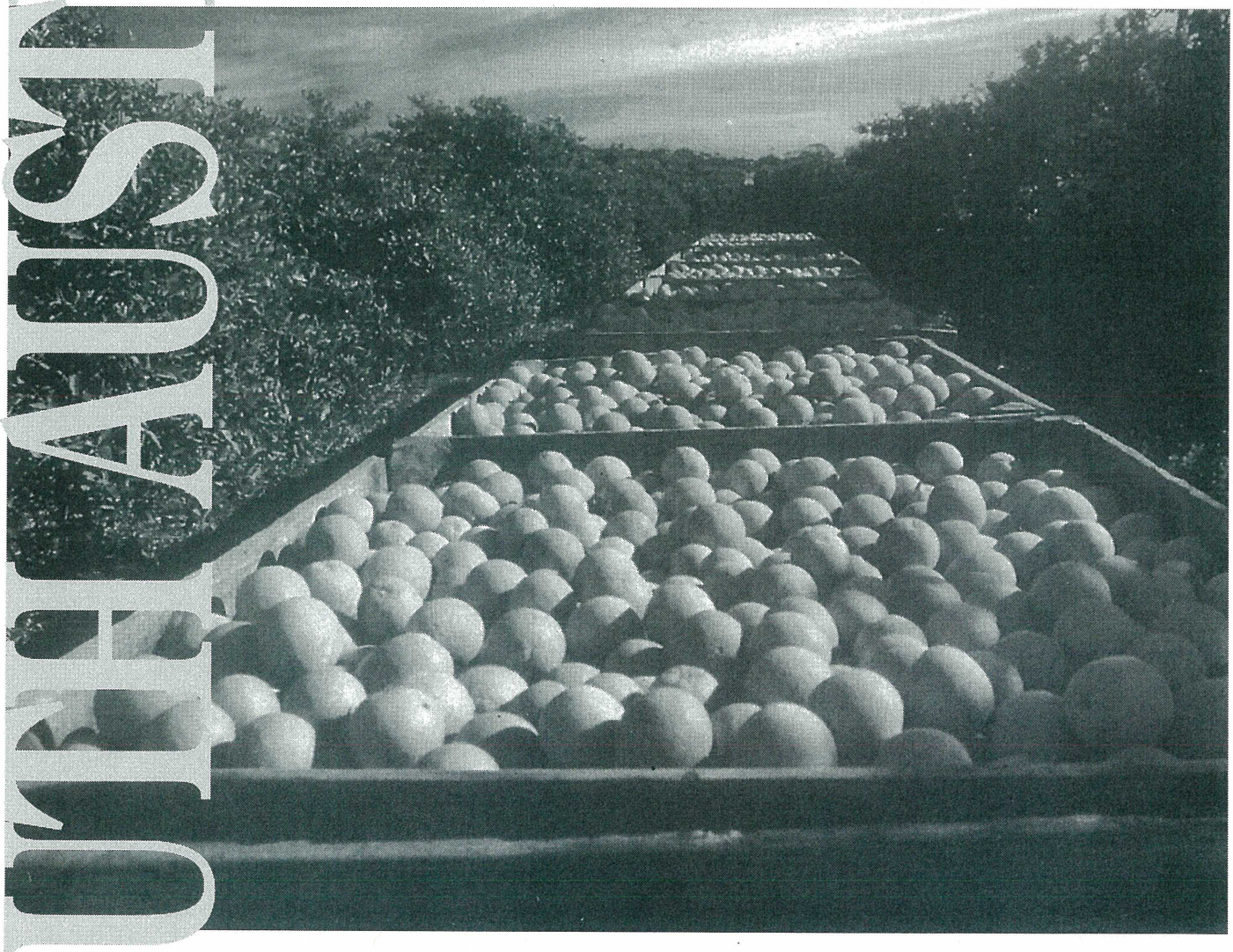
SOUTH AUSTRALIA

SOUTH AUSTRALIAN CITRUS INDUSTRY DEVELOPMENT PLAN

1995 – 2000



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This plan is a working document for consultation and negotiation between PISA/SARDI and other industry stakeholders. That consultation is crucial in assisting PISA/SARDI to progress this strategic plan into operational plans for implementation in 1996/97.

EXECUTIVE SUMMARY

VISION

- Increase the gross value of SA production by $74m.
  - A target of A$500m for the gross farm gate value has been set for the industry, nationally, by the end of the century (Citrus Working Group). South Australia represents between 30-35% of production and hence the SA Industry Vision is to increase the gross value of the South Australian industry by $74 million (from $101 million in 1993/94).
- Increase exports from 15% to 30% of production.
  - One of the most effective methods to achieve an overall increase in gross value of the industry is to expand the lucrative export trade. South Australia is currently responsible for 37% of exports (1992/93);
- Increase the sale of fresh fruit from 30% to 70% of production.
  - The aim is to reverse the traditional ratio of processing to fresh fruit, thereby contributing to the overall increase in gross value of the industry.

This will mean:

- Decreasing dependence on the frozen concentrated orange juice market (FCOJ), in which South Australia is not internationally competitive, and
- A substitution on farms towards commodities with higher returns than fruit currently destined for the FCOJ market.
- A total industry commitment to the supply of products and services to the required specification, quantity and delivery time demanded by the customers in export or domestic markets;

PURPOSE OF THE PLAN

The major purposes of the PISA/SARDI Industry Planning processes are, in conjunction with Industry, to:

a examine existing industry profiles, structures and processes (such as marketing arrangements, relevant legislation and so on) and to determine their strengths, weaknesses, opportunities and threats. This will enable us to determine the critical factors that enhance or impede the international competitiveness of the industry in South Australia and consider industry strategies to address those factors, and

b determine and evaluate the major opportunioties for sustainable economic development in our industries, and the role of PISA/SARDI in assisting industry to capture those opportunities. By aligning our resources in PISA/SARDI to reflect the identified opportunities, we will maximise our impact as an economic development agency.

OVERVIEW

The Australian citrus industry must be market driven.
The citrus industry now realises that it must respond to customer/market requirements and be "market driven" rather than "supply driven".

Australia is a small producer and trader on the international market.
Australia contributes about 1% (758 kilotonnes [kt]) of the world production of citrus valued at A$290.5 million. In 1993/94 total citrus exports were 101kt, with a value of approximately A$90 million. Australian exports account for less than 2% of world trade in citrus.

The present Australian citrus industry, based on the production of orange juice concentrate, is not viable in the long term.
Over the five years 1987-1992, on average 56% of Australian citrus was directed to processing, of which 90% was converted into fruit juice concentrate. However, Australia cannot compete with Brazil, which dominates the world market for frozen orange juice concentrate (FCOJ), on price or quality in this market. The long term forecast is that costs will continue to exceed the value of production in this sector of the Australian industry.

KEY INDUSTRY DRIVERS

The fresh fruit and fresh juice sectors are the key to the survival and expansion of the Australian citrus industry.
Prices received for quality fresh fruit are higher than for non-contract processing fruit. The most profitable market and area for expansion is in export of high quality fresh citrus. There is also some potential to expand the domestic market. Although fresh fruit consumption has been reasonably steady for the past ten years, there has been a considerable increase in fresh juice consumption recently. There may also be opportunities for value adding and import replacement in areas such as essential oils and preserved products.

Exports of fresh fruit will determine the size of the Australian citrus industry.
Based on existing plantings, production of fresh citrus will exceed domestic demand even with an increase in the domestic market. Therefore the future of the industry will be determined by expansion of the export markets. Handling, packaging and transport issues will be crucial.

The South Australian industry is well placed to take up the challenge by concentrating on the high quality fresh fruit market, and export markets in particular.

South Australia is the second largest citrus producing state (250kt worth A$90m) and is the largest exporter, making up 37% of national exports valued at A$25.7m. Nationally, 80% of citrus production comes from the Riverland, Sunraysia and the Murrumbidgee Irrigation Area. The expanding economies of South East Asia and other Pacific Rim countries (including the USA) are large potential markets.

Domestic fresh fruit consumption can be enhanced by the increased production and promotion of new 'easy peel' varieties.

International and regional pressures will lead to strutural adjustment impacting on regional economies.

Market pressure will force rationalisation of the industry in the direction of more fresh packed citrus, most of which will be exported. The Frozen Concentrated Orange Juice sector will decline, as growers respond to low profitability of this sector. The area of valencias will decline markedly, creating a regional opportunity to expand production of more profitable crops. The value in terms of increased regional income has been estimated to be $7m per annum after 5 years from such a substitution.

CRITICAL SUCCESS FACTORS/STRATEGY AREAS

Several critical success factors were identified following a strategic analysis of the Citrus Industry, which must be addressed by industry if it is to achieve its vision. The appropriate industry strategies which target the critical success factors and to which PISA/SARDI may contribute are also discussed below

1 Market Development and Access

Market development requires a total commitment by producers and agribusiness to the supply of products and services to overseas and domestic customers to the required specification, quantity and delivery time demanded by the customers. A commitment to export is sustained by a thorough understanding of customer needs and an equally thorough understanding of the products and services provided by major international competitors.

Industry strategies to foster a greater marketing commitment in the citrus industry include:

- provision of better market intelligence, information and analyses;
- further understanding of trade issues in major markets; exporters and industry representatives need to travel to develop good commercial working relationships based on personal contact with buyers overseas;
- further consideration of joint venture or supply contract opportunities;
- promotion should be considered for domestic and export markets; promotional brochures for the industries are needed for local and international sales and investment attraction;
- investigating packaging and transport issues which are very important aspects for the export market;
- alternative shipping options need to be evaluated;
- regular supplies of product need to be assured, through cooperation amongst growers, formation of clusters and strategic alliances with larger partners;
- facilitate market access;
- research and development of post harvest storage and handling issues, and
- maintain fruitfly-free status.

2 Product Development and Innovation

Product development and innovation can be considered as two major objectives of research and development. Innovation is a critical factor in developing international competitive advantage.

Australian product development and innovation must remain clearly focused on market requirements.

Product differentiation is an important means of enhancing value added either on farm or by downstream processing.

International competitive advantage can be sustained only by constant improvement and upgrading. Virtually any competitive advantage can be replicated by competitors sooner or later. To sustain an advantage, firms (and industries) must remain a moving target, creating new advantages at least as fast as competitors replicate old ones.

Industry strategies which can be implemented to address the issues of product development and innovation include the following.

- Market research and analyses to realise market opportunities;
- Industry stakeholders can further improve their market focus through overseas travel and invitations to overseas marketers and researchers to visit Australia and provide their perspective, and
- Differentiate products to reflect exactly what specific markets require.

3 Quality

The issue of quality in the fruit industry refers to the need to continually maintain quality specifications and standards required by the customers in the market. Australia's reputation as a supplier of "clean, green" produce is central to the success of local produce in world markets.

This issue needs constant attention if Australian product is to become more internationally competitive. Failure to address this will not only impair Australia's future export efforts, but may also impact on existing exports.

Some industry strategies appropriate in this respect include:

- instituting/maintaining quality assurance programs;
- enhancing the differentiation of South Australian produce from that of other countries. Continue to build on our "clean, green" image.
- improving communication of the requirements of the market place from the overseas/domestic buyers to growers;
- discouraging any form of pooling of returns as this does not encourage any change in product quality;
- greater promotion to make producers and all other industry sectors more aware of the importance and benefits of quality management and assist them to implement quality management systems, and
- using research, development and extension resources to improve fruit quality.

4 Cost/Price Competitiveness

Cost/price competitiveness relates to a range of factors including the cost of production, productivity and market prices.

In relation to cost/price competitiveness Australia and its major competitors all have different advantages and problems. The low cost producers have the obvious advantage of cheaper production costs. However, they are sometimes less cost competitive in other areas, incurring greater costs in other components of the marketing chain. Ensuring that agribusinesses operate to world's best practice is a crucial ingredient in the international competitiveness of our fruit industries.

Key industry strategies which could be employed to address issues of cost/price competitiveness include:

- review regulations/policies impacting on all industry sectors;
- recognise the importance of industry coordination and cooperation;

- industry and individual enterprises at all stages of the production and marketing chain undertaking benchmarking studies to determine their deficiencies and introducing world's best practices to address these;
- investigate options for shipping exports, including part charters with other countries or other commodities;
- encourage examination of potential economies of size;
- encourage agribusinesses to avail themselves of State and Commonwealth Government programs to enhance their efficiency and effectiveness as input suppliers, transporters, processors and marketers;
- employ research, development and extension resources to improving cost/price competitiveness through productivity enhancement at all stages of the production and marketing chain;
- recognise the importance of infrastructure and invest in creating/upgrading the necessary infrastructure;
- support the specialised university/educational programs operating in SA;
- support micro economic reform, and
- review water allocation and pricing issues.

5 Sustainability

The citrus industry impacts on soil, water and other natural resources in South Australia. The protection of the fruit crop industries from a range of diseases and pests is paramount.

Industry strategies are aimed at ensuring a sustainable production system in accord with the environmental concerns of the general community and include:

- understanding land and water management issues and how they impact on productivity and degradation of the natural resources, and taking appropriate action, and
- appreciating the consequences of the control of pest animals and plants and diseases and taking appropriate action.

6 Coordination of Marketing

The achievement of a critical mass through coordination of marketing is a key competitiveness issue in export marketing.

Key industry strategies which could be used to address this factor are:

- strategic alliances with international competitors, and
- cooperation between current and/or potential marketers.

OPPORTUNITIES FOR PISA/SARDI TO CONTRIBUTE TO INDUSTRY STRATEGIES

By addressing key strategies, this plan has identified a number of potential program areas where PISA/SARDI could contribute to industry development:

- help provide market intelligence and analysis;
- help with market development and access issues;
- facilitate industry networking;
- facilitate QA programs;
- improve varieties through research and development;
- post harvest storage/handling/packaging technologies evaluated, and
- help ensure a sustainable production system.

This plan has identified that particular market segments hold particular opportunities in the citrus industry including:

- the fresh fruit area (domestic);
- the fresh 'daily' juice market;
- the fresh export market, and
- niche markets for other processed products.

Future PISA/SARDI projects will support strategies which address the above critical success factors and fall within these program areas.

Actual projects that will be undertaken by PISA/SARDI within these potential program areas will be identified in the next stage of the PISA/SARDI planning process. Projects will be evaluated against criteria including market failure and their benefit/cost ratios to assist in the prioritisation of projects for funding.

Summary of critical success factors, strategies and potential actions for PISA/SARDI:

Critical Success Factor	Strategy	Potential PISA/SARDI Programs
Market Development and Access	• Provision of better market intelligence, information and analysis • Recognise the importance of industry coordinating and cooperation	• Help provide market intelligence and analysis • Help with market access and development issues • Facilitate industry networking
Quality	• Instituting/maintaining quality assurance programs	• Faciltate QA programs
Cost/price Competitiveness	• Employ research, development and extension resources to improving cost/price competitiveness	• Improve varieties through research and development • Post harvest storage/handling/packaging technologies evaluated
Sustainability	• Understanding land and water management issues • Appreciating the consequences of the control of pests and diseases	• Help ensure a sustainable production system

SOUTH AUSTRALIAN CITRUS INDUSTRY DEVELOPMENT PLAN

1 TRADE AND STATISTICAL PROFILES

A description of the size, structure and performance of the Industry, at an international, national and regional level, establishes the basis for analysis and interpretation of trends and future directions.

1.1 INTERNATIONAL TRADE PATTERNS AND STATISTICS

Overall, citrus is a mature industry globally and both production and exports are reasonably steady. Citrus is the largest single fruit commodity at approximately 20% of total fruit production world wide. While world trade in citrus is small compared to the volume of production, it is still the major fruit traded in terms of value. In 1992 World Bank predictions were that total citrus production would increase by about 12% by 1995 and a further 13% by the year 2000. In Brazil and the USA it was estimated that production could increase by 20%.

Oranges are 69% of world citrus production with Small Citrus (clementines, mandarins and satsuma) 14%, lemons 11% and grapefruit 7%.

68% of citrus comes from the northern hemisphere. Brazil is the largest producer with 22% of world production, most of which is processed for juice concentrate. The United States accounts for 17% of world production, mainly in California and Florida, and the Mediterranean region produces 24%, with Italy and Spain being the major contributors. Mexico, Japan and China are the other major northern hemisphere producers.

Most northern hemisphere production is consumed within the region, whereas a large proportion of the southern hemisphere citrus production is exported to the north (HPC, 1993). Despite this general trend, the major citrus exporter world wide is Spain.

Seasonal conditions have large effects on production and hence prices of citrus. Adverse weather, especially in the USA and Brazil, can have a major impact on the price of frozen concentrated orange juice (FCOJ). In the mid 1980's world citrus production rose significantly and hence world FCOJ prices fell. In 1987 and 1989 a freeze in Florida and the Brazilian drought respectively reduced production and prices increased again. In 1990 the price of frozen orange juice concentrate collapsed again, only to recover the following year as a result of a light Californian crop resulting from a freeze.

1993/94 production from the major northern hemisphere producers is an estimated 40.8m tonnes. This is around 4% below the previous year's record because of lower production in Mexico, USA and Spain. An expected 23% reduction in the Spanish lemon crop will reduce northern hemisphere production by about 4%. The Spanish orange crop is also forecast to be reduced by 20% due to inclement weather during pollination and reduced orchard care following low returns to growers from last year's record crop. This is not anticipated to reduce the exports of Spanish oranges however which will again be more than half of the total crop (2.5 million tons), going mainly to other European countries.

The lower USA production is mostly in Florida oranges, mainly used for processing, which are estimated to be reduced by about 6%. In the case of Mexico, the estimated 5% decline in production is a combination of the "off-year" of the biennially bearing crop and hurricane damage in the main citrus producing state of Veracruz.

Fluctuations in world citrus production, particularly for FCOJ, have a major impact on the Australian citrus industry. Processing fruit prices are set in relation to the international price for FCOJ (currently around A$1400/t) and this price flows through to all other categories of citrus. The volatility of FCOJ price leads to uncertainty of income, particularly at the farm level, with returns on occasion at, or below, cost of production.

Expansion of storage facilities and development of production in areas which are not frost prone will smooth out production levels. However that in itself is of no help to the Australian industry since the returns from FCOJ will continue to be lower than required to sustain production.

1.2 AUSTRALIA

Australia is a small producer on the world scene. Australian citrus production 93/94 was 758kt (ACGF, 1995) with a gross value of A$290.5 million (ABS, 1992/93). This represents approximately 1% of total world production but is the fourth largest citrus producer in the southern hemisphere behind Brazil (14,663kt), Argentina (1,570kt) and South Africa (846kt) and is overall 19th in the world.

Australian exports (101kt) valued at $69m, amount to less than 1% of world trade. 80% of total exports go to Hong Kong, Japan and South East Asia, ie Malaysia, Singapore and Indonesia.

Nationally, citrus is one of the largest horticultural industries, being about 20% of the total value of horticultural production. The gross value of Australian citrus production was $321.1m in 1993/94.

Eighty percent (80%) of Australian Citrus production comes from the irrigated areas in South Australia (the Riverland), Victoria, New South Wales (Sunraysia) and the Murrumbidgee Irrigation Area (MIA). The Central Burnett region of Queensland, centred on Gayndah and Mundubbera, accounts for the majority of the remaining 20%, along with smaller areas of production in central and central coast regions of New South Wales and the South West of Western Australia.

The largest citrus producer in 1993/94 was South Australia with 31% of production (A$101.3m), followed by New South Wales 30% (A$94.9m), Victoria 20% (A$64.4m), Queensland 17% (A$54.2m) and Western Australia 2% (A$6.2m).

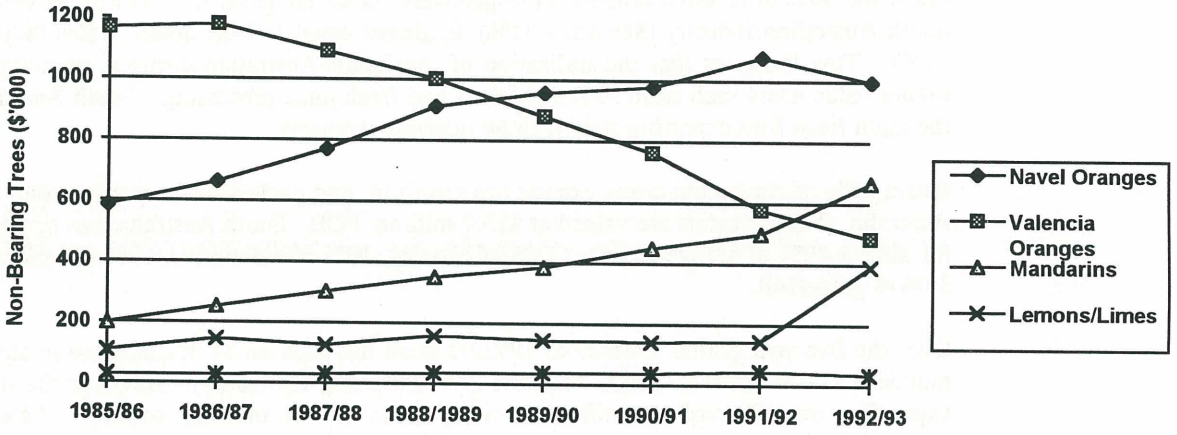
Table 1: Grower numbers and proportion of production by region 1989-90

Region	No. Growers	% Growers	% Production	Production/ grower (t)
Murrumbidgee IA	478	17	30	407
Murray River	258	9	12	301
Rest of NSW	228	8	6	171
Victoria	440	16	12	177
South Australia	953	35	29	197
Queensland	183	7	10	355
Western Australia	197	7	1	33

Source: ABARE, 1991

Oranges accounted for 72% of total Australian citrus production in 1993/94 with the main varieties being Valencias in the summer (harvested between October and April) making up 58% of the total and the winter harvested Navels (April to October) making up 27% of total citrus production. The remainder is made up of mandarins (7%), lemons and limes (5%) and grapefruit 3%. However there is a strong trend, evidenced by numbers of non-bearing trees, to reverse the relative proportions of Valencias and Navels and to increase the production of mandarins (figure 1).

Figure 1: Trends in New Plantings

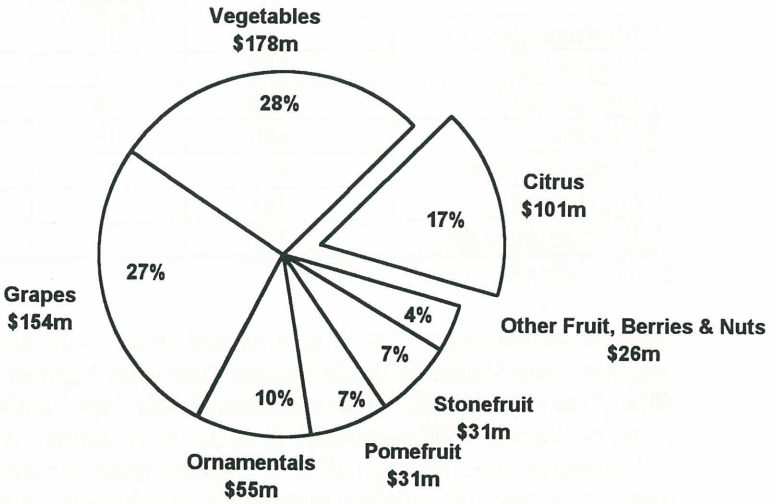


Source: ACGF

1.3 SOUTH AUSTRALIA

Citrus, at $101m, is the third most valuable horticultural crop in the State behind grapes and vegetables (figure 2). The overwhelming majority of citrus is produced in the irrigated areas of the Riverland around the towns of Renmark, Loxton, Berri and Waikerie with smaller plantings at Swan Reach and Mypolonga on the mid to lower reaches of the River Murray.

Figure 2: Value Of horticultural commodities in South Australia 1993/94



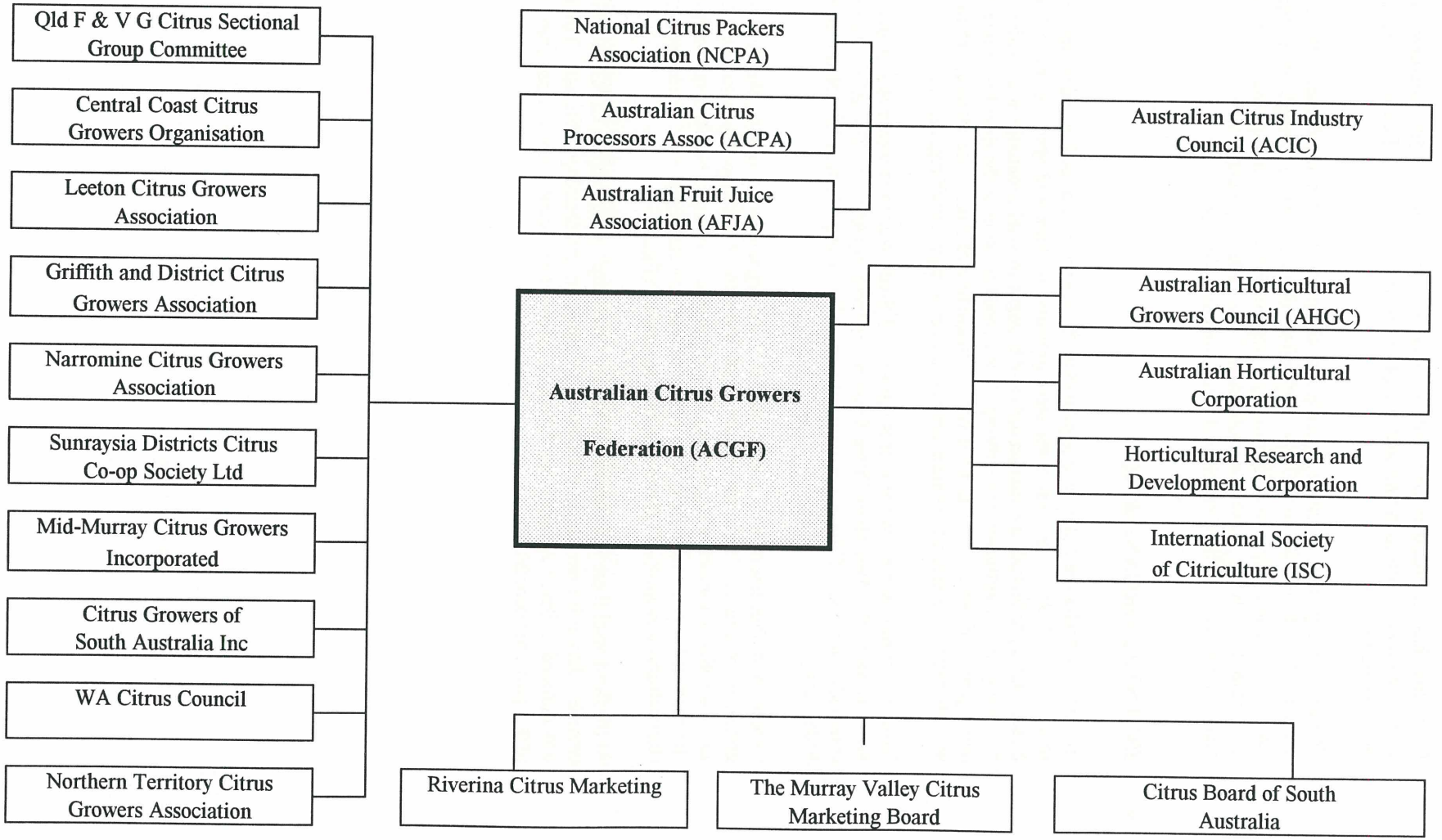
Although South Australia is second to New South Wales in terms of volume of production (32% and 36% of national production respectively, 729kt for 1992/93), in terms of value the South Australian industry ($89.4m - 31%), is almost equal to New South Wales ($90.2m - 31%). This indicates that the utilisation of the South Australian citrus is in marginally higher value areas such as fresh fruit exports and fresh juice processing. South Australia is the main fresh fruit exporting state with 60 licensed exporters.

About 37% of Australian citrus exports are grown in, and packed and exported from, South Australia. These exports are valued at $25.7 million, FOB. South Australia was responsible for almost 40% of orange exports (43% of Navels), 10% of mandarins, 60% of lemons and 37% of grapefruit.

Over the five year period 1988/89 to 1992/93 there has been an 11.5% increase in the total number of citrus trees in South Australia (8.6% increase nationally). However the modest expansion overall masks significant developments within industry sectors. Against a national increase in orange tree numbers of 7%, South Australia had a 2% increase in Valencia plantings and a 25% increase in Navel plantings. Lemons and lime plantings rose 6% in contrast to a national fall of 4% and grapefruit fell 22%, in line with a national decline of 23%.

The largest rise was in the plantings of "easy peel" varieties, ie mandarins, which increased in South Australia by 49% and nationally by 42% together with tangelos and others which increased by 210% . Approximately half of these trees are of bearing age, ie 6 years and over.

Figure 3: Linkages of citrus industry organisations



Production has expanded in line with the planting figures with a 50% increase in orange production and a corresponding increase (43%) in the total value of citrus production over the same period .

The total area planted to citrus expanded at about 1% pa over the decade 1980-90. It is unlikely that there will be a large expansion of total area or change in geographical distribution of plantings over the next five years under current circumstances. Production mix changes will be largely accommodated by redevelopments within existing citrus orchards, eg substitution of navels and mandarins for valencias.

1.4 INDUSTRY ORGANISATION

In South Australia the Industry is regulated by the Citrus Board established under the Citrus Industry Act 1991. The Board registers growers, packers and wholesalers, collects and disseminates production and market data and engages in local promotional activities. It does not engage in marketing or price setting. The overall mission of the Board is to facilitate the development of the Industry and the orderly marketing of fruit. The members of the Board are selected by representatives from grower, packer and processor organisations.

Growers are represented by the Citrus Growers of South Australia which is a member of the national body, the Australian Citrus Growers Federation (ACGF). The ACGF is in turn a commodity member of the major national agri-political organisation, the National Farmers Federation.

Packers and Processors also have national peak organisations which, together with the grower representatives form the industry peak body, the Australian Citrus Industry Council. There are also a number of organisations which provide particular services, eg the Australian Horticultural Corporation (export market access, coordination and promotion) and the Horticultural Research and Development Corporation (figure 3).

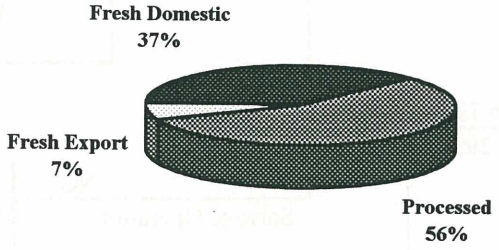
At the farm level there is a network of grower "self help" groups called CITGROUPS, which provide a forum for exchange of technical information and training programs. The concept was initiated in South Australia but has been extended in recent years to a national program with a part time coordinator.

2 ECONOMIC AND MARKETING PROFILE

2.1 CROP UTILISATION

Over the five years 1987-1991, on average 56% of citrus went to processing, 37% went to domestic fresh fruit sales and 7% was exported as fresh fruit. Valencias made up 55% of production and Navels 27% of which approximately 70% and 40% respectively were processed for juice.

Figure 4: Average utilisation of citrus crop 1986-91



Dr M Campbell, in a submission to the Commonwealth - State Citrus Advisory Group (1991), indicated that only 20% of fruit went directly to juice with the remaining 40% being salvaged from the fresh fruit processing lines. From the total amount of fruit going to processing, the majority is converted into concentrate and, at that time, about 13% was used for fresh juice (figure 5).

1993/94 ACGF figures show a significant increase in fresh fruit exports (figure 6). However the reliance on the processing sector remains although there is now 40-50% of the processed fruit used in the fresh juice sector (table 2).

Table 2: Utilisation of Australian citrus crop 1993/94

Utilisation 1993/94	Total Citrus	Oranges
Processed	59%	63%
Fresh Fruit - Domestic	29%	24%
Fresh Fruit - Export	12%	13%

Figure 5: Average conversion of citrus crop

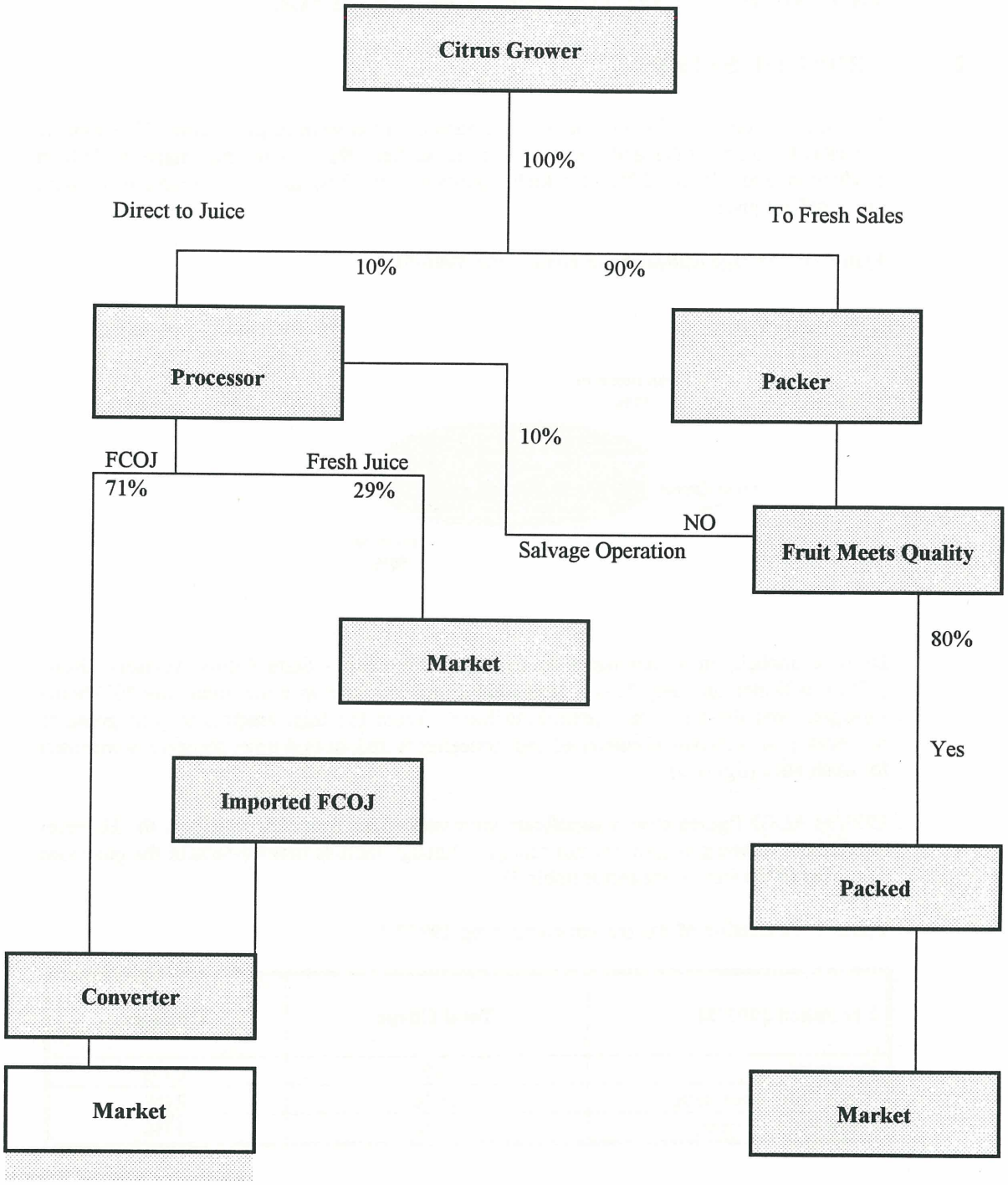
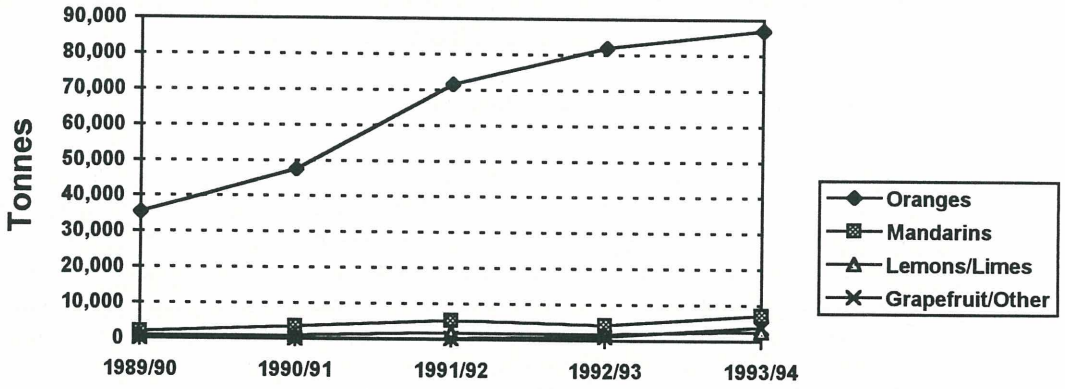


Figure 6: Australian citrus export growth



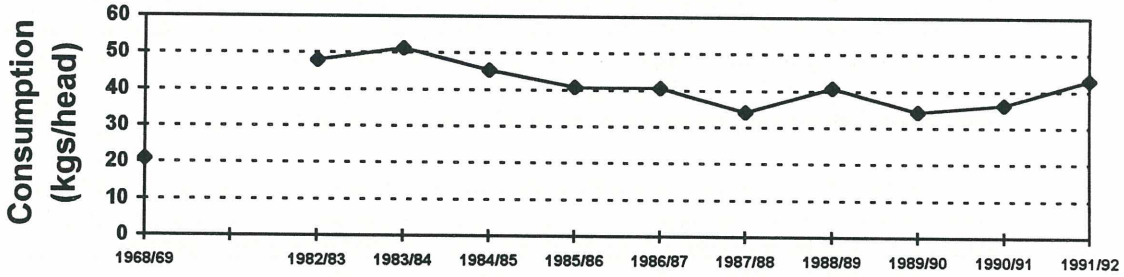
Source ACGF

2.2 DOMESTIC CONSUMPTION

A recent report on consumer attitudes and assessment of market potential of oranges (ACGF, 1995) concluded that there was low interest in citrus and there was little potential to increase sales, indicating "a product which has reached its market potential". However an examination of the statistics does not support these conclusions completely.

Citrus fruits (including fruit for juice) was the major contributor to an increase in total fruit consumption to 120.1kg/capita in 1991/92 (ABS, 1994). Overall, citrus had an average consumption of 43.1kg/capita, a threefold increase since the 1940's and a 19% increase over 1991/92, while other fresh fruit consumption fell by 8%. Orange consumption (fresh and juice) increased in 1992/93 to 37.8kg/capita, an increase of 39% since the most recent low point in 1989/90 (figure 7). Consumption of other citrus fruit has remained static at around 7kg/caput.

Figure 7: Apparent annual consumption of citrus fruits



While the recent recovery in orange consumption has not yet returned to the level of the early 80's, it does show a positive trend over the past three years. This trend reflects both the marketing of the product by the industry and the promotion of changes in dietary habits towards more fresh fruit and vegetables. It is likely that the promotion of 100% Fresh Australian Juice has had a significant impact.

The development of the fresh juice products and new varieties of "easy peel" fruit should see a continuing upward trend in citrus consumption. Improved varieties and attention to the marketing of quality fruit will reinforce the trend. Alternatively, value added products should also make a contribution, although in the short to medium term they are unlikely to have a significant impact in relation to the fresh fruit and juice sectors.

2.3 INTERNATIONAL BENCHMARKING

Australia has to compete with Northern and Southern Hemisphere producers in both the fresh and processed markets. It is important therefore to compare and analyse our industry in relation to these competitors, ensuring that Australia gains the maximum competitive advantage by using world's best practices in all aspects of the industry. To this end, the Australian Horticultural Corporation has recently announced a major benchmarking study covering a number of industries including (export) citrus. The study will be focusing on two competitors, South Africa and the USA and six consumer markets, Singapore, Hong Kong, Malaysia, Indonesia, Japan and USA.

The AHC study is designed to provide information at an enterprise level for growing, packing, exporting, distribution and marketing. In the meanwhile, some comparisons can be made from broad statistics and a detailed comparison of the Australian and the USA citrus industry has been conducted by ABARE (1992).

South Africa has traditionally supplied the European market. However, with the recent political changes in the country and a 40% expansion of production predicted, South Africa could become a strong competitor in Asia in the future. It could also provide competition to Australia in the USA for supply of out of season Navel oranges (HPC, 1993). In terms of total production, the South African industry is similar to Australia. However, over the past three years they have exported an average 53% of production compared to 10-15% of Australian production going to export (USDA,1995).

South Africa has a strong statutory marketing structure, Outspan, which invests heavily in promotion. It can be anticipated therefore that, when production levels warrant, they will be aggressive competitors. They will be assisted by lower production costs and a weaker currency (HPC, 1993).

Brazil is the world's largest citrus producer averaging around 15,000kt of which 70% is directed to the production of FCOJ for export. The economies of scale and market dominance of Brazil mean that it is not feasible for Australia to compete in this market, especially following the GATT agreements which have already seen the reduction of tariffs and removal of the preferential sales tax provisions for local juice content.

The United States of America is also a large citrus producer averaging around 13,000kt of which about 30% is sold fresh (10% export and 20% domestic) and the remaining 70% is processed. Florida produces 2/3rds of production and 98% of the US's FCOJ (HPC, 1993). California, together with small production regions in Arizona and Texas, produce 1/3rd of US production which is mainly for fresh fruit.

The USA exports about 10% of production as fresh fruit which is approximately 15% of world trade. Canada and Asia (Japan and Hong Kong) accounted for 97% of orange exports in 1993/94 (USDA, 1995). In the processed sector, the US is second only to Brazil. It competes with Australia therefore in the FCOJ market, the Asian fresh fruit market and also on the fresh domestic market, supplying oranges during the southern hemisphere summer. Like the South Africans, the USA has strong marketing cooperatives, the largest being

Sunkist and other large marketing organisations, eg Dole, which make them strong competitors for Australia especially in northern Asia (Japan, Hong Kong), Singapore and Malaysia.

A comparison study was conducted by ABARE of the Australian Citrus Industry against both California and Florida for 1988/89. The authors noted that Australian yields in that year were low but this was compensated for by the fact that processing prices were at a record high. The results show that although yields (per bearing ha) were lowest in Australia, the gross receipts were similar to Florida but much lower than in California. Total cash costs reflect the same pattern: Australia A$3185/ha, California A$5778/ha and Florida A$3043/ha. The main differences identified were the greater use of hired labour and more fertilizer and pesticide use in California, which probably was a result of the fresh fruit market focus.

In general, the study concluded that the USA and Australian industries were comparable on a per hectare or tonne basis and that there were no significant economies of size (at the farm level) accruing to the USA industry. This is significant in terms of competition in fresh fruit export markets where the Australian and Californian industries are in direct competition, ie Asia (HPC, 1993).

However, the report did allow that size advantages could be accrued in the post farm gate system: processing, converting, packing and distribution, where the US has only a few major cooperatives for packing and processing while in Australia there are a large number of smaller operations. This comparative disadvantage was exacerbated by lower juice yield in Australia (25-40% more fresh oranges required to produce the same volume of juice), which was attributed to quarantine requirements limiting access to new varieties and rootstocks. In addition, the USA has marketing orders which support domestic prices and fund higher spending on research and promotion (0.76% of gross value in the USA; 0.28% in Australia).

Market Access is likely to remain a major industry issue for some time despite the outcomes of the recent General Agreement on Trade and Tariffs (GATT). A number of Asian markets are still effectively closed to Australia or extremely limited due to quarantine regulations, import duties and quotas.

In more open markets Australia still has to contend with a strong market preference for USA citrus. This preference has been developed over time by strong marketing bodies promoting brand recognition backed by effective quality standards. At present Australia does not have a comparable approach with many exporters in the Asian market competing against one another on price. Overall this has meant that our market share is low especially considering our geographical proximity (HPC, 1993). Australia's market share is low in the major markets apart from Malaysia. There was a sharp rise in 1991 in response to a freeze in California but there was a rapid return to the previous status quo in the following year.

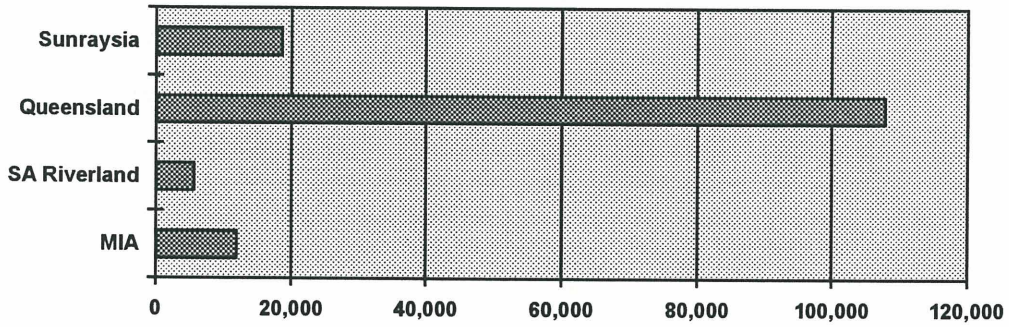
2.4 REGIONAL BENCHMARKING

There are approximately 2022 citrus growers in Australia (with an estimated value of agricultural operations of over $20,000) according to the ABS 1989 Agricultural Census. The average farm was about 16ha of orchard and vineyard with about 50% planted to citrus, with the rest a combination of stonefruit and grapes. The survey, which only examined the inland irrigated areas of New South Wales, Victoria and South Australia, revealed minor differences in farm size, proportions of area given to citrus and hence the proportion of income derived from citrus and the prices received. Taken across all areas, citrus accounted for 40% of growers' incomes in 1989-90.

In the Riverland, the main production area in South Australia, there is a trend towards larger properties through the ownership of several smaller holdings but 83% of holdings are less than 10ha in size. The number of growers producing citrus has declined from about 1100 in 1980 to 950 in 1990, while the area planted to citrus has gone from 7500ha to 8300ha during the same time. There are several examples of large properties specialising in citrus production, some of which are vertically integrated with packing and marketing.

In 1991 ABARE conducted a survey of the Queensland citrus industry (Appendix 1, table 11) which showed that average cash income per citrus farm in Queensland is up to 2000% higher than in the southern irrigated areas. This is due to better climate, higher yields, larger production units, higher value varieties and better market access in terms of timing onto the domestic market and reduced transport costs to overseas markets.

Figure 8: Average farm income by region 1990-91



Source: ABARE

Harvested area per property is small in the southern irrigation areas (17.7ha) compared to the Queensland industry at 23.2ha. The Queensland industry is also different in terms of yields, which are higher than the average temperate zone irrigated area, in terms of tonnes per hectare (Navels 86% higher, Valencias 139% higher, Mandarins 113% higher based on 1990/91 figures). Queensland produces relatively more mandarins than the other states (51% of state citrus production and 58% of national mandarin production in 1992/93, ACGF) which attract high returns on the fresh fruit market. In addition, the early start to the citrus season means Queensland Navels and Valencias can attract a premium by being the first to reach the domestic market (ABARE, 1992).

The benefits of climate and geographical position enjoyed by Queensland cannot be transferred to the rest of the citrus industry. However there are clear messages for the rest of the industry, including South Australia, to be drawn from the Queensland model, which demonstrates the benefits of moving from the processing dominated market to fresh fruit, fresh juice and the export market.

2.5 SOUTH AUSTRALIA

Indicative figures for a South Australian "fruit salad" property are shown below. Farm size, and planting mix is based on ABARE surveys of the industry. A model comprising 7 hectares citrus (2.5ha navels and 4.5ha valencias) and 6 hectares winegrapes (non premium) was used to assess the relative profitability of oranges and winegrapes in the context of a representative property.

Three levels of citrus yields are considered:

- statistical average (20 tonnes/ha)
- above average (30 tonnes/ha)
- good commercial yield (40 tonnes/ha)

The latter represents the production of the top 20% of operators.

Table 3: Summary of citrus farm model results

Citrus Yield	20 tonnes/ha	30 tonnes/ha	40 tonnes/ha
Navel GM	$228	$2053	$3878
Valencia GM	($1132)	($173)	786
Winegrape GM	$10650	$10650	$10650
Farm Profit	$4656	$9219	$13781
Return on Capital	1.87%	3.69%	5.52%

There is an obvious lack of profitability in citrus production based on average yields. Above average yields (which are achieved by the serious commercial grower) are needed to generate gross margins which will cover overheads, operator labour and debt service.

The farm model indicates a low level of profit at average yield (20t/ha) and this profit is reliant on the winegrape enterprise. Yield in excess of 30t/ha is required to achieve positive citrus (navel and valencia) gross margins. Sale of a significant portion of this fruit to the fresh market is required.

In comparison to grapes, citrus is far less profitable and for the foreseeable future, given world supply conditions, is likely to remain so. It is evident, therefore, that economic pressures will force removal of low yielding areas of citrus and their replacement with a more profitable crop - grapes is one example. Other possible substitutes include almonds, olives,other fruit trees or vegetables. Valencia plantings will decline faster than navels because of higher dependence on the less profitable processing market.

A development budget (Appendix 1) shows the financial outcome of replanting one hectare of citrus to a fresh market variety. The payback period is 12 years, NPV (8% discount rate) is $1,437 and the IRR is 9%. While a moderate degree of profit is illustrated in this example, it does not compare favourably with a premium grape variety (see Appendix 2) which has an NPV of $70,403 and IRR of 37%..

In sum it is anticipated that, due to market forces, in particular the poor outlook for citrus concentrate , the area under citrus will decline and some aged trees will be planted back to preferred varieties. Research results from navel rootstock and valencia clones have indicated that yield improvements (above 40t/ha) are possible. This will encourage specialist producers to replace aged trees or to plant suitable new areas to these preferred varieties.

Restructuring, meaning replacement of unprofitable citrus with other crops, is a very significant opportunity area where regional income can be increased as the profit of producers is enhanced.

Growers

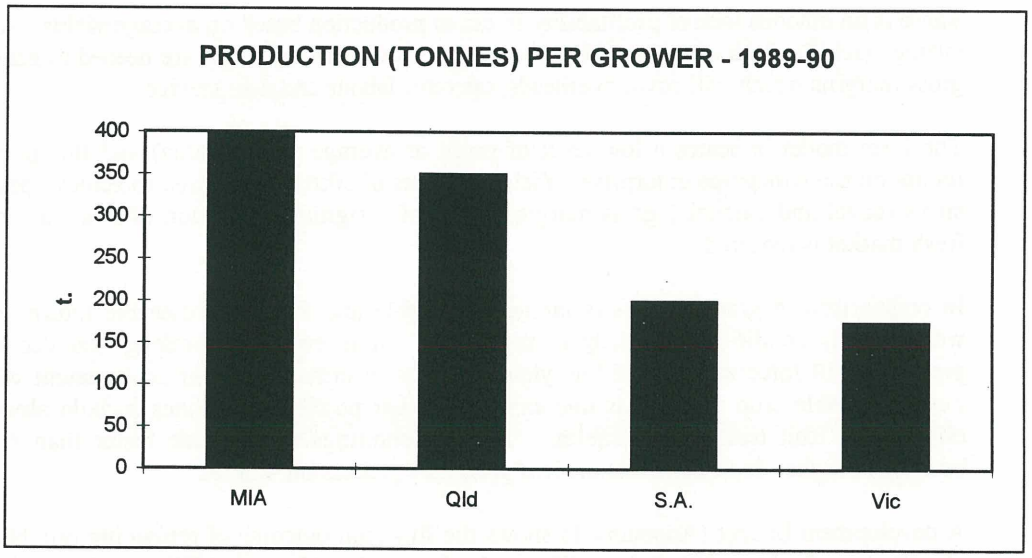
With over 900 citrus growers, SA has the largest grower numbers, but produces less citrus than NSW (32% compared with 36% of national production in 1992-93). Production (tonnes) per grower in SA is far lower than in other growing areas. In terms of value SA produces about the same ($90m) as NSW

The reasons for low average production per grower in SA are :

- there are many smaller holdings;
- most growers have mixed plantings combining grapes, citrus and other fruit crops (known as fruit salad blocks), and
- there are few large specialist citrus holdings.

The extent of citrus producers making losses has not been quantified but it is probable that up to half of the total number are not currently profitable.

Figure 9: Production (tonnes) per grower 1989-90



As indicated above, the majority of citrus produced is processed, much of this is for concentrate. This contributes to low returns for an average holding.

Processors and Converters

The juice processing and converting industry has rationalised in recent years and the remaining players will rely on innovative products, good marketing and cheap FCOJ to remain profitable. Growers will continue to receive no more than import parity price for processing fruit.

Packers

Changes within the citrus industry are hampered by slow and often inadequate market signals in the market chain. The CBSA provides a limited analysis of terminal markets but this is of limited value to growers who may not be told by their packer the destination of their produce. The more vertically integrated the enterprise, the better are the market signals

Improvements could also be made in researching potential markets. Some of the larger exporters, the Department of Primary Industries SA, CBSA and the Citrus Export Development Group, already do this to some extent and there is a role for the Australian Horticultural Corporation at the national level. Few have the resources to undertake market development unilaterally.

Consumers will pay for the most attractively presented produce especially when it is identified with a well known label indicating the country of origin and supported with point of sale promotional material.

3 STRATEGIC ANALYSIS

There have been a number of reviews of the citrus industry in recent years. In 1991 the Commonwealth-State Citrus Advisory Group analysed the industry structure and trends in production and both domestic and overseas demand for Australian citrus. Since then there have been reports prepared by the Horticultural Policy Council (1992 and 1994) and the Horticultural Task Force (1994) which itself arose from an earlier Industry Commission investigation in 1992. While the specific recommendations from these reviews have varied, mainly in regard to government assistance and tariff protection, they are unanimous in their interpretation of the long term threats to the industry and the appropriate strategic responses.

It was noted by ABARE (1992) that while the citrus industry was one of the largest horticultural exporters in Australia, it had a number of characteristics in common with other horticultural industries: an orientation to the domestic market; it is undergoing structural changes leading to decline in farm numbers and real returns; it is affected by import competition and it has the opportunity for both fresh fruit production and a simple processed product, ie juice. These characteristics identify the major difficulties currently facing the industry, while at the same time indicating the solutions to those difficulties:

- There is no future for the Australian industry in FCOJ;
- The future of the Australian citrus industry is dependent on production for fresh fruit and fresh juice markets;
- Export fresh fruit gives the highest returns to growers and production exceeds domestic requirements, therefore it is essential to expand exports;
- Fresh juice for domestic consumption has grown rapidly - build on this strength, and
- Domestic fresh fruit consumption has been static for some time - it needs to be improved by the increased production and promotion of new "easy peel" varieties.

3.1 FRUIT JUICE CONCENTRATE

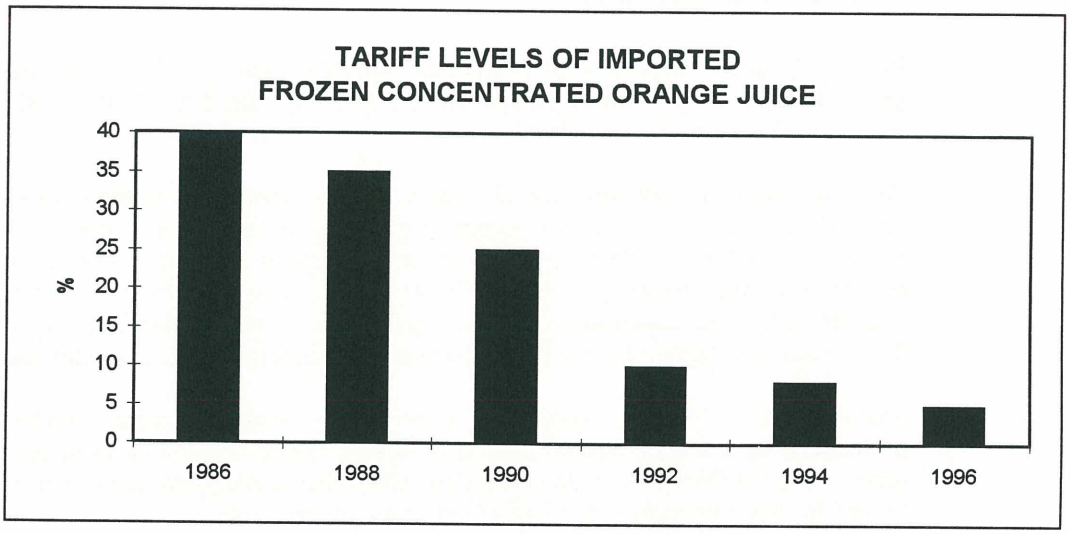
For over two decades the industry relied on processing for concentrate as the market for expansion of the industry.

Tariff levels on imported FCOJ have been progressively reduced. In 1986 the tariff comprised an ad valorem tariff (30%) and a specific tariff $0.60/kg Total Soluble Solids). Currently the import tariff (ad valorem) on orange lemon and grapefruit juices is 8 per cent (3 per cent from developing countries including Brazil).

This will be reduced to 5 per cent (0 per cent for developed countries) on July 1, 1996.

Combined with removal of the sales tax exemption (for drinks with greater than 25 per cent local juice) and declining citrus concentrate price (imported), the price outlook for local oranges for juice is poor. Profitability of producers growing citrus for juice will be low, and pressure to grow more profitable substitute crops will see considerable restructuring of blocks in the Riverland.

Figure 10: Tariff levels of imported frozen concentrated orange juice



The reliance on the industry on processing for orange juice concentrate in the face of international competition mainly from Brazil and the USA is a major problem. The major citrus import is FCOJ valued at approximately A$13m nationally. Fluctuations in the price of Brazilian FCOJ are reflected in fluctuations in the domestic price of concentrate and hence on grower returns not only for processing fruit but for fresh fruit also. The overall low price and the volatility of the concentrate market thus adversely affects the Australian industry. Australian prices are high only when another major citrus-producing nation has a natural or economic disaster.

The general recovery in the national economy has seen an appreciation of the Australian dollar against the US dollar. While this has meant an increase in the value of citrus exports traded in US dollars by about 10%, it has also lowered the price of imported Frozen Concentrated Orange Juice (FCOJ). During 1994 international market pressure caused an approximate 20% reduction in FCOJ prices, which reduced world parity price returns to Australian growers by about $30/t. The move in the exchange rate reduced these returns by an additional $12/t to give a concentrate price of $51/t or roughly one third of the cost of production (ACIC, 1994).

With the conclusion of the Uruguay round of GATT there is increasing urgency to move away from processing towards the fresh fruit market for both domestic and export. One of the first outcomes from GATT has been the removal of the preferential sales tax level for fruit juice drinks with a minimum of 25% Australian content. The result of this will be an increasing use of imported (Brazilian) frozen orange juice concentrate and low prices for domestic processing fruit (mainly Valencias).

The nexus between concentrate pricing and fresh fruit pricing must be broken and the underlying basis of the industry must move towards fresh fruit production. Contracts with a premium for quality could be used and the reliance on fresh fruit over-run decreased from both a grower and processor perspective.

3.2 EXPORT FRESH FRUIT

In general, export prices for fresh citrus are above the domestic level for either fresh or juice grade produce. The margin varies considerably but is typically between 10% and 50% above the local price at the farm gate level.

Based on the ABS 1989 Agricultural Census, ABARE estimated the future production and disposal of citrus to 1995/96 and, assuming per capita consumption of fresh fruit and juice remained constant, calculated the level of implied exports required to dispose of the crop. Exports have risen dramatically since 1991/92 but production has also risen to a higher level than forecast. The conclusion drawn by ABARE therefore remains relevant, that is that there is a continuing need to increase exports of fresh fruit to dispose of production.

South Australia has the capacity to increase its citrus production, productivity and profitability by a commitment to fresh fruit export. There is potential to increase the area under citrus but this would be in competition with other horticultural crops and is ultimately limited by water availability and cost of irrigation infrastructure.

Profitability is currently limited by the quantity of fruit of a quality suitable for fresh export rather than by total quantity grown. A rise of 20% in packout percentage (from the present near 40%) has the potential to increase the exportable citrus by 150%.

On the export market, Australian exports are currently less than 1% of the international trade. Thus major changes in the proportion of Australia's citrus going onto the world market will have negligible effect on world demand and prices. However price may be affected in specific markets where Australia has a significant market share such as Singapore, Malaysia and New Zealand.

Market penetration is limited by tariff (eg 60% proposed by Thailand and currently 25% in Indonesia) and non-tariff (eg quarantine) barriers, by distance from markets and by Australia's reputation as an unreliable supplier with variable quality fruit. Shipping difficulties and industrial disputation also add risk to export initiatives. Australia is ideally placed to supply affluent Northern Hemisphere markets with fresh, out of season citrus. Distance, combined with slow and unreliable shipping, costly wharf practices and availability of suitable ships, makes it difficult to compete with other Southern Hemisphere suppliers on European markets, eg Argentina, Chile and South Africa. There is a need to develop cost efficient transport technology to service distant markets. Also, there is a need to move more into charter shipping in order to minimise freight costs, eg to the US market.

Australian exporters must also adopt quality control procedures to ensure that produce satisfies the importers specifications prior to export. The AHC is taking initiatives to facilitate improved quality management in the citrus industry (Q start, Getting Started).

At present the major markets for Australian citrus are mainly in South East Asia. However marketing opportunities exist in Europe, the Middle East, USA and Japan. Access to Europe is limited by availability of shipping and transit times and perishability of the product.

The Middle Eastern markets require product by the shipload and the Japanese market is developing slowly with increased volumes each year despite problems with satisfying disinfestation requirements.

Significant progress has been made in exports to the United States of America. Exports have risen from a negligible amount five years ago to approximately 10,000 tonnes in 1993/94. This can be attributed to the formation of "Riversun Pty Ltd" a cooperative marketing venture which includes a number of South Australian packers. It is also significant that Riversun supply to a single distributor in the USA, DNE World Fruit Sales, based in California. While there are still some problems to be overcome in both the transport and marketing areas, the returns have been satisfactory. There is an additional benefit flowing from the US exports, which is the "removal" of the volume of exported fruit from the domestic market supports the local price.

There is generally a low usage of chemicals by the South Australian citrus industry because of the use of integrated pest management techniques and this may give it a competitive advantage in markets sensitive to chemical residues.

South Australia, already with the major share of export markets, has the potential to capitalise further on its growing, packing and marketing advantages. The limiting factor is regular supply of sufficient fruit of export quality, which is in part due to a high percentage of old trees.

Australian exporters need to be more responsive to changing fashions in marketing produce in Northern Hemisphere markets. Consumers are becoming less conservative and are buying new varieties. For example, per capita consumption of easy peel mandarins increased by 300% in the UK between 1970/71 and 1986/87 from 0.7kg to 2.2kg.

3.3 FRESH JUICE

In Australia there has been a good response to the marketing of fresh Australian orange juice. There has been a sharp increase in fresh juice sales over the past four to five years. It is estimated that 80% of this growth is new citrus consumption rather than substitution for other citrus products (ABARE, 1992). These initiatives must be built upon and further markets developed.

3.4 DOMESTIC FRESH FRUIT

Limited local market opportunities exist for new citrus varieties. These will tend to be niche markets and there is likely to be significant substitution between citrus types so the net local marketing opportunity is small relative to opportunities for export. This was highlighted in a recently commissioned ACGF consumer attitudes and market potential assessment (Olsen, 1995).

3.5 OTHER PROCESSED PRODUCTS

There are significant amounts of imported citrus products such as essential oils, preserved fruits, jams and jellies. There is potential for Australia to take up opportunities in these value added sectors. The major difficulty at present is that growers perceive processing generally as a "recovery" operation for fruit which is not of sufficient quality for the fresh market. Therefore supply is only plentiful in years when there is a glut of fruit or weather conditions have affected quality. Under these conditions prices are generally below the cost of production.

Processors on the other hand require some surety of supply to make the economics of value added production and marketing a viable proposition. This is not easy if they are competing on price against fresh fruit markets.

A system of planned crop disposal and contract arrangements could allow the development of a value added citrus industry but at present it is a series of niche markets.

4 MAXIMIZING ECONOMIC IMPACT

The description of the Industry through the statistics, economic and marketing profiles and the strategic analysis leads to an evaluation of the opportunities for the Citrus Industry and PISA to maximise the economic contribution to the State economy.

4.1 SWOT ANALYSIS

An analysis of the Strengths, Weaknesses and Threats to the South Australian citrus industry (Table 4) brings into focus the Opportunities which can be derived.

Major strengths are the ability to produce high quality product with low chemical inputs and to do this consistently because of the climate and existence of good irrigation infrastructure, proximity to the South East Asian and other Pacific Rim markets, counter seasonality with the Northern Hemisphere and freedom from fruit fly.

Current weaknesses include the inability to consistently supply long lines of the required fruit for export markets, small scale production units and lack of commitment to the export market, poor transport infrastructure and procedures, uncoordinated marketing strategies in both the domestic and export markets and poor communication between industry sectors, ie growers, packers, processors.

Threatening the potential of the industry are such perennial factors as the risk of fruit fly outbreaks and exchange rate fluctuations, increased competition from other Southern Hemisphere producers, eg South Africa, imports of fruit from the Northern Hemisphere and restructuring forced by tariff reductions following the GATT agreement.

The main opportunities are in developing the fresh fruit sector especially for export markets, obtaining access to new markets following the conclusion of the recent GATT negotiations, redevelopment of production systems with young, high quality plantings and new varieties, integration of quality management throughout the production and marketing chain and improving post harvest packaging and transport.

There is a continuing need for the industry to have access to the latest technological advances in varieties, production techniques and post harvest handling. However at present it appears that the marginal gains to be made from technical advances are significantly less than the marginal gains accruing to improved marketing (market intelligence, market access, product marketing and industry coordination). The challenge to PISA and SARDI is to maintain the former over the long term while assisting the citrus industry with the latter in the short to medium term.

Table 4: SWOT for the South Australian citrus industry

SWOT CATEGORY	CURRENT SITUATION	GAP	OPPORTUNITY
STRENGTHS			
Ability to produce consistent high quality product	1:1, day to day technical support	Average yield and packout too low. Too much of non-preferred varieties. Varieties needed to suit export market tastes.	Promote "world's best practice" and Quality Assurance by providing technical support. Conduct variety selection and breeding trials.
Counter seasonality to N. Hemisphere	Many exporters undercutting each other; limited access to markets (tariff and non-tariff barriers).	Lack of return to growers on their investment. Insufficient volume exported.	Promote industry networking. Facilitate market access. Provide market intelligence.
Fruit Fly Free status	Maintain area free status	Export market response to outbreaks is variable. Impact on grower community is variable.	Bilateral negotiations on appropriate responses/ requirements. Local grower involvement in outbreak management.
WEAKNESSES			
Low/ variable volumes of fruit for export markets.	Technical support on production provided.	Production of sufficient (large, blemish free) fruit. Lack of commitment to fresh export.	Provide technical support. Encourage grower commitment to export.
Small scale of production units and lack of commitment to export.	Small production units (median = 7ha.) Uncertain returns from export consignment. Variable production and prices.	Economies of scale and uniformity of product quality. Poor communication between growers and packer-exporters.	Regional restructuring aimed at increasing size of production units. Network promotions and provision of market intelligence. "Risk" sharing along the export chain.
High cost of Packaging and Transport	Road and sea links slow with attendant quality deterioration in transit. Cardboard boxes a major cost item.	High cost of non-fruit items as a percentage of overall costs	Assist in rationalising transport schedules to increase volume per journey. Explore collective purchase of standardised boxes.
Limitations on export market access.	Bilateral negotiations conducted by AQIS and DFAT	Minimal representation and communication with industry.	Facilitate involvement of industry in prioritisation and conduct of access negotiations.

SWOT CATEGORY	CURRENT SITUATION	GAP	OPPORTUNITY
WEAKNESSES			
Fragmented approach to export marketing	Multiple exporters on most markets (USA exception) undercutting each other. Packers control the marketing (industry ?) and have poor communication with growers	No Australian brand identification. Citrus sold on price not quality.	Promote/ facilitate a national marketing strategy. Facilitate improvement in information between packers and growers.
Domestic marketing system	Poor marketing of citrus (sell what is grown rather than growing what will sell). Poor returns from domestic fresh market - selling on price not quality. No Quality Assurance chain through to retail sector.	Domestic marketing plan required. Innovative market system to eliminate handling and encourage sale on quality. Little grower influence on conduct of marketing.	Encourage preparation of marketing strategy/ plan. Encourage examination of market operations (Dutch Auction) Facilitate improved communication between packer and grower.
THREATS			
Lack of skilled labour	Itinerant workforce; perceived high cost (low value for money)	Skilled labour pool required for farm and packing operations.	Facilitate training programs and systems to allow continuity of employment.
Increased competition on export markets from other S. Hemisphere countries	Overseas competitors highly organised (single brand/ desk selling). Economies of scale provide competitors with cost advantages.	Improvement needing in scale and style of export operations	Facilitate export marketing strategies
Decline in quality and quantity of irrigation water	Lack of real control or management of impacts upstream (inter- state) Variable level of irrigation management in SA	Management and control of water quality impacts required. Integrated approach to water management at a regional and local level required	Facilitate development of a water market. Support integrated natural resource management planning and implementation strategies at an Inter-State, regional and local level.

4.2 OPPORTUNITIES

The major opportunities for the South Australian citrus industry are clearly the expansion of fresh fruit exports and to continue the development of the fresh fruit juice sector. Estimated net present values of these opportunities were prepared and equivalent annualised benefits calculated (Table 4).

Fresh fruit for the domestic market and development of value added citrus products were not considered at this stage. The difficulty in proposing domestic fresh fruit as an opportunity is the historical evidence of a static market and the likelihood of substitution both within citrus and between citrus and other fruit types. The net result would be that from a State economic development perspective there would be little gain. In regard to other processing opportunities, these are very small niche market activities at present and will require considerable development before they can be regarded as major economic opportunities.

Table 5: Summary of the value of opportunitites for the SA industry:

Opportunity	Net Present Value	Annualised Value
Expand export Sales of citrus	$7.0 m	$1.2 m
Develop fresh juice sector	$3.1 m	$0.5 m
Sustainability (APPC, Farm Chemicals, Water and Land Management and revegation)	$84.9 m	$8.4 m

See below, Economic Analysis of Citrus Industry Opportunities

4.3 CRITICAL SUCCESS FACTORS/STRATEGY AREAS

Several critical success factors were identified when looking at the Citrus Industry. The appropriate strategies which target the critical success factors and to which PISA/SARDI may contribute are also discussed below. (These sections follow an earlier analysis by the Horticultural Policy Council, 1994).

4.3.1 Market Development and Access

Market development requires a total commitment by producers and agribusiness to the supply of products and services to overseas and domestic customers to the required specification, quantity and delivery time demanded by the customers. A commitment to export is sustained by a thorough understanding of customer needs and an equally thorough understanding of the products and services provided by major international competitors.

Industry strategies to foster a greater marketing commitment in the citrus industry include:

- provision of better market intelligence, information and analyses is required;
- further understanding of trade issues in major markets; exporters and industry representatives need to travel to develop good commercial working relationships based on personal contact with buyers overseas;
- further consideration of joint venture or supply contract opportunities;

- promotion should be considered for domestic and export markets; promotional brochures for the industries are needed for local and international sales and investment attraction;
- packaging and transport are very important aspects for the export market;
- alternative shipping options need to be evaluated and improved airfreight are essential;
- regular supplies of product need to be assured, through cooperation amongst growers, formation of clusters and strategic alliances with larger partners, and
- facilitate market access.

It will be essential to identify overseas markets for South Australian citrus and then ensure access to those markets. In part this work is in hand through the Citrus Market Development Group and the AHC. However, the experience with exports to the United States has demonstrated the importances of good relations and close cooperation between government agencies eg in regard to identification of insect pests.

Bilateral trade relations in regard to tariffs and phytosanitary arrangements are a matter for DFAT and AQIS. There may be a supporting role for State agencies in identifying issues and preparing material for negotiations. Such a role could be brokered through the AHC Market Access Committee.

Market intelligence appears to mean different things to different people. There are a lot of data available but the analysis and interpretation may not be as easily available. Some level of resistance to development of market intelligence services can be anticipated from those who believe they may be loosing a tactical advantage. However, from a strategic point of view, it is important that the correct market signals are transmitted down the production chain, and in a timely fashion.

Once a market is open there are two aspects of concern from the South Australian perspective. Firstly we must have the quantity of fruit (in line with customer specifications - see below) and the business structures in place to deliver the product at a price which will give an adequate return to the producer. The first issue deals with technical, production issues as well as organisation. The second has also elements of business structure development but also impinges on aspects of regulation. In both cases there are both technical and facilitatory roles which could be filled by PISA and SARDI.

4.3.2 Product Development and Innovation

Product development and innovation can be considered as two major objectives of research and development. Innovation is a critical factor in developing international competitive advantage.

Australian product development and innovation must remain clearly focused on market requirements.

Product differentiation is an important means of enhancing value added either on farm or by downstream processing.

Industry strategies which can be implemented to address the issues of product development and innovation include the following.

- Market research and analyses to realise market opportunities;

- Industry stakeholders can further improve their market focus through: overseas travel and invitations to overseas marketers and researchers to visit Australia and provide their perspective. As well, market research needs to be undertaken as well as market evaluation of new products. Continued access to R and D funds in close collaboration with industry associations is needed, and

- Differentiate products to reflect exactly what specific markets require.

To increase our share of the domestic and export markets, we must also be innovative. The premiums returned to easy peel citrus is an example of product innovation which puts money in people's pockets. There is a role in plant improvement, both varietal testing and breeding. There is a role for the development of value added products in the food and other areas eg pre-packs, confectionary, juices, industrial oils.

4.3.3 Quality

The issue of quality in the fruit industry refers to the need to continually maintain quality specifications and standards required by the customers in the market. Australia's reputation as a supplier of "clean, green" produce is central to the success of local produce in world markets.

This issue needs constant attention if Australian product is to become more internationally competitive. Failure to address this will not only impair Australia's future export efforts, but may also impact on existing exports.

Some industry strategies appropriate in this respect include:

- instituting/maintaining quality assurance programs;

- enhancing the differentiation of South Australian produce from that of other countries. Continue to build on our "clean, green" image;

- improving communication of the requirements of the market place from the overseas/domestic buyers to growers;

- discouraging any form of pooling of returns as this does not encourage any change in product quality;

- greater promotion to make producers and all other industry sectors more aware of the importance and benefits of quality management and assist them to implement quality management systems, and

- using research, development and extension resources to improve fruit quality.

Australia's position in the world market precludes it from competing on price alone. Quality and consistency are the foundations upon which market development are built. Meeting customer requirements in terms of quality, quantity, price and timing are essential. The programs which may be derived from this industry driver are in: production technology eg research and development in varietal improvement, production, harvesting, handling and storage; benchmarking against international competition all along the production chain; training in best practice; and post harvest cost reduction through the transport network.

4.3.4 Cost/Price Competitiveness

Cost/price competitiveness relates to a range of factors including the cost of production, productivity and market prices.

In relation to cost/price competitiveness Australia and its major competitors all have different advantages and problems. The low cost producers have the obvious advantage of cheaper production costs. However, they are sometimes less cost competitive in other areas, incurring greater costs in other components of the marketing chain. Ensuring that agribusinesses operate to world's best practice is a crucial ingredient in the international competitiveness of our fruit industries.

Some of the industry strategies which could be employed to address issues of cost/price competitiveness include:

- review of regulations/policies impacting on all industry sectors;
- industry and individual enterprises at all stages of the production and marketing chain undertaking benchmarking studies to determine their deficiencies and introducing world best practices to address these;
- investigate options for shipping exports, including part charters with other countries on other commodities;
- encourage producers to examine their costs of production and to develop benchmarking cases for industry to compare itself against its competitors;
- encourage agribusinesses to avail themselves of State and Commonwealth Government programs to enhance their efficiency and effectiveness as input suppliers, transporters, processors and marketers;
- using research and development and extension resources to improving cost/price competitiveness through productivity enhancement at all stages of the production and marketing chain;
- micro economic reform, and
- review water allocation issues.

The potential for change in the areas listed above is apparent. What also needs to be considered are the prerequisites and consequences of change. In the first instance there is a considerable amount of inertia in the citrus industry. This may be partly due to the age of growers ie older growers can not or will not respond to new demands. Another aspect may be the requirement for education or training. Finance may be a stumbling block, as may be the availability of resources eg irrigation water. These issues need to be clearly drawn out and dealt with.

Subsequently the consequences of a proposed or implemented strategy must be managed. The suggested move from valencias to navels and other varieties requires the availability of planting or grafting material. The retirement of land from citrus and use in other, perhaps higher value, crops should be facilitated. The current project in the Riverland to make available "sleeper" irrigation water is a good example of this type of management.

Without a strategy and program for facilitating technical and social change, the process of adjustment will be slow and the potential returns diminished. Costs of production will tend to be higher than in other States and so South Australia will lose market share.

A vital part of citrus industry development at present is adjustment to market realities which includes changing production mix to fresh market and fresh (daily) juice production, and restructuring. The market outlook and on-farm economics suggest less land, water and capital resources should be applied to citrus in SA. Substitution of more profitable alternatives such as vines, vegetables, other tree crops appears an inevitable consequence of on farm economic pressures.

4.3.5 Sustainability

The citrus industry impacts on soil, water and other natural resources in South Australia. The protection of the fruit crop industries from a range of diseases and pests is paramount.

Industry strategies are aimed at ensuring a sustainable production system in accord with the environmental concerns of the general community and include:

- understanding land and water management issues and how they impact on productivity and degradation of the natural resources, and taking appropriate action, and
- appreciating the consequences of the control of pest animals and plants and taking appropriate action.

In South Australia productive citrus orchards require full irrigation with good quality water. Therefore it is likely that the predominant focus will always remain in the Riverland although there is potential for developments elsewhere for niche markets, eg lemon production in the South East.

Along the River Murray there are substantial areas of land suitable for irrigated citrus production. The availability and cost of water will determine any future large scale expansion together with the economic returns which will be based on access and development of export markets. The capital investment in present plantings and infrastructure together with the cost of moving into new enterprises, eg vines, will tend to maintain the current levels of plantings in their current locations.

The potential for expansion in area or volume of production will depend on access to new export markets, development of existing markets and the availability of irrigation water. The latter is a limiting factor at present and will remain so until trading in water is possible across state boundaries.

New and existing developments will also have to conform to planning and operational standards in terms of natural resource sustainability. Both water and land resource managers (private and governmental) are preparing plans, or are requiring plans to be prepared, which are designed to ensure that broad environmental issues are addressed in an integrated manner. The off-site and downstream impacts of horticultural operations will need to be managed as well as the usual on-site impacts.

4.3.6 Coordination of Marketing

The achievement of a critical mass through coordination of marketing is a key competitiveness issue in export marketing.
Some industry strategies which could be used to address this factor are:

- strategic alliances with international competitors, and
- cooperation between current and/or potential marketers.

4.4 OPPORTUNITIES FOR PISA/SARDI TO CONTRIBUTE TO INDUSTRY STRATEGIES

By addressing key strategies, this plan has identified a number of potential program areas where PISA/SARDI could contribute to industry development:

- help provide market intelligence and analysis;
- help with market development and access issues;
- facilitate industry networking;
- facilitate QA programs;
- improve varieties through research and development, and
- post harvest handling/storage/packaging technologies.

This plan has identified that particular market segments hold particular opportunities in the citrus industry including

- the fresh fruit area (domestic);
- the fresh 'daily' juice market;
- the fresh export market, and
- niche markets for other processed products;

Future PISA/SARDI projects will support strategies which address the above critical success factors and fall within these program areas.

Actual projects that will be undertaken by PISA/SARDI within these potential program areas will be identified in the next stage of the PISA/SARDI planning process. Projects will be evaluated against criteria including market failure and their benefit/cost ratios to assist in the prioritisation of projects for funding.

4.5 RESOURCE AND PROGRAM IMPLICATIONS

At present there is one full time dedicated PISA citrus industry development officer in the Riverland (Waikerie) and one full time dedicated SARDI research officer (Loxton). In addition there are post harvest specialists and pathologists who are called in as required or as funding becomes available. In addition, negotiations are currently underway to employ

another industry development officer (with a focus on quality assurance) in partnership with the Citrus Growers of South Australia.

In future, departmental resources (funds and staff) must be aligned to major industry objectives and assigned to programs and projects which, in the main, are seen as contributory to these objectives by the local industry. In doing this, PISA and SARDI staff should operate as team members with other operators involved in citrus work, eg contract or externally funded personnel by PISA, SARDI or one or more of the industry bodies.

Traditionally PISA/SARDI programs have emphasised Industry Development (mainly production based), research and regulation including quarantine, and in citrus fruit fly eradication. Much of the potential industry gains will be captured by restructuring and market related activity and therefore programs should emphasise marketing, market development and market access activities.

Economic analysis of citrus industry opportunities

Opportunity % To increrase fruit roduction value during next 20 years									
Opportunity Factor	**Process**	**Outcome**	**Productivity Gain (%) in Five Years**	**PISA/SA RDI Share of Gain**	**Probability of Program Success (%)**	**On-farm Costs of Costs Saved Assumptions**	**Post-Farm Value Added ($)**	**Total Benefits NPV ($m)**	**Total Benefits Annualised Equivalent ($m)**
1.1 Expanding Export Sales of Citrus	1.1a Production - increase area of production, meet market requirements in terms of quality (size) and quantity (length of line), quality assurance (QA) and world's best practise. 1.1b Marketing - improved market access (overcome tariff & non-tariff barriers), intelligence, packing, transport and organisation.	Improved management will increase yields and packout rates producing an extra 18,000t (50%) increase of export quality citrus over the next 5 years. With quality improvements potential price premiums of up to 100% exist.	Increased exports of 9,000t and a 50% quality premium	30.0%	90.0%	There will be added costs and savings and it is assumed these would balance out to no significant changes.		$6.997	$1.201
1.2 Develop Fresh Juice Sector	1.2a Production - increase juice yield (TSS/t) and quality and increase productivity (yield and quality). 1.2b Marketing - promotion to increase consumption and improve brand and product differentiation.	Current young trees will increase juice production by 2,340t over the next five years with improved quality earning growers a 10% price premium. As a result of new fresh juice market development and increased price due to improved quality, 320ha of extra citrus will be planted.	10% premium on 142,340t juicing citrus by year 5. 2,340t increase in juice citrus production between years 5 and 10.	10.0%	90.0%	There will be added costs and savings and it is assumed these would balance out to no significant changes.	A multiplier effect of 2.5 is expected.	$3.061	$0.525

4.6 ACKNOWLEDGEMENTS

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- Citrus Growers of South Australia
- Australian Citrus Growers Association
- The Citrus Board of South Australia

This plan has been prepared for the purpose of industry discussion. Profit estimates, budget projections and industry growth targets contained in this plan should not be used for specific project investment purposes.

5 APPENDICES

5.1 CITRUS DEVELOPMENT BUDGET

Citrus - Navels

1.HECTARE - 2.5 Acres

Year		95	96	97	98	99	2000	2001	2002	2003	2004	2005
Yield tonnes		0	0	0	0	5	10	15	20	25	30	30
Income												
Ist grade $365/t				0	0	912.5	1825	2737.5	3650	4562.5	5475	5475
Juice grade$102/t				0	0	250	500	750	1000	1250	1530	1530
less commission				0	0	0	0	0	0	0	0	0
Total		$0	$0	$0	$0	$1,163	$2,325	$3,488	$4,650	$5,813	$7,005	$7,005
Orchard Costs at 165/T	pick prune materials hedge labour	750	750	1000	1000	1500	2000	2500	3000	4000	4952	4952
Gross Margin		($750)	($750)	($1,000)	($1,000)	($338)	$325	$988	$1,650	$1,813	$2,053	$2,053
Capital Cost (not including land)		9000	0	0								
Trees 400 @10=$4000 Sprinklers $3000 Land preparation and labour $2000												
Cash Flow pre tax and interest		($9,750)	($750)	($1,000)	($1,000)	($338)	$325	$988	$1,650	$1,813	$2,053	$2,053
Cumulative cash flow		($9,750)	($10,500)	($11,500)	($12,500)	($12,838)	($12,513)	($11,525)	($9,875)	($8,063)	($6,010)	($3,957)
NPV (30 years)	$1,437.17											
IRR (30 years)	9%											

5.2 GRAPE DEVELOPMENT BUDGET

Grapes - Riverland

1.HECTARE - 2.5Acres

Year		95	96	97	98	99	2000	2001	2002	2003	2004	2005
Yield tonnes		0	0	0	5	15	25	30	30	30	30	30
Income												
Premium $600/t				0	1500	4500	7500	9000	9000	9000	9000	9000
Non Prem $300/t				0	750	2250	3750	4500	4500	4500	4500	4500
less commission				0	0	0	0	0	0	0	0	0
Total		$0	$0	$0	$2,250	$6,750	$11,250	$13,500	$13,500	$13,500	$13,500	$13,500
Vineyard Costs at 100/T	pick prune materials hedge labour	500	1000	1000	1000	1500	2000	2850	2850	2850	2850	2850
Gross Margin		($500)	($1,000)	($1,000)	$1,250	$5,250	$9,250	$10,650	$10,650	$10,650	$10,650	$10,650
Capital Cost (not including land) Vines1000 @$3=$3000 Sprinklers $3000 Land preparation $2000		8000	0	0								
Cash Flow pre tax and interest		($8,500)	($1,000)	($1,000)	$1,250	$5,250	$9,250	$10,650	$10,650	$10,650	$10,650	$10,650
Cumulative cash flow		($8,500)	($9,500)	($10,500)	($9,250)	($4,000)	$5,250	$15,900	$26,550	$37,200	$47,850	$58,500

NPV (30 years) $70,402.73
IRR (30 years) 37%