticides	314
64	67	64	79	124	79	79	86	87	103	Chemicals - Defoliants	77
0	0	10	10	10	17	17	17	10	7	Chemicals - Others	4
89	82	77	72	84	84	86	84	78	77	Chipping	86
27	30	40	12	12	40	47	48	39	39	Consultants	56
82	161	106	205	77	136	184	174	187	207	Contract picking	101
27	15	54	20	47	27	67	79	55	81	Contract farming and ripping	44
12	17	5	10	12	20	16	3	16	5	Cotton picking sundries	11
12	15	20	42	47	10	19	22	20	28	Electricity	24
185	151	138	205	185	173	187	182	151	201	Fertiliser	268
121	114	94	79	163	91	107	106	121	194	Fuel and oil	151
17	5	7	22	10	0	4	12	19	7	Hire of plant	3
72	101	47	20	35	67	62	68	109	50	Insurance	77
205	304	203	334	343	190	162	225	215	206	Leasing, depreciation and hire purchase charges	208
0	0	0	0	0	17	24	47	47	46	Licence fee - Ingard	58
0	0	0	0	0	0	0	0	0	0	Licence fee - Roundup ready	5
40	12	22	15	22	15	17	27	19	16	Motor vehicle expenses	14
136	106	89	126	217	146	88	89	109	98	R & M - Farming plant	122
44	59	111	30	47	47	73	72	78	59	R & M - Pumps and earthworks	152
40	30	37	32	40	40	39	46	44	47	Seed	70
52	74	67	42	10	32	86	77	80	31	Water charges	29
205	188	232	257	420	259	253	268	312	312	Wages - Employees	243
77	67	77	62	131	64	49	37	57	46	Wages - Proprietors	66
35	52	12	42	57	35	34	55	34	48	Other farm overheads	44
2,108	2,214	2,108	2,373	2,812	2,346	2,366	2,908	2,670	2,671		2,583
1,487	1,218	2,053	2,218	1,955	1,808	1,861	1,039	1,637	1,291	OPERATING PROFIT/(LOSS)	1,117
										ADD:	
77	67	77	62	131	64	49	37	57	46	Wages - Proprietors	66
1,564	1,285	2,130	2,280	2,086	1,872	1,910	1,076	1,694	1,337	FARM OPERATING PROFIT/(LOSS)	1,183

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001		2002
										DEDUCT	
351	287	203	222	262	255	236	242	383	243	Interest and bank charges	388
59	54	25	10	7	5	1	9	30	52	Interest - Crop terms	5
410	341	228	232	269	260	237	251	413	295		393
$1,154	$944	$1,902	$2,048	$1,817	$1,612	$1,673	$825	$1,281	$1,042	FARM NET PROFIT/(LOSS)	$799
										CROP RESULTS	
415.15	504.25	514.85	1,028.80	813.15	743.52	971.92	845.55	1031.43	1,173.33	Hectares of cotton grown	1,040.63
3,681.15	4,295.70	4,395.00	7,848.54	6,697.69	6,484.03	8,779.20	6,641.18	9881.61	10,365.57	Total yield (bales)	10,109.94
8.87	8.52	8.52	7.64	8.23	8.72	9.03	7.85	9.58	8.83	Yield per hectare (bales)	9.72
$405.43	$402.86	$487.44	$601.80	$578.75	$476.34	$467.99	$502.43	$449.51	$448.47	Value per bale	$380.82
$237.73	$259.89	$246.94	$311.06	$341.40	$269.01	$261.79	$370.02	$278.64	$302.33	Cost of production per bale	$265.87
$167.70	$142.97	$240.50	$290.74	$237.35	$207.32	$206.19	$132.42	$170.87	$146.14	Operating profit per bale	$114.96
5.20	5.50	4.32	3.94	4.86	4.93	5.05	5.78	5.94	5.96	No. of bales per hectare required to cover operating expenses	6.78
6.21	6.34	4.79	4.33	5.32	5.47	5.56	6.28	6.86	6.61	No. of bales per hectare required to cover total expenses	7.82
										LABOUR	
163.87	224.11	128.51	241.60	123.50	188.24	213.35	220.58	180.95	230.48	Number of ha per permanent person (excluding proprietors)	228.43
										AVAILABLE TRACTOR HORSE POWER	
654.58	650.97	689.84	464.96	635.10	496.29	384.69	373.20	369	360.09	Tractor horse power per 500 ha	425.38
										AVAILABLE PICKING CAPACITY	
7.23	3.31	4.87	3.68	4.88	3.64	1.83	1.58	1.65	1.39	Picker heads per 500 ha	2.86
										ROTATION	
45.50	53.00	9.73	31.00	70.71	53.58	18.06	47.93	25.20	44.88	Percentage of the current years crop being grown on fallow or new fields (developed within the last 3 years)	27.88
										WATER USAGE	
					7.66	7.49	8.14	8.89	9.02	Megalitres per hectare	9.47
					0.88	0.83	1.04	0.93	1.02	Megalitres per bale	0.97

3.4 FIVE YEAR AVERAGE FOR TOP 20% AND AVERAGE PARTICIPANTS (PER HA)

	ALL FARMS 2002	ALL FARMS 2001	DIFFERENCE
INCOME			
Cotton proceeds - Lint	3,545	4,012	467
Cotton proceeds - Seed	164	187	23
Ginning	(176)	(194)	(18)
Levies	(12)	(13)	(1)
Cotton proceeds - Hail claims	25	37	12
	3,546	4,029	483
EXPENSES			
Administration	43	39	4
Cartage	78	97	(19)
Chemical application	136	133	3
Chemicals - Herbicides	132	126	6
Chemicals - Insecticides	414	399	15
Chemicals - Defoliants	86	86	0
Chemicals - Others	15	11	4
Chipping	87	82	5
Consultants	43	46	(3)
Contract picking	179	171	8
Contract farming and ripping	63	65	(2)
Cotton picking sundries	13	10	3
Electricity	23	23	0
Fertiliser	215	198	17
Fuel and oil	139	136	3
Hire of plant	14	9	5
Insurance	77	73	4
Leasing, depreciation and hire purchase charges	240	203	37
Licence fee - Ingard	39	44	(5)
Licence fee - Roundup ready	1	1	0
Motor vehicle expenses	17	19	(2)
R & M - Farming plant	126	101	25
R & M - Pumps and earthworks	86	87	(1)
Seed	51	49	2
Water charges	77	61	16
Wages - Employees	290	278	12
Wages - Proprietors	58	51	7
Other farm overheads	49	43	6
	2,791	2,641	150
OPERATING PROFIT/(LOSS)	755	1,388	633
ADD:			
Wages - Proprietors	58	51	(7)
FARM OPERATING PROFIT/(LOSS)	813	1,439	626

	ALL FARMS 2002	ALL FARMS 2001	DIFFERENCE
DEDUCT			
Interest and bank charges	251	298	(47)
Interest - Crop terms	18	19	(1)
	269	317	(48)
FARM NET PROFIT/(LOSS)	$544	$1,122	$578
(Ignore minor computer rounding differences)			
CROP RESULTS			
Hectares of cotton grown	933.56	1,012.57	79.01
Total yield (bales)	7,436.98	9,155.50	1,718.52
Yield per hectare (bales)	7.96	9.00	1.04
Value per bale	$446.18	$449.84	$3.66
Cost of production per bale	$353.23	$295.73	$57.50
Operating profit per bale	$92.95	$154.12	$61.17
No. of bales per hectare required to cover operating expenses	6.27	5.90	0.37
No. of bales per hectare required to cover total expenses	6.88	6.63	0.25
LABOUR			
Number of hectares per permanent person (excluding proprietors)	187.98	214.76	(26.78)
AVAILABLE TRACTOR HORSE POWER			
Tractor horse power per 500 hectares	408.79	382.47	26.32
AVAILABLE PICKING CAPACITY			
Picker heads per 500 hectares	2.09	1.86	0.23
ROTATION			
Percentage of the current years crop being grown on fallow fields or new fields (developed within the last 3 years)	37.00%	32.79%	(4.21%)
WATER USAGE			
Megalitres per hectare	8.91	8.60	0.31
Megalitres per bale	1.12	0.96	0.16

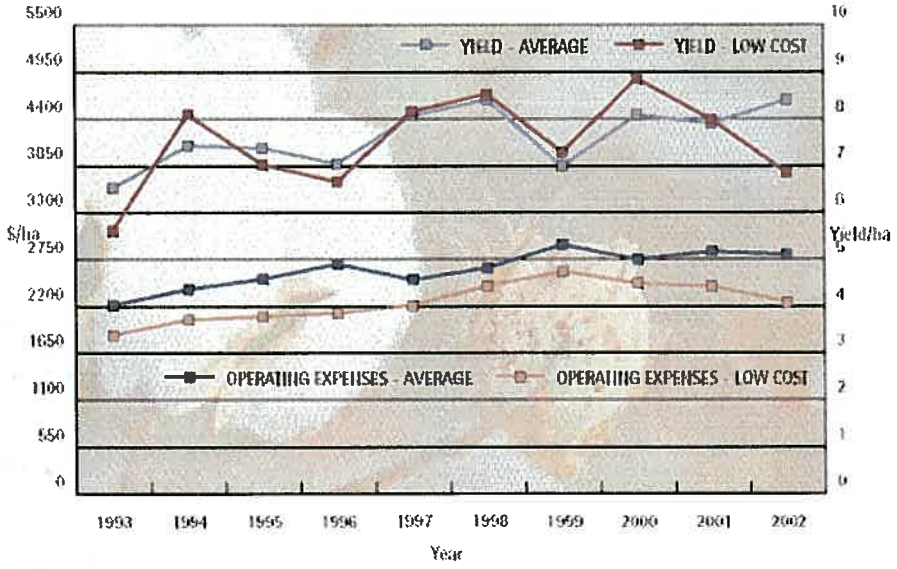
3.5 LOW COST FARMERS

3.5.1 LOW COST FARMERS - THE PAST TEN YEARS (PER HA)

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001		2002
										INCOME	
2,871	2,150	3,833	3,736	3,546	3,774	4,027	3,176	3,857	3,521	Cotton proceeds - Lint	2,916
									349	Cotton proceeds - Seed	381
									(443)	Ginning	(382)
									(28)	Levies	(25)
44	0	0	0	27	21	20	12	0	0	Cotton proceeds - Hail claims	0
2,915	2,150	3,833	3,736	3,573	3,795	4,047	3,188	3,857	3,399		2,890
										EXPENSES	
40	35	47	35	32	28	33	33	44	50	Administration	51
74	69	101	57	57	91	84	73	78	65	Cartage	53
89	77	114	116	121	118	104	129	95	133	Chemical application	90
128	86	91	99	131	115	110	123	104	128	Chemicals - Herbicides	93
151	180	225	390	413	339	315	556	289	348	Chemicals - Insecticides	182
57	49	67	74	109	76	104	85	86	95	Chemicals - Defoliants	74
2	5	12	10	22	14	110	11	16	9	Chemicals - Others	9
64	64	69	99	54	70	91	81	75	53	Chipping	71
35	20	35	30	22	46	37	48	40	45	Consultants	61
25	104	69	168	82	171	207	184	211	165	Contract picking	129
37	25	64	20	20	40	60	43	80	80	Contract farming and ripping	69
12	7	5	12	17	17	16	6	13	11	Cotton picking sundries	9
20	20	22	32	27	14	13	28	21	48	Electricity	23
178	116	146	168	133	153	185	166	178	205	Fertiliser	208
131	131	94	67	111	80	110	77	106	127	Fuel and oil	107
2	5	7	30	2	3	7	6	3	8	Hire of plant	43
64	64	62	42	64	60	66	57	84	55	Insurance	62
175	195	185	124	138	161	142	250	224	152	Leasing, depreciation and hire purchase	163
0	0	0	0	0	25	22	28	54	50	Licence fee - Ingard	58
			0	0	0	0	0	0	0	Licence - Roundup Ready	0
30	17	27	12	15	14	22	14	20	10	Motor vehicle expenses	17
126	148	82	86	143	99	78	106	115	120	R & M - Farming plant	110
96	57	114	49	42	48	64	51	59	53	R & M - Pumps and earthworks	76
40	27	37	22	32	35	42	43	44	53	Seed	70
49	42	40	72	20	36	88	67	91	37	Water charges	95
193	225	222	183	183	245	225	245	241	227	Wages - Employees	232
62	59	82	49	86	77	55	70	64	61	Wages - Proprietors	56
57	30	15	25	37	30	42	44	24	35	Other farm overheads	29
1,937	1,857	2,034	2,071	2,113	2,205	2,432	2,624	2,459	2,423		2,240
978	293	1,799	1,665	1,460	1,590	1,615	564	1,398	976	OPERATING PROFIT/(LOSS)	650
										ADD:	
62	59	82	49	86	77	55	70	64	61	Wages - Proprietors	56
1,040	352	1,881	1,714	1,546	1,667	1,670	634	1,462	1,037	FARM OPERATING PROFIT/(LOSS)	706

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001		2002
										DEDUCT	
252	203	235	245	314	280	323	199	361	102	Interest and bank charges	258
30	72	30	22	20	14	5	2	46	6	Interest - Crop terms	0
282	275	107	108	135	119	328	201	407	108		258
$758	$77	$654	$586	$492	$554	$1,342	$433	$1,055	$929	FARM NET PROFIT/(LOSS)	$448
										CROP RESULTS	
645.42	758.80	523.59	953.66	568.60	568.60	1,004.33	839.11	1,016.77	1,049.70	Hectares of cotton grown	746.30
4,871.43	4,263.49	4,235.40	6,698.50	3,775.20	4,759.14	8,559.08	5,986.73	8,995.12	8,370.52	Total yield (bales)	5,102.18
7.54	5.61	8.09	7.02	6.65	8.15	8.52	7.13	8.85	7.97	Yield per hectare (bales)	6.84
$380.29	$382.74	$473.66	$531.94	$534.12	$463.15	$474.88	$446.81	$435.92	$426.21	Value per bale	$422.66
$248.68	$324.36	$252.48	$295.79	$317.66	$270.88	$270.85	$367.65	$278.14	$304.01	Cost of production per bale	$327.94
$137.50	$58.38	$221.18	$236.15	$220.47	$194.80	$204.03	$79.16	$157.79	$122.21	Operating profit per bale	$94.72
4.94	4.77	4.30	3.91	3.95	4.77	4.86	5.87	5.64	5.69	No. of bales per hectare required to cover operating expenses	5.30
5.83	5.56	4.87	4.41	4.57	5.40	5.55	6.32	6.58	5.94	No. of bales per hectare required to cover total expenses	5.92
										LABOUR	
148.94	168.62	123.53	211.12	185.12	176.96	204.97	194.64	217.88	205.82	Number of ha per permanent person (excluding proprietors)	236.63
										AVAILABLE TRACTOR HORSE POWER	
504.84	449.94	728.82	427.25	666.18	518.86	442.98	425.45	377.56	329.52	Tractor horse power per 500 ha	291.03
										AVAILABLE PICKING CAPACITY	
5.94	5.49	7.62	4.42	5.78	2.98	1.69	1.46	1.42	1.52	Picker heads per 500 hectares	1.22
										ROTATION	
39.18	65.33	40.75	44.00	74.71	58.90	24.24	22.38	24.37	24.50	Percentage of the current years crop being grown on fallow or new fields (developed within the last 3 years)	23.53
										WATER USAGE	
					6.79	8.12	7.83	8.91	9.13	Megalitres per hectare	7.33
					0.85	0.95	1.10	1.01	1.15	Megalitres per bale	1.07

3.5.2 LOW COST FARMERS - COMPARISON OF EXPENSES AND YIELD FOR LOW COST AND AVERAGE



4

APPENDICES

APPENDIX A - DEFINITION OF TERMS

TOP 20% AND BOTTOM 20% (AVERAGE)

These figures represent the average results of those farmers who achieved the highest and lowest farm operating profit.

BEST "LOW COST" FARMERS

These figures represent the average results of those farmers who had the lowest farm operating expenses (before interest).

LARGE GROWERS

These figures represent the average results of those farmers who grew more than 3,250 hectares.

COMBINED AVERAGE OF THE PAST FIVE YEARS

These figures represent the combined average of the annual results of farmers in each category of the comparative analysis, over the past five years. For landholding farmers we have also analysed the combined average of the top 20% of farmers, for comparative purposes.

LABOUR

These figures include all permanent employees or equivalent casuals (two casuals employed for three months each would represent half of a permanent employee). Proprietors have been excluded.

AVAILABLE TRACTOR HORSE POWER (ENGINE)

Includes all field tractors used for ripping, listing, spraying and cultivating, but excludes tractors used to operate module builders.

AVAILABLE PICKING CAPACITY

Only includes pickers owned by the farmer.

ROTATION

The portion of the current year's crop grown on fields fallowed in the previous year, or developed over the past three years, expressed as a percentage.

WATER USAGE

Includes the total megalitres of irrigation water used to grow the crop as well as the impact of beneficial rain. Rainfall figures during the growing season have been converted to megalitres after excluding light falls and a portion of falls over 100 mm per month.

APPENDIX B - GUIDE TO INCOME & EXPENSE ALLOCATIONS

COTTON PROCEEDS

The "Cotton Proceeds - Lint" is net of premiums and discounts.

For farmers who received hail insurance claims, the amount received has been shown separately in the analysis. Where possible the hail claim has been grossed up to reflect the bales lost due to hail and the costs saved or additional costs incurred have been added or subtracted to reflect comparable figures.

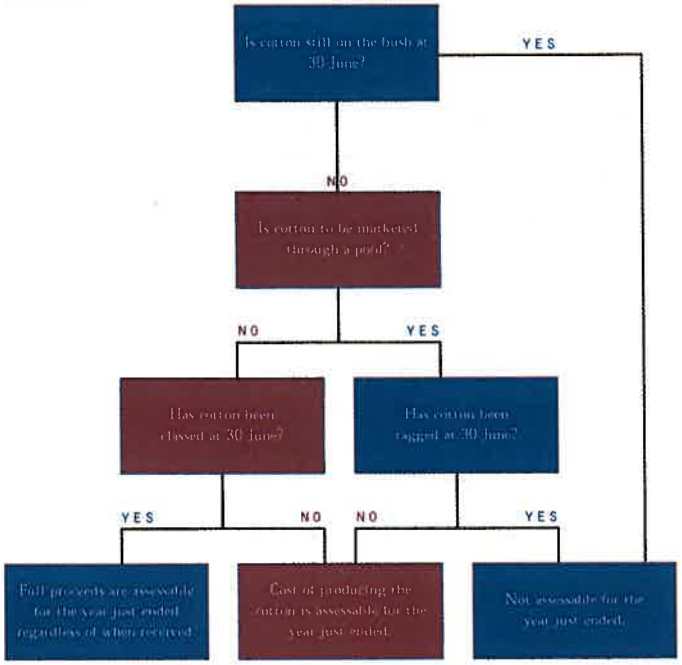
EXPENSES

Administration	accountancy (all general work), administration, advertising, computer costs, computer processing, entertainment, filing fees, licences permits and fees, medical supplies, newspapers and periodicals, printing stationery and postage, protective clothing, seminars and conferences, staff amenities, staff training, subscriptions and donations, telephone, travel and accommodation
Cartage	cartage (cotton module cartage, general cartage)
Chemicals - Application	application by aircraft, application by ground rig
Chemicals - Herbicides	herbicides used in field and on ditches, channels etc
Chemicals - Insecticides	all insecticides
Chemicals - Defoliants	all defoliants and conditioners
Chemicals - Other	growth regulants (pix) and all other chemicals
Chipping	chipping (chipping contractors, chipping wages), row weeders
Consultants	consultants (external and internal agronomist, bug checkers, marketing consultants)
Contract picking	contract picking (net of contract picking income on a swap basis, ie. hectare for hectare)
Contract farming & ripping	contract farming, contract ripping, contract stalk pulling, stick picking
Cotton picking sundries	cotton picking sundries (tarps and ropes, repairs to tarps)
Electricity	electricity (electricity for bores, general electricity)
Fertiliser	fertiliser, gypsum

APPENDIX B - GUIDE TO INCOME & EXPENSE ALLOCATIONS CONT.

Fuel and oil	fuel and oil (net of diesel fuel rebate)
Hire of plant	hire of plant
Insurance	crop insurance, general insurance
Leasing, depreciation and hire purchase charges	leasing, depreciation and hire purchase interest charges
Licence fee - Ingard	licence fees paid to Monsanto
Motor vehicle expenses	motor vehicle expenses (registration, motor vehicle insurance, R&M motor vehicle)
R&M - Farming plant	R&M pickers, R&M plant, R&M tractors, R&M small tools and hardware, R&M motor bikes
R&M - Pumps & earthworks	R&M irrigation earthworks, R&M irrigation pumps and motors
Seed	seed
Water charges	water charges (charges from a state body, charges from a local water scheme, water purchases)
Wages - Employees	external wages (excluding chipping), payroll tax, secretarial fees, superannuation, workers compensation insurance, FBT
Wages - Proprietors	wages paid to a proprietor. If no wage is paid a notional amount of $50,000 has been included for the principle working proprietor and $20,000 for each other working proprietor. If the farm has more than one enterprise, the $50,000 is split in accordance with normal allocation criteria.
Other farm overheads	special accountancy work, audit, legal, rates, rent, R&M homestead, R&M employees houses, R&M farm buildings, R&M fences, shade and shelter trees
Interest and bank charges	bank charges, borrowing expenses, bank interest
Interest - Crop terms	interest on crop term finance (chemical suppliers, and cotton merchants etc)

APPENDIX C – TABLE ON ASSESSABILITY OF COTTON PROCEEDS



NB. The guaranteed minimum price of a GMP pool is assessable a cash. The balance is treated as a pool.

The marketing of cotton is a complex issue. The taxation treatment relies on the wording of a particular contract. This schedule is designed to provide general advice only. If you need specific advice, please contact us. On this basis, we accept no liability for any errors or omissions.

APPENDIX D – COMMON SHAREFARMING AND LEASING ARRANGEMENTS

Below are some details of common practices.

i) Sharefarming (80% - 20% deal)

80% of income to the sharefarmer.
20% of income to the landholder.

Sharefarmer pays all operating costs.
Landholder pays landholder's costs (rates) and costs to deliver water to the head ditch (pumping, water charges, and main channel maintenance).

ii) Sharefarming (82% - 18% deal)

82% of income to the sharefarmer.
18% of income to the landholder.

Sharefarmer pays all costs except rates.

iii) Sharefarming (50% - 50% deal) (Less common)

50% of income to the sharefarmer.
50% of income to the landholder.

Sharefarmer pays all labour and machinery operating costs.
Landholder pays all land-related costs.
All variable crop costs are split 50%-50% including contract picking.

Under this scenario, the aim is for the two parties to share risks and rewards on an equal basis.

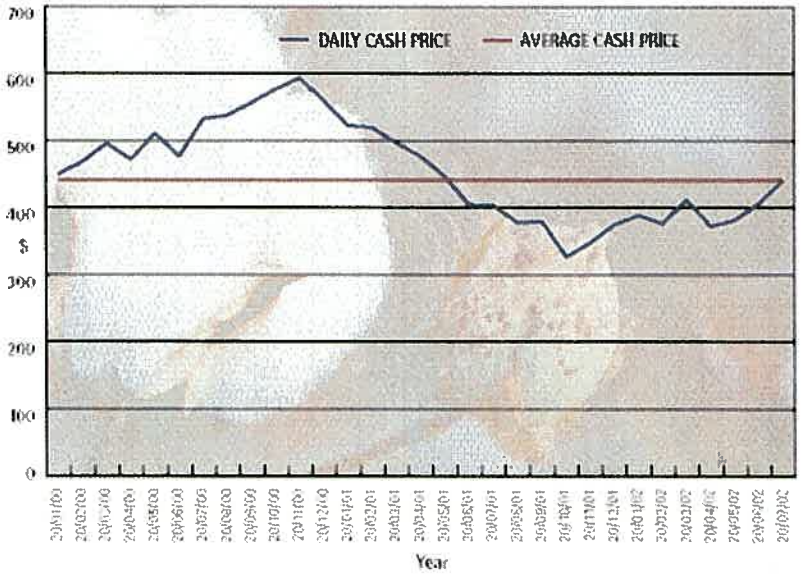
iv) Leasing

A starting point is generally 10% of the value of the developed area.

Range $445 - $620 / hectare.

3. COMPARATIVE STATISTICS

APPENDIX E – CASH PRICE GRAPH FOR YEAR ENDED 30 JUNE 2002



NOTES

Cotton Research & Development
2 Lloyd Street, Narrabri NSW 2390
P.O. Box 282, Narrabri NSW 2390
Ph: 02-6792 4088 Fax: 02-6792 4400
Email: crdc@crdc.com.au Web: www.crdc.com.au

BOYCE Chartered Accountants
39 Albert Street, Moree NSW 2400
Ph: 02-6752 7799 Fax: 02-6752 7130
Email: infomoree@boyceca.com