**Citrus Growers of**
**South Australia Inc.**

# Submission to the Productivity Commission Inquiry into the Citrus Industry

**December 2001**

# Table of Contents

# 1. Executive Summary

With reference to the Terms of Reference of this inquiry, Citrus Growers of South Australia (CGSA) present South Australian citrus industry information on the financial conditions, including profitability of the industry; issues relating to supply and markets; industry competitiveness and the value of government programs.

CGSA have identified and prioritised issues which we believe are important and which, with government support, will benefit the South Australian citrus industry, regional horticultural economies and the national economy. As participants in the ACG submission to the Federal government for a structural assistance package, CGSA support the concept of a broad range of initiatives to facilitate industry adjustment however this submission also addresses issues of particular importance to South Australia. We recognise and accept that industry restructuring will continue to occur, particularly the adjustment away from the juice concentrate market sector and towards the fresh fruit market sector.

The citrus industry in South Australia has undergone significant and rapid restructuring over the past 10 years. This restructuring has been driven by:

- Poor returns from the juice sector of the market, due in part to the removal of market protection.
- Aged trees in need of replanting as they become unprofitable.
- Rapidly expanding export returns, especially from the newly acquired USA market for Navel oranges.
- A considerable movement into winegrapes, assisted by:
- Higher returns for winegrapes; taxation incentives to plant winegrapes; winery contracts; lower water use of vines; less labour intensive due to mechanical harvesting and pruning.

The result of this restructure to the industry has been:

- A reduction in the area of citrus plantings (especially Valencia)
- Improved fruit quality to capitalise on the fresh fruit market
- Better returns from the USA Navel export program in recent years (with the exception of the 2000 harvest).

Factors impeding the potential performance of the citrus industry are:

- Limited export market access for South Australian fruit
- Competition between Australian exporters on the same export markets
- Poor returns for juice fruit due to imports of cheap product and confusion with labelling
- A need for better knowledge and information on a range of production and marketing issues.

A range of government and regional initiatives have to some degree assisted the Riverland economy in recent years. These include:

- The rehabilitation program and subsequent privatisation of all government irrigation schemes
- The building of the Loxton - Berri bridge
- The Riverland Rural Partnerships program addressing QA, export and re-development initiatives
- Gas reticulation to parts of the region

However, these have been negated to some degree by:

- Lowering of import protection, loss of tariffs and tax incentives
- Increased production costs (especially labour, fuel and electricity)
- Reductions in state government research, development and extension spending (particularly into improving production efficiency and water use).
- Reduced harvest labour availability.

CGSA have prepared this submission to the Productivity Commission on the understanding that the submission will be considered by the government in its review of microeconomic policy and regulation. We believe that the citrus industry and the regional economies which support it could benefit greatly through this process.

**This submission addresses:**

- The Riverland region of South Australia
- The citrus industry in SA
- The importance of horticulture to the Riverland
- Prioritised issues which CGSA would like to be addressed by the Productivity Commission
- Recognised opportunities for change

# 2. Background to the Riverland Region

## 2.1. The Riverland

The River Murray Valley and adjacent highland irrigation developments are key areas in South Australia's economy. Spanning a distance of up to about 10 kilometres either side of the Murray River, from the Victorian / New South Wales border to Mypolonga, its irrigated horticultural production contribute an estimated $560 million dollars (ABS 1998/99) each year to the Riverland economy.

Associated processing and packing industries are estimated to more than double this value. In the Australian context, the Riverland produces 33 percent of all Australian winegrapes, 35 percent of the nation's oranges (Navel and Valencia) and 21 percent of all stonefruit. To enhance the productivity and profitability of these increasingly export-oriented industries, the region has been undergoing substantial change.

Since the early 1970's, the Riverland has been in a major transitional period. The pressures of declining margins between costs and returns have encouraged significant restructuring in the horticultural industries. Substitution of capital for labour, redevelopment of horticultural plantings with more productive and/or more desired varieties, and the rehabilitation of most of the irrigation infrastructure has allowed the Riverland to remain competitive and productive, despite the volatility of horticultural prices on the world and domestic markets.

Over the last 10 years, major irrigation infrastructure replacement programs to the value of $80 million have seen an acceleration of horticulture replanting and greatly improved irrigation efficiencies.

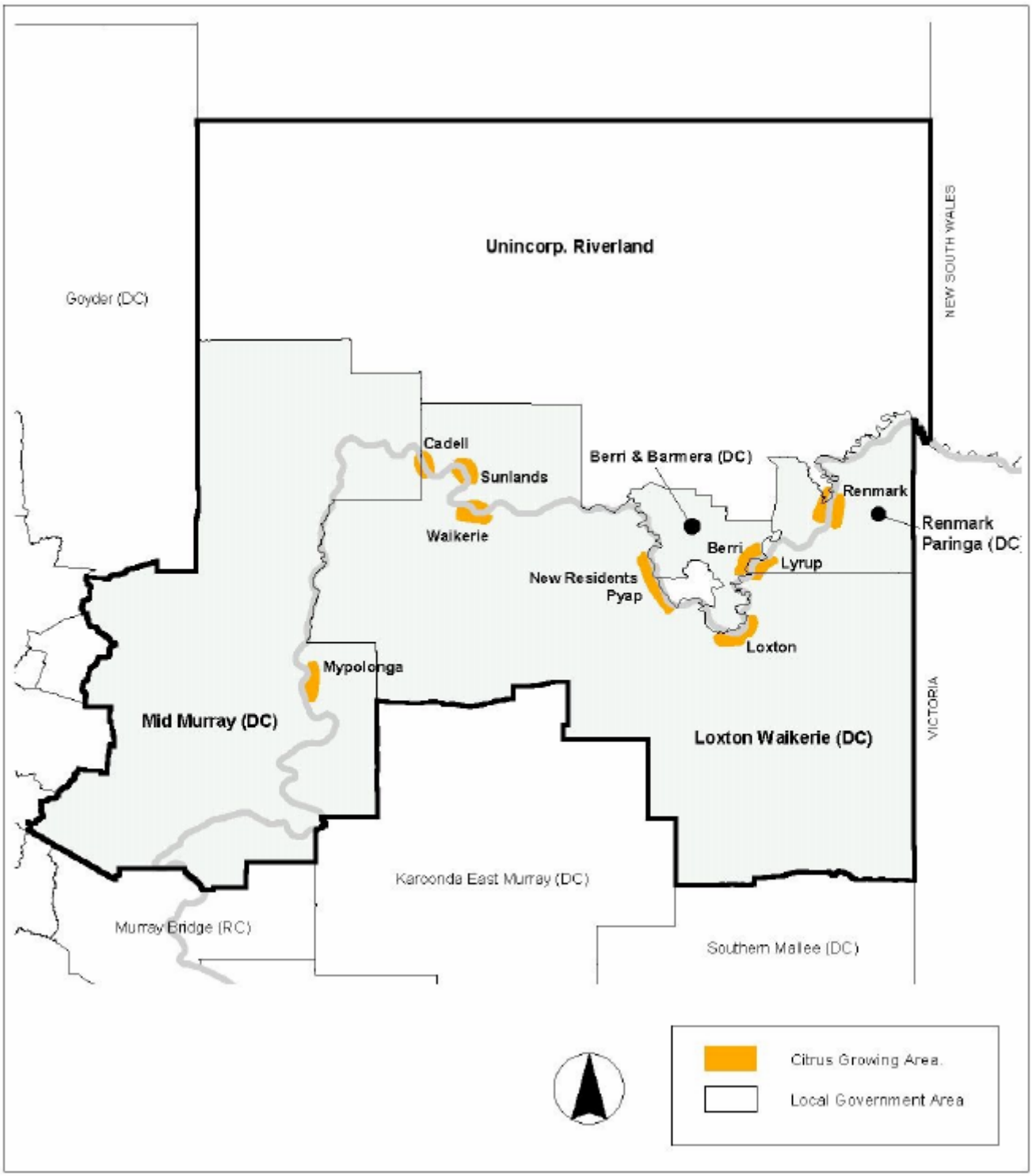
## 2.2. Current and Emerging Issues

The current economic and social environment will continue to oblige change in the Riverland. To the stimuli of the past twenty years will be added the growing recognition of:

- the need to enhance exports of horticultural products, and replace imports,
- quality and value-adding as key considerations in marketing of food,
- the need to protect the natural resources used in primary production,
- the inevitability of declining protectionism in Australia,
- the continued need for micro-economic reform in all industries, including primary production
- the need for planned, rational adjustment in horticultural industries.

## 2.3. Opportunities for Change

The issues above provide both challenges and opportunities. One opportunity may include the possibility of the economic provision of modern irrigation systems supported by programs to ensure the educated, profitable and sustainable use of the natural resources involved.

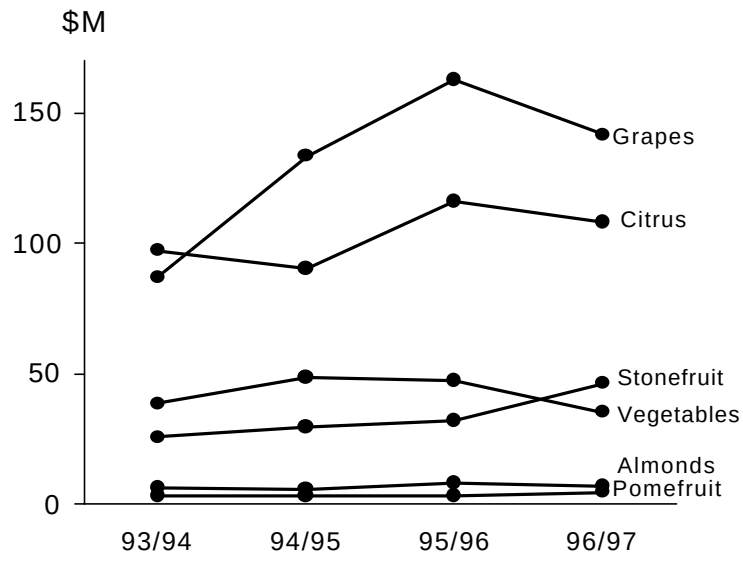

Unincorp. Riverland
Goyder (DC)
NEW SOUTH WALES
Cadell
Sunlands
Walkerie
Berri & Barmera (DC)
Renmark
Renmark Paringa (DC
Berri
Lyrup
New Residents
Pyap
Loxton
Mypolonga
Mid Murray (DC)
Loxton Waikerie (DC)
VICTORIA
Karoonda East Murray (DC)
Murray Bridge (RC)
Southern Mallee (DC)
Citrus Growing Area
Local Government Area

# 3. Characteristics of the Riverland Region

## 3.1. Horticulture in the Riverland

There are currently around 33,000 hectares under irrigation in the Riverland, used almost entirely for horticulture of which 7,900 hectares are planted to citrus. Over time, citrus has been one of the most valuable crops produced in the Riverland (refer Graph 1 below).

**Graph 1: Value of Horticultural Production in the Riverland**




## 3.2. Processing (Value Adding)

Approximately 50% of South Australian orange production goes to processing for fresh juice, juice drink blends and a limited amount to concentrate.

New citrus products are being developed, with the freshly squeezed orange juice marketing initiative being a notable success for the national market leader Berri Limited as well as recent considerable increase in fresh juice sales by Lochert Bros (Crusta) and the export of UHT juice by Knispel Bros. (Nippy's).

Considerable restructuring has been occurring in the last 10 years in the processing sector of horticulture after at least fifty years of parochial intractability. Amalgamations and corporatisation have been evident leading to the emergence of a smaller number of better managed and more market oriented businesses. Vertical integration of the processing sector has been increasing, particularly into the marketing arena. These changes have resulted in a far more directive approach to market signaling to horticultural growers which is having an accelerating effect on farm redevelopment.

Particularly in citrus packing and processing, there remains a substantial over-capacity, which leads to price undercutting to maintain throughput, thereby sustaining individual packer profitability, but reducing overall sector returns.

The packing and processing sector employs around 1,200 people in the Riverland. This figure has been declining in recent years as investment in automation takes over some of the manual tasks involved.

Citrus export market fluctuations have occurred based on some poor quality out-turn in recent years leading in many cases to restructuring of some packing sheds.

# 4. Land Capability, Water Quantity and Quality

## 4.1. Land Capability

The Mallee soils predominant in the Highland Irrigation Areas are suitable for irrigation. They have free-draining surface layers of adequate water-holding capacity for most horticultural crops. At variable depths they are underlain by relatively impervious calcium carbonate or clay layers. The depth of this material determines the suitability for particular crops. A study of the suitability of the Riverland has been undertaken with Murray Darling Basin Commission support to indicate areas with the most suitable soils for any further expansion of the irrigation infrastructure.

Considerable investment has been made in ensuring adequate drainage of the government irrigation areas, and drainage characteristics are one of the most important criteria in on-farm recommendations for crop type, irrigation system, and irrigation scheduling.

## 4.2. Production Economics

The 2 most common citrus orange varieties grown in the Riverland are Valencia and Navel. Returns from Navel production have increased in recent years due largely to access to the USA market. Valencia returns on the other hand have been suffering as imported juice concentrate has severely depressed farm gate prices.

The percentage of Navel oranges destined for factory outlets has decreased from around 50% in 1993/94 to average 20% in 1998/2000 and Valencia has decreased by only 15%. Refer Appendix 7.5: Citrus Industry Statistics.

A comparison of gross margins indicates that Valencia growing is extremely unprofitable enterprise and obviously in need of restructure. (refer below Table 1a and 1b, and Appendices 7.1-7.4 )

Table 2 (page 10) indicates the longer term financial difficulties facing growers of Valencias. Clearly there is no financial incentive to replant, due to both the period from planting to harvest and the low returns being experienced.

Comparisons of development budgets (refer Graphs 2 & 3, page 10) indicates the large differences between Valencias and Navels. The comparison of internal rates of return (Tables 2 & 3, page 10) indicates a 3.59% return on and investment into Valencias compared with a 14.84% return on an investment into Navels under current market conditions.

**Table 1a: Sensitivity Analysis – Valencia Oranges**

| Gross margin per ha | | Yield t/ha | | |
|---|---|---|---|---|
| | | 25 | 30 | 60 |
| | $80 | -$1,626 | -$1,567 | -1218 |
| | $170 | $624 | $1,133 | $4,182 |
| Returns | $220 | $1,874 | $2,633 | $7,182 |

**Table 1b: Sensitivity Analysis – Navel Oranges**

| Gross margin per ha | | Yield t/ha | | |
|---|---|---|---|---|
| | | 25 | 40 | 60 |
| | $200 | -$1,055 | $1,864 | $5,757 |
| | $330 | $2,195 | $7,064 | $13,557 |
| Returns | $400 | $3,945 | $9,846 | $17,757 |

**Graph 2: Valencia Orange Development Budget**

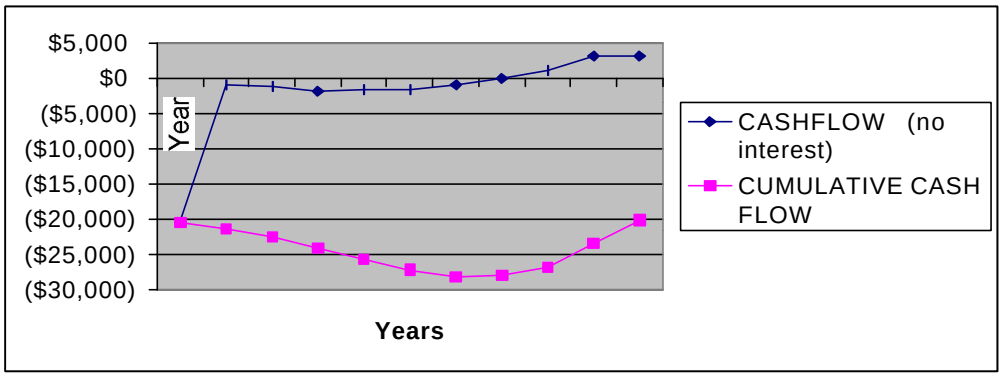



**Table 2: Valencia Orange Internal Rate of Return**

| | |
|---|---|
| Internal Rate of Return | 3.59% |
| NPV @ 5% = | ($4,432) |
| NPV @ 8% = | ($11,104) |
| NPV @ 10% = | ($14,094) |
| Gross Margin | $3,804 |

**Graph 3: Navel Orange Development Budget**

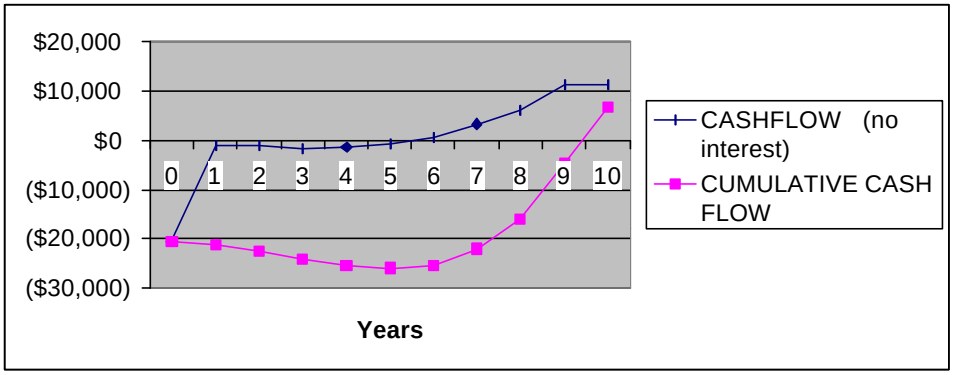



**Table 3: Navel Orange Internal Rate of Return**

| | |
|---|---|
| Internal Rate of Return | 14.84% |
| NPV @ 5% = | $50,983 |
| NPV @ 8% = | $27,601 |
| NPV @ 10% = | $16,751 |
| Gross Margin | $11,768 |

### 4.3. Water Quantity

The amount of River Murray water arriving at the South Australian border has been negotiated through the Murray Darling Basin Commission at a minimum 'entitlement' which varies according to the month of the year. Bulk water is allocated for domestic and irrigation uses in South Australia. No new allocations for irrigation have been made since the drought of 1967/68. Consideration is currently being given to a bulk allocation for environmental purposes.

### 4.4. Water Quality

The quality of the water for irrigation is satisfactory in all but a few circumstances, (mostly the Lower Murray). Research work at Loxton Research Centre has indicated that the commonly grown horticultural crops are tolerant to the levels of salinity normally experienced in the Riverland. At the present water quality, application management is far more important than the water salinity likely to be encountered.

### 4.5. Regional Assistance

Industry assistance measures which have benefited the Riverland citrus industry include the Riverland Rural Partnership Program and Farmbis. Together they have provided valuable assistance to the citrus industry over the past 3 years. These programs have facilitated business planning, export development, re-development, quality assurance and food safety, canopy management and chemical users training. These activities are helping develop a more productive and competitive citrus industry in SA.

Whilst these programs have been recognised as very valuable to the South Australian industry there is also a need for some growers to access financial assistance to re-develop to more profitable varieties such as Navel, late Navel and easypeels. This would enhance the value of the business restructuring programs undertaken by growers.

# 5. The South Australian Citrus Industry

SA produces about 180,000 tonnes of oranges (Navel and Valencia) per annum, making it the second largest producing state behind NSW. This represents about 33% of the national crop, and less than 0.4% of world production, therefore we are a very small player in global terms and are greatly influenced by the world market.

CGSA have participated recently in the Australian Citrus Growers' submission to the Federal Government for a structural assistance package and are hopeful of receiving support for it. However there are issues which are of significance to South Australia.

## Issues of importance to South Australia which should be addressed by the Productivity Commission:

### 5.1. Export Market Access

Continued access to existing markets and expansion into new markets are key issues facing the South Australian citrus industry.

**South Australia maintains the status of being fruit fly free, a potential advantage over other Australian citrus producing regions.**

This status however is costly to maintain and is perceived to be of limited real benefit in the international marketplace due mainly to the negotiated market entry conditions. Specifically, some markets do not recognise the area freedom status of fruit fly for the Riverland due to the inclusion of areas outside this exclusion zone in market negotiations.

Tariffs applied to fruit entering some export markets are viewed as a barrier to trade or restrictive trade practice. It is considered unfair to reduce tariffs for produce entering Australian markets while not accepting our presence in their reciprocal market.

**While CGSA see limitations in the overall benefit of the re-introduction of tariffs on imported product to previous levels, they certainly believe that levelling the playing field is essential for long term industry prosperity.**

### 5.2. Product Labelling

Labelling issues are addressed by an old and a new ANZFA code. They are running concurrently until the end of 2002 when the new code will entirely replace the old code. Of major concern to CGSA is the removal from the new code specification of minimum letter size requirements for labelling country of origin. CGSA believe that this change will cause marketers of imported product to disguise this fact through the use of fine print on their product labelling and that this practise would harm the local industry.

**CGSA strongly support Australian Citrus Growers' push for distinctive and clear labelling of juice products, particularly in regard to country of origin and 100% fresh juice vs. 100% reconstituted product.**

## 5.3. The Citrus Packing Industry in SA

There are approximately 24 citrus packers (6 with significant capacity and throughput) in SA with unrestricted licenses and 13 with restricted licenses. They range greatly in size, some servicing over 125 citrus growers, down to some only packing fruit grown on their individual property.

In most cases, packers sell fruit on consignment. This is a process whereby the grower receives payment based on the selling price of the product at the market, while the packer deducts the costs of handling, sorting, packing etc. Hence the financial incentive for the packer is throughput, while the grower is seeking maximum returns on fruit sold. There is therefore little product differentiation or branding to achieve added value price differentiation; it is sold as a commodity and hence exposed to commodity prices.

Growers are very often frustrated by returns due to:

- Consignment sales and slow payment.
- Large price differentials for fruit from different packers entering the same market.
- Lack of transparency.
- Limited information supplied to growers on issues such as markets and prices.
- Carrying risk on behalf of the packer.

Growers are often seen to be at the mercy of packers and while being free to move to other packers, blame the "system" for restricting the flow of information which would allow them to make an informed decision. As a result, in recent years an increase in smaller grower-owned packers have emerged who find it more profitable to compete rather than submit.

In consultation with CGSA, The Citrus Board of SA through its packer 'Code of Practice' has now implemented new requirements for information to be provided to growers within 14 days of delivery of fruit.

## 5.4. Research and Development

While increases in industry control over R&D have had favourable outcomes for the SA citrus industry in recent years, significant reductions in state government funding support have had an impact. Recent restructuring of the Department of Primary Industries and Resources has seen the removal of full time extension staff from the Waikerie district and a major decline in information services and industry development activities offered to citrus growers throughout the state.

## 5.5. Profitability of Citrus in South Australia

The South Australian Riverland is very competitive and an efficient area to produce citrus. It has excellent soils, good climatic conditions in terms if high sunshine, low seasonal winds and moderate frost potential. The region has well serviced irrigation districts providing the most efficient water delivery infrastructure in the Murray-Darling basin. It has a long history of growing quality produce, and the experiences gained in developing this reputation are invaluable.

**Industry profitability issues have generally arisen as a result of poor or dated varietal mixes.**

Many of the citrus producing areas within the Riverland were government established schemes developed for soldier settlers. Many citrus plantings have passed their peak in performance and are ready for replacement. In recent years many citrus plantings have been replaced with winegrapes. Those growers who have replaced their citrus have often had difficulty in selecting a variety which is readily marketable, due mostly to inadequate information on crop and market performance.

Statistics show larger and corporate growers are much more profitable than small growers. (Refer Australian Citrus Growers' submission).

For the industry to remain profitable smaller growers need to increase their property size and if necessary, redevelop their varietal mix. Many are not in a position to do this without some assistance such as low interest loans or other financial incentives.

Only 10% of South Australian citrus growers have over 20 hectares of citrus planted and over half have less than 5 hectares.

| Under 5 Hectares | 5-10 Hectares | 11-20 Hectares | Over 20 Hectares | Total Number Of Growers |
|---|---|---|---|---|
| 450 | 204 | 129 | 76 | 859 |
| 52% | 24% | 15% | 9% | 100% |

Citrus is considered to be a long term crop due to its comparatively lengthy period to maturity and this is often seen as a disincentive to invest or redevelop.

## 5.6. Harvest Labour

Appropriate harvest labour is a continuing problem particularly during the peak of the season. The citrus industry is very labour intensive and cannot readily adapt to mechanism. It is well recognised that a valuable source of horticultural harvest labour is found through backpackers and holidaymakers.

**CGSA recommend that the number of working holiday visas should be increased to provide additional labour for horticultural industries. To prevent labour in other industries being threatened it is suggested these could be issued as 'horticulture only' work visas.**

### 5.7. National Competition Policy – Review of the Citrus Board of SA

Under the Citrus Industry Act, The Citrus Board of SA currently is able to apply some form of orderly marketing and other standards to both the growing and packing sectors of the industry. These include minimum marketing standards, packer 'Code of Practice', information flow to growers and food safety standards.

**As has already happened in other states, the Citrus Board and the Act are under NCP review and it is expected that some powers will be lost. This could be to the detriment of the industry and caution should be taken in removing areas of regulation which have been implemented for the good of the industry.**

## 6. Summary

The South Australian citrus industry is generally productive and competitive at its production base.

It continues to address restructuring in a positive manner and is emerging stronger and more export market focussed. However there are a range of issues which should be addressed more vigorously by governments which could facilitate the progress of this important industry.

We have presented a South Australian perspective to the Inquiry into the citrus industry but realise the industry needs to be viable on a national basis to collectively compete on the world market.

CGSA view the submission to the Federal Government by Australian Citrus Growers' Inc. for a Structural Assistance Package as extremely valuable to the entire industry and have participated in this process.

Having actively contributed to the ACG submission we wish to fully endorse the recommendations of that submission including the investigation into damage to the Australian industry through the importation of orange juice concentrate product and the possible imposition of safeguard measures.

We acknowledge however that this would only present short term relief for the Australian citrus industry and that the government's assistance in addressing marketing trade barriers, other issues to enhance competitiveness and most importantly by providing financial incentives to redevelop and restructure, as being paramount to the future of the industry.

# 7. Appendices

## 7.1. Citrus Gross Margin - Valencia Oranges

| | | | | | |
|---|---|---|---|---|---|
| Region : Riverland | | Irrigation: Sprinkler – Micro | | | |
| Enterprise Unit : 1 hectare | | | | | |
| Planting: Valencia (408 trees) | | Date : Nov 2000 | | | |
| | | | | | $/ha |
| GROSS RETURN | | | | | |
| Production | | 50 | | $170 | $8,500 |
| Percentage packed | 50 | 25 t/Ha @ | | $215 | $5,375 |
| Percentage juice | 50 | 25 t/Ha @ | | $125 | $3,125 |
| less levies | | | | $5.35 | $268 |
| TOTAL GROSS RETURN | | | | | $8,232 |
| PRODUCTION COSTS | | | | | |
| Disease Program | | | | 24 | |
| Pest Program | | | | 413 | |
| Nutrient Program | | | | 120 | |
| Fertilizer Program | | | | 282 | |
| Leaf Analysis | | | | 25 | |
| Herbicides | | | | 139 | |
| Harvest (per tonne) | | | | 2,500 | |
| Freight (per tonne) | | | | 650 | |
| Irrigation (Private diverter) | | | | 495 | |
| Fuel | | | | 69 | |
| Labour | | | | 328 | |
| TOTAL PRODUCTION COSTS | | | | | $5,067 |
| GROSS MARGIN ($/ha) | | | | | $3,165 |

Sensitivity Analysis (Gross margin per hectare)

| | Yield/ha | | |
|---|---|---|---|
| | 25 | 30 | 60 |
| $80 | -$1,626 | -$1,567 | -$1218 |
| $170 | $624 | $1,133 | $4,182 |
| $220 | $1,874 | $2,633 | $7,182 |

## 7.2. Citrus Gross Margin - Navel Oranges

| Region : Riverland | | Irrigation: Sprinkler - Micro | | |
|---|---|---|---|---|
| Enterprise Unit : 1 hectare | | | | |
| Planting: Navels (408 trees) | | Date : Nov 2000 | | $/ha |
| GROSS RETURN | | | | |
| Production | | 40 t/Ha @ | $330 /t | $13,200 |
| Percentage packed | 70 | 24.5 t/Ha @ | | |
| USA % Packed | 30 | 12 t/Ha @ | $600 | $7,200 |
| Asia/New Zealand | 20 | 8 t/Ha @ | $340 | $2,720 |
| Local | 20 | 8 t/Ha @ | $260 | $2,080 |
| Percentage juice | 30 | 12 t/Ha @ | $100 /t | $1,200 |
| less packout levy | | | $5.35 /t | $214 |
| TOTAL GROSS RETURN | | | | $12,986 |
| PRODUCTION COSTS | | | | |
| Disease Program | | | 196 | |
| Pest Program | | | 414 | |
| Nutrient Program | | | 119 | |
| Fertilizer Program | | | 296 | |
| Leaf Analysis | | | 25 | |
| Herbicides | | | 146 | |
| Picking | | | 2,000 | |
| Freight | | | 520 | |
| Pruning / Thinning | | | 1311 | |
| Irrigation (Private diverter) | | | 495 | |
| Fuel | | | 74 | |
| Labour | | | 328 | |
| TOTAL PRODUCTION COSTS | | | | $5,922 |
| GROSS MARGIN | | | | $7,064 |

Sensitivity Analysis
(Gross margin per hectare)

| | | Yield t/ha | | |
|---|---|---|---|---|
| | | 25 | 40 | 60 |
| Returns | $200 | -$1,055 | $1,864 | $5,757 |
| | $330 | $2,195 | $7,064 | $13,557 |
| | $400 | $3,945 | $9,846 | $17,757 |

## 7.3. Citrus Development Budget – Valencia Oranges

1 hectare, 20 year investment period including purchase of land, irrigation headworks and water licence

| Year | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RETURNS | | | | | | | | | | | |
| Production t/hectare * price $/t | $170 | | | | | | | | | | |
| GROSS RETURN | | $0 | $0 | $0 | $0 | $423 | $846 | $1,692 | $3,385 | $5,077 | $8,462 |
| COSTS | | | | | | | | | | | |
| Land | | $4,000 | | | | | | | | | |
| Irrigation headworks | | $4,000 | | | | | | | | | |
| Water licence | | $4,000 | | | | | | | | | |
| trees/plant | $12 | $4,896 | | | | | | | | | |
| Sprinklers | | $3,500 | | | | | | | | | |
| Pruning $/ha | | $0 | $0 | $0 | $437 | $437 | $437 | $437 | $437 | $437 | $437 |
| Fertilizer/spread | | $0 | $527 | $527 | $527 | $527 | $527 | $527 | $527 | $527 | $527 |
| water/power | | $0 | $56 | $70 | $97 | $125 | $139 | $139 | $139 | $139 | $139 |
| Herbicides/sprays | | $0 | $198 | $248 | $347 | $446 | $495 | $495 | $495 | $495 | $495 |
| pest & nutrient sprays | | $0 | $159 | $199 | $278 | $357 | $397 | $397 | $397 | $397 | $397 |
| picking $/t | $50 | $0 | $0 | $0 | $0 | $124 | $249 | $498 | $996 | $1,493 | $2,489 |
| freight $/t | $13 | $0 | $0 | $0 | $0 | $32 | $65 | $129 | $259 | $388 | $647 |
| ANNUAL COST | | $20,396 | $939 | $1,043 | $1,686 | $2,049 | $2,309 | $2,622 | $3,249 | $3,877 | $5,131 |
| CASHFLOW (no interest) | | ($20,396) | ($939) | ($1,043) | ($1,686) | ($1,626) | ($1,462) | ($930) | $135 | $1,201 | $3,331 |
| CUMULATIVE CASH FLOW | | ($20,396) | ($21,335) | ($22,378) | ($24,064) | ($25,689) | ($27,152) | ($28,081) | ($27,946) | ($26,745) | ($23,414) |

| | |
|---|---|
| NPV @ 5% = | ($4.432) |
| NPV @ 8% = | ($11,104) |
| NPV @ 10% = | ($14,094) |

| | |
|---|---|
| IRR | 3.59% |

## 7.4. Citrus Development Budget – Navel Oranges

1 hectare, 20 year investment period including purchase of land, irrigation headworks and water licence

| Year | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RETURNS | | | | | | | | | | | |
| Production t/hectare | | | | | | | | | | | |
| price $/t | $330 | | | | | | | | | | |
| GROSS RETURN | | $0 | $0 | $0 | $0 | $821 | $1,643 | $3,285 | $6,570 | $9,856 | $16,426 |
| COSTS | | | | | | | | | | | |
| Land | | $4,000 | | | | | | | | | |
| Irrigation headworks | | $4,000 | | | | | | | | | |
| Water licence | | $4,000 | | | | | | | | | |
| trees/plant | $12 | $4,896 | | | | | | | | | |
| sprinklers | | $3,500 | | | | | | | | | |
| pruning $/ha | | $0 | $0 | $0 | $437 | $437 | $437 | $437 | $437 | $437 | $437 |
| fertilizer/spread/cover crop | | $0 | $527 | $527 | $527 | $527 | $527 | $527 | $527 | $527 | $527 |
| water/power | | $0 | $56 | $70 | $97 | $125 | $139 | $139 | $139 | $139 | $139 |
| herbicides/sprays | | $0 | $198 | $248 | $347 | $446 | $495 | $495 | $495 | $495 | $495 |
| pest & nutrient sprays | | $0 | $159 | $199 | $278 | $357 | $397 | $397 | $397 | $397 | $397 |
| picking $/t | $50 | $0 | $0 | $0 | $0 | $124 | $249 | $498 | $996 | $1,493 | $2,489 |
| freight $/t | $13 | $0 | $0 | $0 | $0 | $32 | $65 | $129 | $259 | $388 | $647 |
| ANNUAL COST | | $20,396 | $939 | $1,043 | $1,686 | $2,049 | $2,309 | $2,622 | $3,249 | $3,877 | $5,131 |
| CASHFLOW (no interest) | | ($20,396) | ($939) | ($1,043) | ($1,686) | ($1,227) | ($666) | $663 | $3,321 | $5,979 | $11,295 |
| CUMULATIVE CASH FLOW | | ($20,396) | ($21,335) | ($22,378) | ($24,064) | ($25,291) | ($25,957) | ($25,294) | ($21,973) | ($15,994) | ($4,699) |

| | |
|---|---|
| NPV @ 5% = | $50,983 |
| NPV @ 8% = | $27,601 |
| NPV @ 10% = | $16,751 |

| | |
|---|---|
| IRR | 14.84% |

## 7.5. Citrus Industry Statistics

### (1) SOUTH AUSTRALIAN PRODUCTION and MARKET OUTLETS

*Comparative Schedules* (for years 1 May to 30 April) *(Source: CBSA Weekly Returns)*

**NAVEL ORANGES**

| | 1993/94 | | 1994/95 | | 1995/96 | | 1996/97 | | 1997/98 | | 1998/99 | | 1999/00 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tonnes | % | Tonnes | % | Tonnes | % | Tonnes | % | Tonnes | % | Tonnes | % | Tonnes | % |
| South Australia | 5660 | 8.3 | 5654 | 8.0 | 5838 | 11.7 | 6161 | 9.5 | 4780 | 6.9 | 6191 | 11.8 | 4609 | 8.7 |
| Victoria | 4380 | 6.5 | 3651 | 5.1 | 3168 | 6.3 | 3128 | 4.8 | 3670 | 5.3 | 3968 | 7.6 | 3580 | 6.7 |
| New South Wales | 2453 | 3.6 | 3462 | 4.9 | 3470 | 7.0 | 2138 | 3.3 | 1920 | 2.7 | 3507 | 6.7 | 2031 | 3.8 |
| Queensland | 1723 | 2.5 | 2235 | 3.1 | 1973 | 4.0 | 2416 | 3.7 | 2527 | 3.6 | 2307 | 4.4 | 1700 | 3.2 |
| Tasmania | 972 | 1.4 | 775 | 1.1 | 556 | 1.1 | 736 | 1.1 | 665 | 1.0 | 665 | 1.3 | 509 | 1.0 |
| Western Australia | 4507 | 6.6 | 5084 | 7.2 | 3817 | 7.6 | 4281 | 6.6 | 4105 | 5.9 | 3651 | 7.0 | 2763 | 5.2 |
| Northern Territory | 253 | 0.4 | 279 | 0.4 | 159 | 0.3 | 226 | 0.4 | 369 | 0.5 | 270 | 0.5 | 172 | 0.4 |
| Total Australian Case Markets | 19948 | 29.3 | 21140 | 29.8 | 18981 | 38.0 | 19087 | 29.4 | 18036 | 25.9 | 20559 | 39.3 | 15364 | 29.0 |
| Exports | 14579 | 21.5 | 17068 | 24.0 | 13198 | 26.4 | 18905 | 29.1 | 23788 | 34.1 | 22698 | 43.4 | 23989 | 45.2 |
| Total Packed | 34527 | 50.8 | 38208 | 53.8 | 32179 | 64.4 | 37992 | 58.5 | 41824 | 60.0 | 43257 | 82.7 | 39353 | 74.2 |
| Factory Fruit | 33381 | 49.2 | 32806 | 46.2 | 17825 | 35.6 | 26936 | 41.5 | 27937 | 40.0 | 9074 | 17.3 | 13699 | 25.8 |
| Total | 67908 | | 71014 | | 50004 | | 64928 | | 69761 | | 52331 | | 53052 | |

**VALENCIA ORANGES (Note: Includes all other seeded oranges)**

| | 1993/94 | | 1994/95 | | 1995/96 | | 1996/97 | | 1997/98 | | 1998/99 | | 1999/00 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tonnes | % | Tonnes | % | Tonnes | % | Tonnes | % | Tonnes | % | Tonnes | % | Tonnes | % |
| South Australia | 4425 | 3.1 | 4501 | 3.0 | 4994 | 4.2 | 5485 | 4.4 | 4079 | 3.2 | 4614 | 4.0 | 3633 | 3.5 |
| Victoria | 3613 | 2.5 | 2981 | 2.0 | 4069 | 3.4 | 3705 | 3.0 | 3357 | 2.7 | 6388 | 5.5 | 4462 | 4.3 |
| New South Wales | 1642 | 1.2 | 4806 | 3.2 | 5072 | 4.2 | 2322 | 1.9 | 3090 | 2.5 | 5507 | 4.8 | 4181 | 4.0 |
| Queensland | 2369 | 1.7 | 3725 | 2.5 | 5065 | 4.2 | 3603 | 2.9 | 5184 | 4.1 | 5764 | 5.0 | 4766 | 4.5 |
| Tasmania | 749 | 0.5 | 675 | 0.4 | 609 | 0.5 | 556 | 0.5 | 464 | 0.4 | 498 | 0.4 | 447 | 0.4 |
| Western Australia | 4287 | 3.0 | 5031 | 3.3 | 4605 | 3.9 | 4408 | 3.6 | 3192 | 2.5 | 3209 | 2.8 | 2663 | 2.6 |
| Northern Territory | 330 | 0.2 | 340 | 0.2 | 275 | 0.2 | 293 | 0.2 | 267 | 0.2 | 588 | 0.5 | 312 | 0.4 |
| Total Australian Case Markets | 17415 | 12.2 | 22059 | 14.6 | 24689 | 20.6 | 20372 | 16.5 | 19633 | 15.6 | 26568 | 23.0 | 20464 | 19.7 |
| Exports | 18624 | 13.1 | 19347 | 12.7 | 20060 | 16.8 | 24304 | 19.7 | 23368 | 18.5 | 27305 | 23.7 | 20525 | 19.8 |
| Total Packed | 36039 | 25.3 | 41406 | 27.3 | 44749 | 37.4 | 44676 | 36.2 | 43001 | 34.1 | 53873 | 46.7 | 40989 | 39.5 |
| Factory Fruit | 106159 | 74.7 | 110427 | 72.7 | 74883 | 62.6 | 78642 | 63.8 | 82990 | 65.9 | 61594 | 53.3 | 62773 | 60.5 |
| Total | 142198 | | 151833 | | 119632 | | 123318 | | 125991 | | 115467 | | 103762 | |

Note: The Valencia figures represent fruit harvested 1st May through to 30th April. Season runs from 1st August to 31st July.