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COMMISSION

HORTICULTURE

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INDUSTRY COMMISSION

18 February 1993

The Honourable J S Dawkins MP
Treasurer
Parliament House
CANBERRA ACT 2600

Dear Treasurer

In accordance with Section 7 of the *Industry Commission Act 1989, we* submit to you the report on Horticulture.

Yours sincerely

R G Mauldon
Presiding Commissioner

R R Piggott
Associate Commissioner

COMMISSIONER

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Acknowledgment

The Commission wishes to thank those staff members who contributed to this report.

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ABBREVIATIONS

AAPGA	Australian Apple and Pear Growers' Association
AAPGSA	Australian Apple and Pear Growers' Association of South Australia
ABARE	Australian Bureau of Agricultural and Resource Economics
ABS	Australian Bureau of Statistics
ADFB	Australian Dried Fruits Board
ADFA	Australian Dried Fruits Association
AHC	Australian Horticultural Corporation
ABEC	Australian Horticultural Export Council
AHQCS	Australian Horticultural Quality Certification Scheme
AXE	Australian Joint Citrus Exporters
AQIS	Australian Quarantine and Inspection Service
BRR	Bureau of Rural Resources
CES	Commonwealth Employment Service
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DASET	Department of the Arts, Sport, the Environment and Territories
DEET	Department of Employment, Education and Training
DITAC	Department of Industry, Technology and Commerce
DFAT	Department of Foreign Affairs and Trade
DOTAC	Department of Transport and Communications
DPIE	Department of Primary Industries and Energy
DPIF	Department of Primary Industry and Fisheries - Tasmania
EBE	Edgell-Birds Eye
EC	European Community
EFIC	Export Finance Insurance Corporation
EMDG	Export Marketing Development Grants scheme
FCAAA	Federal Council of Australian Apiarists' Associations
11PC	Horticultural Policy Council
HRDC	Horticultural Research and Development Corporation
IAC	Industries Assistance Commission
IC	Industry Commission
IAMP	Innovative Agricultural Marketing Program
IED	Income Equalisation Deposit
ITES	International Trade Enhancement Scheme
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GVP	Gross Value Product
MIA	Murrumbidgee Irrigation Area
MMCG	Mid-Murray Citrus Growers
MSP	Marketing Skills Program
NFA	National Food Authority
NSWFGHC	New South Wales Free Growers' Horticultural Council
PMA	Potato Marketing Authority (Western Australia)

PSA	Prices Surveillance Authority
QCSGC	Queensland Citrus Sectional Group Committee
QFVG	Queensland Fruit and Vegetable Growers
RAS	Rural Adjustment Scheme
R&D	Research and Development
RIBES	Rural Industry Business Extension Service
SMA	Statutory Marketing Authority
VAPGC	Victorian Apple and Pear Growers' Council
VHEC	Victorian Horticultural Export Council

TERMS OF REFERENCE

Horticulture

Industry Commission Act 1989

1, RALPH WILLIS, in pursuance of Section 7 of the Industry Commission Act 1989 hereby:

1. refer the Australian horticultural industry to the Industry Commission for inquiry and report within twelve months of receipt of this reference[1];

2. specify that the Commission examine the production and cost structure of the Australian horticultural industry, assess the methods used by selected other countries to support horticultural exports, and identify structural and other issues which, in comparison with overseas producers, affect the competitiveness of Australian producers in overseas markets;

3. specify that the Commission report on institutional or regulatory factors subject to influence by Governments in Australia which are impeding the development of an internationally competitive horticultural industry and horticultural exports, and advise on courses of action which will raise overall economic efficiency;

4. without limiting the scope of the reference, request that the Commission assess the effectiveness of the Australian Horticultural Corporation in increasing the international competitiveness of the Australian horticultural industry, and report on this matter by 30 June 1992; and

5. specify that the Commission avoid duplication of recent substantive studies.

Ralph Willis

18 December 1991

1 On 24 November 1992 the then Treasurer agreed to a request from the Commission to extend the reporting date by two months to 18 February 1993.

INTRODUCTION

On 18 December 1991 the Commonwealth Government referred Australian horticulture to the Commission for inquiry and report; the terms of reference are on the opposite page. The reporting date (paragraph 1) was revised subsequently to 18 February 1993.

Conduct of the inquiry

Following receipt of the terms of reference, the Commission advertised widely that its inquiry was under way. In January 1992 an issues paper was sent to all those expressing an interest in the inquiry. The Commission held extensive informal discussions with a number of organisations and individuals listed in Appendix B.

There was a first round of public hearings in Sydney, Melbourne, Launceston, Brisbane, Adelaide, Perth and Canberra during March and April 1992. Fifty two organisations and individuals participated at those hearings.

In accordance with its terms of reference, the Commission reported on 30 June 1992 on the effectiveness of the Australian Horticultural Corporation (AHC in increasing the international competitiveness of the industry. In view of the limited time the Commission had in which to prepare that report, no draft report was issued.

A draft report on all issues encompassed by the inquiry was released on 26 October 1992. Public hearings to provide an opportunity for participants to respond to both the 30 June 1992 report and the draft report were held in Sydney and Melbourne in December 1992. Seventeen organisations and individuals participated at this second round of hearings.

One hundred and sixty six submissions were received from growers, industry organisations, Commonwealth and State Government agencies, exporters, research bodies and others during the inquiry. Participants are listed in Appendix C.

Structure of the report

The report is in three parts.

- Part A provides: a statement on the scope of the inquiry and the Commission's approach in the preparation of this report; an overview of world markets for horticulture and perceptions of the performance of Australian horticulture; summary information on Australian production, marketing and trade, and the institutional and regulatory arrangements underpinning those activities; the Commission's assessment of factors impeding the international competitiveness of Australian horticulture; and the Commission's findings and recommendations.

- Part B provides more detailed information and the views of inquiry participants on production, trade, domestic and export marketing arrangements, the AHC and institutional arrangements affecting Australian horticulture.

- Part C contains appendices which provide supporting material for Parts A and B.

The terms of reference specifically asked the Commission to undertake a number of tasks:

- *examine the production and cost structure of the Australian horticultural industry*

  Lack of an integrated statistical data base for many horticultural industries limits examination of their cost structures. The Australian Bureau of Statistics (ABS) does not carry out a separate horticulture census. The Australian Bureau of Agricultural and Resource Economics (ABARE) has discontinued annual surveys of the fruit industries due to the absence of funding and it has not carried out any surveys of the vegetable sector. The Australian Horticultural Corporation (AHC) and industry associations are currently reviewing the collection and funding of industry statistics.

  The commission's examination of production and cost structures has been limited to information in dated ABARE surveys, published studies by various State Departments of Agriculture, the limited data available in ABS publications and participants' submissions. The results of the Commission's examination of this material are provided in Chapter 2 of Part B and Appendices G and H.

- *assess the methods used by selected other countries to support horticultural exports*

  The Commission surveyed literature on overseas horticultural industries and obtained information from Austrade and participants' submissions.

Details of the methods used by selected countries are contained in Appendix M and are discussed in Chapter 4 of Part B.

- *identify structural and other issues which in comparison with overseas producers, affect Australian producers in overseas markets*

  Limited information is available on overseas producers and the Commission received only two submissions which provide material from which comparisons of cost structures of Australian and overseas horticultural activities can be made. These comparisons are reported in Appendix H.

- *report on institutional arrangements or regulatory factors subject to the influence of governments in Australia which are impeding the development of an internationally competitive horticultural industry*

  The Commission has examined a wide range of institutional arrangements and regulatory factors which influence horticultural production, delivery costs, and domestic and export marketing. The Commission's analysis and findings are reported in Part A of the report. Supporting material is throughout Part B and in Appendices I to L.

- *advise on courses of action which will raise overall economic efficiency*

  The Commission's findings and recommendations are reported at the end of Part A.

HORTICULTURE

PART A

OVERVIEW, FINDINGS AND RECOMMENDATIONS

1 SCOPE OF THE INQUIRY AND THE COMMISSION'S APPROACH

Scope of the inquiry

In Australia, as in most other countries, the diversity of the 'horticultural industry' distinguishes it from most other agricultural industries. Hundreds of products grown in Australia are generally classified as horticultural, but there are no hard and fast rules as to what constitutes a horticultural product.

The Commission has not attempted to report in detail on the individual circumstances of the myriad of horticultural products. Time and data problems alone have precluded such an approach. Rather, the Commission has interpreted the reference as directing it to report broadly on horticultural production, encompassing:

- fruits;
- vegetables;
- nuts; and
- nursery products (including cut flowers and turf).

Some information about the honey industry has also been included because in 1993 it commenced participating in the Australian Horticultural Corporation (AHC).

The scope of horticultural activities considered in the report includes the growing and marketing, both domestically and for export, of fresh products and any early stage processing, such as chilling or sun-drying, which may be necessary for the initial marketing of produce. The requirements of processors for fresh products are relevant to this report, but the processing activities themselves are largely beyond its scope.

The Commission examined institutional and regulatory factors which might impede horticulture, including the activities of three different Commonwealth institutions. It also considered Commonwealth government assistance programs available to a wide range of industries and used by horticulture. It was not possible for the Commission to analyse specifically the operations of State Departments of Agriculture, even though they account for the bulk of government expenditure on horticulture. A review of the horticultural activities of State agricultural authorities and related expenditures may be warranted; the Horticultural Policy Council appears to be an appropriate body to undertake such a task.

The terms of reference direct the Commission to avoid duplicating recent substantive studies. Those studies which are relevant to aspects of this inquiry, including recent Commission reports, are listed and discussed briefly in Appendix A.

The Commission's Approach

In this inquiry the Commission has been required to identify distinguishing structural characteristics of Australian horticulture within the context of the Australian and world economies (paragraph 2 of the terms of reference) and to identify impediments which Australian governments can help to remove in order to raise overall national economic efficiency (paragraph 3). The courses of action recommended by the Commission are (as required by paragraph 3 of the terms of reference) designed to raise overall economic efficiency, in other words to optimise the advantages which individuals, organisations and regional or national groupings in the horticultural industries can develop in both domestic and international markets, without inhibiting other efficient Australian activities or placing untoward costs on the community generally.

Increasing the international competitiveness of the Australian horticultural industry (referred to in the terms of reference) means improving the ability of horticultural firms or industries in Australia to compete with their counterparts in other countries for sales on both domestic and world markets. This could be done by exporting more or importing less. But even in the current economic environment of persistent high current account deficits, income earned in the internationally traded goods sector of the economy (ie, earned from exports or saved from imports) is not inherently more valuable than non-traded activities. Unless there are significant impediments to the competitive operation of the domestic economy, a dollar's worth of goods and services for the domestic market should be just as valuable as a dollar's worth of exports.

Thus, if increased international competitiveness of horticulture is achieved only because of government regulations or financial assistance, it is not clear that the nation is better off. It could be, of course, if those interventions are designed to rectify identified 'market failures'. In this context, the Commission has examined current and proposed export assistance measures, funding arrangements for product promotion and research, and regulatory and trade barriers in relation to industry in general and horticulture in particular.

Some participants interpreted the terms of reference differently in that they expected the Commission to devise a blueprint for the industry. They described the Commission's lack of such an overall plan in its draft report as a failure to address the terms of reference. However, to specify the way forward for horticulture is the task of industry, acting both individually and collectively. Government can assist by providing an appropriate economic environment in which to operate, including the removal of impediments to efficiency and fair competition.

It is appropriate for the Australian Horticultural Corporation (AHC) and the Horticultural Policy Council (HPC), authorities created by Government (but not parts of Government), to assist the horticultural industries by suggesting and encouraging the development of new attitudes, new structures and courses of action, but without compulsion or coercion. Many believe that there is scope for greater co-ordination and co-operation although, given the diversity of Australian production, this need not necessarily be at a national level.

A recent study of similar scope to the Commission's inquiry, but which adopted a different approach, is the HPC's *The Way Forward - Future Directions for Horticulture* (HPC 1992). That report presented a 'vision' for horticulture within the twenty-first century, in the first decade of which Australian horticultural production is perceived to be between two and two and a half times the present level, the domestic market to be about 50 per cent larger and exports to show a five-fold increase. The Council made a number of recommendations covering issues which it considered should be addressed by the horticulture sector, governments and the HPC itself in order to bring its vision to a sustainable reality.

The Commission has not sought in this report to develop either a 'vision' for the horticultural industries or to test the viability of projections of 'export requirements'. It considers that both functions are appropriate responsibilities of industry bodies such as the HPC or those especially constituted with the object of achieving export development opportunities (the AHC). Rather, in identifying institutional or regulatory impediments to the development of an internationally competitive horticultural industry and advising on courses of action, the Commission has sought to establish an environment in which appropriate market incentives are conveyed to all participants in the industries.

In its response to the draft report, the AHC (which itself had earlier submitted a 'vision statement' of nationally co-ordinated horticultural industries focusing on exports and quality) strongly criticised the Commission for the approach it had adopted. It claimed that the Commission had focused on generic and peripheral issues (Sub.D122, p.7) whereas it should have commenced by considering growth in domestic and international markets and assessed the Australian industry's potential to service those markets. It should then have identified what structural, regulatory and institutional factors are impeding the fulfilment of that potential. The courses of action required of governments and industry to achieve the industry's potential would then flow from such a market-oriented assessment (Transcript, p.976).

The Commission has identified structural, regulatory and institutional factors subject to the influence of governments in Australia which are impeding the development of an internationally competitive horticultural industry and horticultural exports. However, apart from those which are the direct responsibilities of governments in Australia, it has refrained from recommending new structures or attitudes - these are choices to be made within individual industries - though the Commission has proposed some changes to institutional arrangements where these are the direct responsibility of government.

The AHC particularly castigated the Commission for failing to identify the 'structure and culture' of horticulture as critical institutional factors impeding the development of an internationally competitive industry (Sub.D 122, pp. 1,34,40). It considered that the Commission had assumed these problems away, which inevitably led the Commission to expect "individual effort to continue to be the driving force behind export success" (p.34). In contrast, the AHC concluded that:

> All experience, over a now long time frame, indicates that most individual growers and pack-house co-operatives cannot effectively achieve these strategic directions [co-ordinated development in each region] when left to their own decisions. A catalyst and guiding influence is necessary -this is the role of the AHC. (p.22)

The Commission appreciates the views of the AHC (and some others) regarding the importance of developing a structure and culture for significant components of Australian horticulture which are internationally competitive and export oriented. Nevertheless, successful individuals and firms provide examples from which others can learn. The AHC, which is primarily an agency to facilitate change, can assist this learning process. Indeed, this is an appropriate task for the AHC, whose principal statutory objective is to assist Australian horticultural industries to achieve their full potential in overseas markets.

The Commission has integrated into this report its earlier (June 1992 report) assessment of the effectiveness of the AHC in increasing the international competitiveness of the Australian horticultural industries (Chapter 5), and made some proposals involving the AHC (Chapter 6) and other Commonwealth instrumentalities and programs (Chapter 7) which are designed to expand the range of choice which industries have in pursuing their development options. In this, the Commission' has adopted an economy-wide rather than solely a horticultural perspective. As in all of its reports, the Commission has sought to take into account the wider economic, social and environmental consequences of its recommendations.

2 WORLD MARKETS FOR HORTICULTURE

The bulk of world horticultural production meets domestic needs. Exports of most fresh vegetables were minor in 1990 compared with world production and there were only two fruits for which exports in fresh form exceeded 10 per cent of world production. These percentages compare with those for wool and wheat for which exports were 38 per cent and 17 per cent, respectively, of world production. However, trade in processed horticultural products can be significant.

Exports volumes as a proportion of world horticultural production: 1990

Product	*%*
Bananas	21
Oranges	11
Apples	9
Onions	8
Graphs	3
Tomatoes	3
Potatoes	3
Honey	24

Source: see Table 1.1 in Part B

Prospects for exports of Australian horticulture and its competitiveness in the domestic market are significantly dependent on the general characteristics of world production and trade in horticultural products and extensive government interventions in horticultural trade.

General characteristics of production and trade

- Most countries have a capacity to produce horticultural products, although the mix varies. Unlike wool, minerals, and some of the other export commodities in which Australia specialises, there are many more potential suppliers to meet world demand for horticultural products.

- In fresh form, horticultural products typically have a low value per unit volume. Most need to be carefully handled, and many are perishable. These attributes mean that packing and transport costs are high relative to the unit values that can be realised in domestic or export markets.

- Seasonality is an important determinant of world trade flows, especially between the northern and southern hemispheres. Their harvest seasons are reversed and it is expensive or impossible to store fresh horticultural produce for long periods. The potential for trade in fruit is further enhanced by world demand for both temperate climate fruits (apples and pears, for example) and such tropical and sub-tropical fruits as bananas and mangoes.

- The prices realised for internationally traded horticultural products can be relatively unstable, both within and between seasons. With trade volumes mostly small in relation to production, marginal changes in regional production can translate into large quantities needed or available for trade in the short term.

Similarly, large intra-seasonal price fluctuations in some markets can arise from the variable timing of import supplies, a short shelf life for produce and limited opportunities to trans-ship to other destinations. Price instability is also a feature for those horticultural products where world production and trade are highly concentrated. For example, a failure of the orange crop in Brazil - which accounts for around 20 per cent of world production and 85 per cent of world exports of frozen concentrate - can have a significant impact on world prices for frozen orange juice concentrate.

Further information is provided in Chapter 1 of Part B and Appendix E.

Government interventions

Many foreign governments intervene in ways which mostly increase returns of their own producers and depress the level of world prices for horticultural products. Such interventions can also lead to greater instability in world prices. They reduce the world trading system's flexibility in responding to unanticipated changes in demand and force price adjustments on to the relatively small proportion of world production which is traded. Types of government intervention, and some examples, include:

- ***export incentives***

Statutory controls in South Africa raise internal prices and these subsidise exports by paying producers an equalised return. The United States has several general programs subsidising agricultural exports for which horticultural products are eligible.

- ***various forms of import barriers such as tariffs, quotas, seasonal limitations on entry and anti-dumping measures***

The Common Agricultural Policy of the European Community limits imports of horticultural products through many of these measures.

- ***quarantine regulations***

Quarantine regulations remain the biggest obstacle to increased exports to Japan. Korea also has stringent quarantine conditions, specifically to guard against Oriental fruit fly. While Korean legislation allows for imports from pest-free areas, access has so far been denied to fruit from anywhere in Australia because the pest is present on Christmas Island. However, this ignores the fact that all movements of fruit from Christmas Island to mainland Australia are subject to the same quarantine restrictions as are exports from foreign countries to Australia.

However, while many countries use protective trade barriers, Singapore and Hong Kong allow virtually free entry to imports. Not all government interventions lower world prices. For examples, both Argentina and Turkey tax their exports of horticultural products. Also, not all countries with which Australian horticulture competes in world markets are supported by government interventions. New Zealand offers no government financed subsidies to horticultural exports. Moreover, in recent years it has reduced various forms of indirect assistance – such as subsidised agricultural advisory services and taxation concessions.

Further information on the interventions by foreign governments in their horticultural industries and exports is provided in Chapter 4 of Part B and Appendix M.

The Horticultural Policy council (1992, p.23) summed up the Asia-Pacific trade scene for Australian horticulture thus:

'Australian market penetration in many Asia/Pacific markets is relatively low due in large part to trade and quarantine restrictions. Apart from Hong Kong and Singapore, the potential markets are subject to a range of restrictions. Japan, for example, prohibits imports of almost all non-citrus and the Philippines applies supply mechanisms such as foreign exchange controls, which effectively restrict market access. Malaysia has high ad valorem tariffs and the Republic of Korea has bans which effectively exclude imports of almost all fruit and vegetables.'

Organisational structures for horticultural trade

Unlike world trade in the major grains, which is dominated by large multinational trading houses, there is no dominant form of trader in world horticultural trade. Traders include private individuals, companies and co-operatives, vertically integrated conglomerates, and statutory national or regional single-desk buyers and sellers. Sunkist, a major exporter of US citrus, is a co-operative organisation owned by growers in California and Arizona. Chiquita, which began trading in Central American bananas, is now a multi-product firm operating in many countries. Single-desk importing and exporting through government agencies tends to be favoured by developing countries. New Zealand and South Africa also have single-desk selling arrangements for exports of some fruits.

Futures markets operate for some horticultural products - for example, orange juice, potatoes and onions. But with the possible exception of frozen orange juice concentrate, futures markets play only a very limited role in international horticultural trade. A major wholesale market exists for cut flowers in Holland, but there is a relative absence of large central markets in which world prices for horticultural products can be monitored.

The variety of organisational structures found in horticultural trade, and the relative lack of sophisticated financial and marketing institutions to facilitate and inform the trade, partly reflect the relatively small volumes and the price variability of traded produce. These characteristics give rise to informational difficulties in assessing the likely returns from producing for export and investing in supporting infrastructure. But they also create profitable opportunities for traders that are well-informed.

Informational problems are compounded by the diversity of product varieties traded, product perishability en route to market and the lack of internationally accepted product standards. Under the auspices of the OECD, international standards are now being developed for horticultural products so as to enable them to be sold by description. International trade in apples may soon be facilitated in this way.

Despite the difficulties, world trade in fruits, vegetables and cut flowers has been expanding at a higher rate than trade in other agricultural commodities. Rising real incomes, preparedness to pay for year-round supplies and for new or exotic foods, and technological improvements in packaging, storage and transport are opening up trade opportunities.

Implications for Australian horticulture

Foreign governments intervene extensively to assist their countries' horticultural exports and/or to restrict imports. Quarantine barriers are a particular problem for fresh produce. Against this background, the Australian Government is pressing on with its efforts to see world trade in agricultural commodities liberalised. It should continue to negotiate for the removal of trade barriers in all the international forums available to it. In seeking to negotiate access for Australian produce, our own quarantine barriers, in particular, will need to be able to withstand the scrutiny of others.

It is not in Australia's best interest to retaliate against or imitate the protective trade barriers, export subsidies and unwarranted quarantine controls used by other countries to support their horticultural industries. The Australian Government should continue to negotiate in international forums and in country-to-country discussions for the removal of such measures.

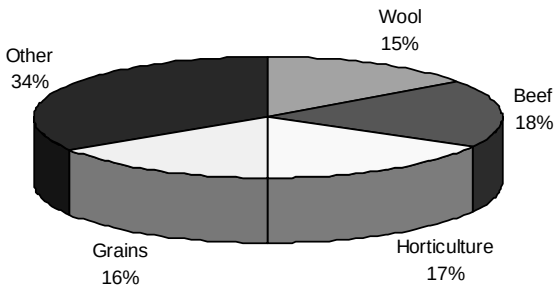
A diversity of horticultural commodities is traded and a variety of organisations involved in trading - private individuals, companies, co-operatives, multinational firms and statutory marketers. These caution against opting for any single model through which Australian horticulture is likely to become more internationally competitive. Domestic impediments to the development of a more internationally competitive horticulture industry in Australia and increased horticultural exports are the focus of this report.

3 AUSTRALIAN HORTICULTURE

Overview of Australian horticulture

- Australian horticulture has a gross value of production of about $3 billion annually. In 1991-92 it ranked second behind the beef industry, and just ahead of grains and wool, in contributing to the value of Australia's agricultural production.

Shares in Australian agricultural production: 1991-92



Source: ABS, Cat. No. 7502.0.

- The major product groups within horticulture in 1991-92 were:
  - fruits and nuts, $1668 million;
  - vegetables, $1300 million;
  - nursery products (including cut flowers), $461 million; and
  - honey, $31 million.

- Australian horticulturalists supply the bulk of the consumption needs of the Australian community. Export volumes also are substantial: in 1989-90 they accounted for: 10 per cent of apples and pears; 16 per cent of kiwi fruit; 20 per cent of fresh grapes; 30 per cent of onions; 60 per cent of honey; 77 per cent of canned pears; and 83 per cent of dried sultanas. Eighty to 90 per cent of macadamia and pecan nut production is exported.

- As at May 1992, about 76 500 people were employed in growing fruit, vegetables and tree nuts and in sun-drying grapes, and a further 11500 were employed in fruit and vegetable processing.

- Although the Commission's reference is specified. in terms of 'the Australian horticulture industry', the term *industry is* somewhat of a misnomer given the diversity that characterises horticultural activities.

- Production is dispersed over wide geographic and climatic ranges which means different regions can produce different product varieties, have them available at different times of the year and need different marketing strategies. Citrus and strawberries from Queensland are, for example, available earlier than from Victorian growers.

- Though geographically dispersed, there is some regional specialisation within and between States. Banana, pineapple, mandarin, and fresh tomato production is concentrated in Queensland; lettuce in Queensland and Victoria; oranges in New South Wales and South Australia; potatoes in Victoria and Tasmania; apples, pears, peaches, dried vine fruit, processing tomatoes and carrots in Victoria; onions in Tasmania; and wine grapes and apricots in South Australia. Major regions include the Burdekin Valley, Murrumbidgee Imigation Area, Sunraysia, Goulburn Valley, Riverland Valley, northern Tasmania and the south west of Western Australia.

- Australia's horticultural sector is characterised by small scale family farms which usually grow a range of crops.

- Horticulture is the most labour intensive of Australia's agricultural industries -for example, much fruit is hand-picked - but some growers are highly mechanised as, for example, in carrot production.

- Grading, packing, transportation, storage and distribution are significant sources of costs in getting Australian horticultural products to both domestic and foreign consumers. For example, costs from the farm gate to landing Australian citrus and apples in overseas ports are 250 to 300 per cent greater than farm costs.

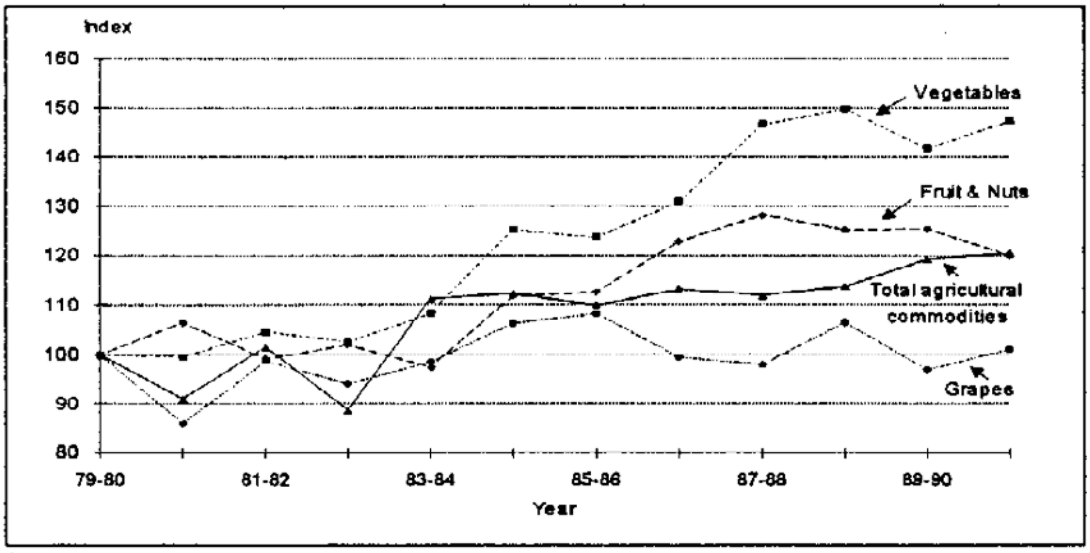
- Many horticultural products are highly dependent on processing outlets - by volume, about 50 per cent of vegetables, 55 per cent of pears, 60 per cent of citrus and plums, 80 per cent of pineapples and apricots, and 95 per cent of grapes are processed.

- The production of fresh produce and the prices received are variable, both within and between seasons.

- There are very different investment profiles, and therefore abilities to respond quickly to changing market demands, in horticulture. Most fruit and nuts are perennial crops with a long production lead time - 7 years for most orchard crops - while many vegetables have short production cycles, some of only 3 months or less.

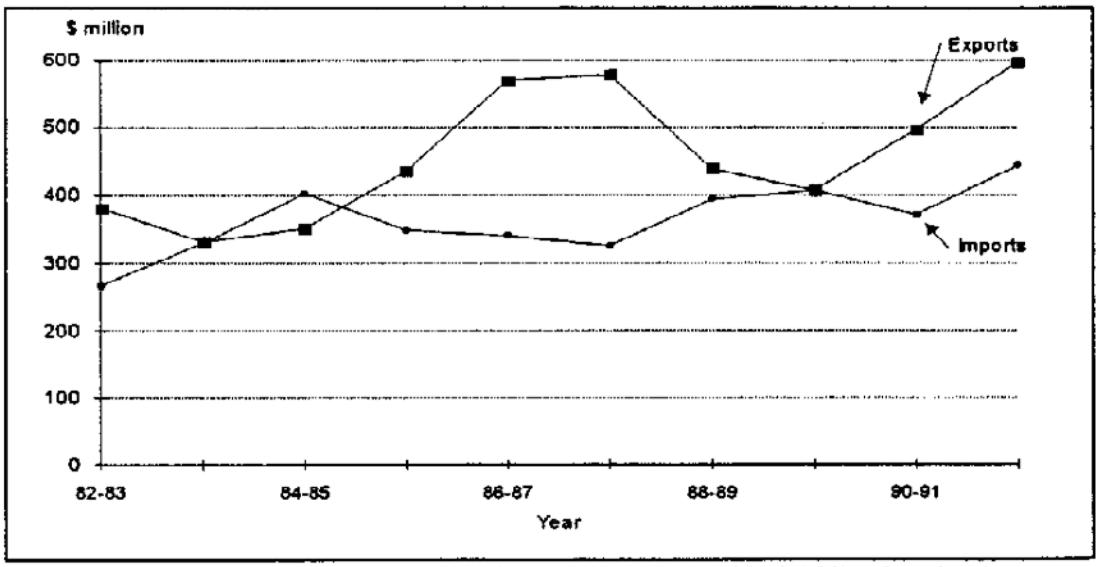
- The assistance to dried vine fruit, grapes and citrus juice is among the highest available to agricultural commodities in Australia, but most vegetables and other fruits are among the least assisted.

Production trends:
Indexes of horticultural production at constant prices, 1979-90 to 1990-91 (1979-90=100)



Source: ABS 1992h (Cat. No. 7503.0, Table 29)

Export and import trends:
Exports and imports of fresh and processed fruit, nuts and vegetables, 1982-83 to 1991-92 ($ million, 1990-91 dollars)



Source: ABS 1992d (Cat. No.5424.0) and previous issues; ABS 1992e (Cat. No. 5426.0) and previous issues

- While concentrating on 'traditional' fruits and vegetables, Australia's horticulturalists have responded to consumer demands for newer varieties and some are at the leading edge of research and development into new, genetically engineered plants.

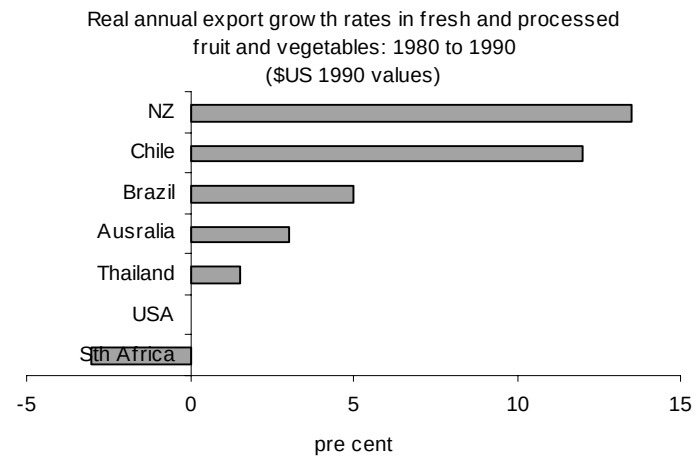
Further information on Australian horticulture and individual horticultural products is provided in Chapter 1 of Part B and Appendix E.

Perceptions of horticulture's performance

The focus of Australian horticulture is on meeting domestic needs. For the most part, it is efficiently and competitively supplying an increasing range of fresh produce to Australian consumers. Some sectors also have a strong track record in exporting, particularly dried vine fruit, deciduous canning fruit and nut producers.

A domestic market focus is not surprising given the high labour intensity of much of horticulture's production and the costs associated with getting fresh produce to overseas markets in good condition. For individual products, fresh exports seldom represent more than 15 per cent of Australian production.

Products with high labour and transport costs are not 'natural' candidates for large scale Australian exports. However, returns for Australian fresh produce can be profitable in market niches (due to product seasonality or uniqueness) or quality lines. Fresh pear, kiwi fruit, grape and onion exports are a significant proportion of local production. The real value of fresh and processed horticultural exports has increased at an average annual rate of 5 per cent (in Australian dollars) in. the last decade; total horticultural exports were worth $646 million in 1991-92. In the course of the inquiry the Commission has become aware of innovative and entrepreneurial individuals, companies and organisations exporting various horticultural products (see boxed examples).



Source: see Table 1.5 in Part B

Sumich and Co.
Climate provides particular areas specific advantages. For example, the mild climate of the south west of Western Australia allows year round production of vegetables. Sumich and Co, a public company based in Perth, has taken advantage of these conditions to become a large exporter of fruit and vegetables (including carrots, cauliflowers, celery, and lettuce), principally to South East Asia but also to northern hemisphere countries. The company grows much of its own requirements, with 450 hectares under cultivation, but also buys from other growers. Sumich has specialised in carrot production, which is almost entirely mechanised except for sorting and packing. After packing, carrots are consigned in refrigerated containers. See Transcript, pp.695-719.

Australian Joint Citrus Exporters (AJCE)
AJCE exports and markets fresh citrus under its own brand to the Japanese market. The company is jointly owned by the Central Burnett Exporters Pty Ltd (owned by growers in the Central Burnett district) and Griffith Producers Co-operative (a major grower co-operative in the MIA). The different seasonal bearing pattern of the Queensland and MIA regions benefits the AHCE by extending export supply lines up to six weeks. According to the company, grower shareholders undertook virtually all of the development work to establish a market for Australian citrus in Japan and have been the major Australian suppliers to that market since access was obtained 9 years ago. See Submission 88.

Vecon and Clements & Marshall
These two Tasmanian companies have exploited export niche market opportunities for onions in the northern hemisphere, especially the UK and Germany. All onion production is contracted, and growers are required to maintain a strict regimen of treatment for the crop. Product is forward sold and exported in open containers in ventilated ships. Onions valued at $26 million were produced in Tasmania in 1990-91, with an estimated 80 to 90 per cent exported. See Tasmanian Government Submission 79.

Qualturf
The value of Australian turf sales was estimated at $37 million in 1989-90. Qualturf, a Sydney-based company, exports high quality, soil-free turf. (Soil removal is important for quarantine reasons as well as reduced transport costs.) After the soil is removed the turf is refrigerated and air freighted to export destinations. A local niche market exists for soil-free turf (eg, for cricket wickets), while the major export market is high quality grass for golf courses. The company currently has a presence in Thailand, Malaysia and Indonesia. See Transcript, pp. 174-183.

Riversun
The United States has recently lifted its quarantine ban on citrus from Australia, provided that it is grown in the Riverland region of South Australia. Some of the largest growers, packers and exporters in the region formed an exporting company, Riversun, to serve this market. The first exports were in 1992. By acting co-operatively they claim to have been able to charter ships at a saving of $6 per carton as well as ensuring consistent quality. The industry believes it receives a small premium by selling through a single importer within the United States.

Notwithstanding its role in meeting domestic consumption needs and individual export successes, a recurring theme of participants in this inquiry has been that horticulture is failing to realise its export potential. This perception is based on a number of observations related to growing conditions and markets for horticulture. Australia has abundant arable land and sunshine, and its location, combined with the seasonality and perishability of most horticultural products, provide scope to supply fresh produce to major markets in Europe, Japan and North America during their off-seasons. Furthermore, Australian producers are close to an expanding Asian market.

Despite the potential for export development which is perceived to flow from these conditions, the level of exports has been considered by many, including the Government, to be low in relation to other domestic agricultural activities, and in relation to other southern hemisphere producers (see previous chart).

This view was reflected in the Government's 1986 Economic and Rural Policy Statement:

> Australia has performed poorly in both traditional and newer horticultural markets in recent years. Ile Government believes this is mainly due to an unco-ordinated approach to export sales, the lack of an appropriate marketing infrastructure for most fresh produce and inadequate quality control, market research and promotion.
>
> The Government believes that there are opportunities for much greater export revenue from improved export performance in the horticultural industries (Hawke and Kerin 1986, pp. 66-67)

In 1988, the Commonwealth Government abolished the Australian Apple and Pear Corporation and established three new institutions to cover all of horticulture, 'primarily to enhance the capacity of the horticultural industries to expand exports' (Jones 1987, p.318). These are the Australian Horticultural Corporation, the Horticultural Research and Development Corporation and the Horticultural Policy Council.

Many reasons have been advanced to explain the perceived poor export performance of Australian 'horticulture'.

- Production decisions are made on the basis of supplying the domestic market, with any surplus being exported only in an opportunistic manner. Australia is therefore regarded as an unreliable exporter.
- Most domestic producers do not have an export 'culture'.
- The sector is characterised by a large number of small and often unco-ordinated operations, with regional and interstate rivalries.
- Economy-wide factors such as labour costs, transport systems and the value of the Australian dollar disadvantage Australian horticulture in overseas markets.
- Other countries subsidise their producers and exports, and restrict imports.

Some inquiry participants claimed that a significant increase in plantings of fruit and vegetable crops will be a prerequisite to expanding exports (HRDC, Sub.47, p.4). For others the perception is that some Australian producers will soon have no choice but to seek export markets for their produce. Recent plantings of many newer perennial horticultural products - such as avocados and mangoes - and the view that there is limited scope for expanding domestic sales, lead to forecasts of future production levels far in excess of domestic requirements (ABARE 1992a).

The Government's recent statement on Australian Agri-Food Industries expressed a vision of building on Australia's strong comparative advantage in agricultural production by adding value to both fresh and processed products:

> We can add value through such activities as niche marketing, promotion of individual brands to extract premiums and the maintenance of high quality standards. Technological advances in production and packaging can also add value by enabling exporters to deliver high quality, clean and fresh products to overseas customers.
>
> In addition, very large benefits can be achieved through extending the production and range of high value processed food products. (Button and Crean 1992, p. 1)

The Horticultural Policy Council has a vision for horticulture which sees domestic sales expanding significantly and a five-fold increase in exports:

> This vision for horticulture within the first decade of the 21st Century constitutes major changes from current attitudes, practices and operations. These include the development within the sector as a whole of a world competitive outlook, an export culture for large segments of industry, commitment to providing what the markets want and an ability to provide produce at competitive prices. (HPC 1992, p.3)

Behind these visions lies a conviction that Australia's horticultural industries, and particularly their exports, can become more 'internationally competitive'.

International competitiveness

The term 'international competitiveness' referred to in the terms of reference for this inquiry is used widely in industry policy discussions. International competitiveness usually refers to the ability of firms or industries in one country to compete with their counterparts in other countries for sales on both the domestic and world markets. Increased international competitiveness does not necessarily mean exporting more. It could mean importing less or replacing imports completely.

In the context of Australian horticultural activities, various aspects of the ability to compete can be distinguished:

- the extent to which the prices firms receive from domestic and/or export markets cover all or only some of their costs - if only the marginal costs of exporting are covered, exports are unlikely to be a core activity;

- the consistency with which competitiveness can be maintained throughout the year - as for example, Australian produce only being exported profitably to northern hemisphere markets in their off-season; and

- the sustainability of domestic and/or export sales in the longer term - the extent to which, in the expectation of longer term returns, Australian producers and marketers invest in production and marketing infrastructure, adjust to meet changing consumer demands, and are able to absorb short-term market fluctuations.

Because of Australia's geographic size and the diverse range of agri-climatic conditions under which many horticultural products can be grown, different regions and different producers are likely to demonstrate various aspects of international competitiveness. However, whichever of these particular attributes they have or can develop, internationally competitive horticultural activities enable Australia to increase its standard of living.

But if increased international competitiveness is achieved only because of government assistance - whether through export assistance, funding for product promotion, input subsidies, or regulatory or trade barriers - it is not clear that the nation as a whole is better off. Assistance given to horticultural activities to enable them to be more internationally competitive could undermine the competitiveness of other activities and reduce the efficiency of the economy as a whole. A further discussion of international competitiveness is provided in Appendix F.

The Australian community can gain from removing impediments to improved efficiency and international competitiveness in horticultural activities. The following chapters report on the impediments the Commission has found to the further growth and development of horticultural production and trade and what governments and industry can do to ensure Australian horticulture maximises its contribution to national prosperity.

4 PRODUCTION

Efficient growing activities are the foundation for maintaining and improving the international competitiveness of Australian horticulture. 'Efficiency' refers not just to whether horticulturalists are using appropriate production technologies, but also their ability to organise key production factors - land, labour and capital - and other inputs in ways which maximise the real wealth of the Australian community generally.

Land

Australia has the variety of soils, topography and climatic conditions to support a wide range of horticultural production in diverse parts of the country. Natural constraints apart, there are few land-use restrictions on where and how crops are grown. Horticulture competes with other agricultural pursuits for the use of land: macadamia nuts, coffee, mangoes and other tropical fruits are, for example, being produced on land previously used for dairying. In areas close to urban settlement, competition for land is more likely to come from the housing, manufacturing and service industries. Within the framework established by land-use zoning policies, markets are free to determine the highest value use to which land is put.

A distinguishing feature of horticulture is the relatively small average size of land holdings. The average area of horticulture farms is less than 5 per cent of the size of wheat and other crop farms. Of course, national averages conceal wide regional variations: Central Burnett (Queensland) citrus farms are about one third larger than those in the irrigation areas of New South Wales, Victoria and South Australia were less than 10 hectares and only 2 per cent were larger than 40 hectares. The small size of many horticultural holdings reflects, in part, the closer settlements policies of the past.

Average farm sizes in Australia in the late 1980s

	(hectares)
Multi-purpose graphs	23
Deciduous canning fruit	25
Citrus	26
Wine grapes	42
Wheat and other crops	972
Sheep	5 374
Beef	15 972

Source: see Table 2.2 in Part B

Land-use regulations have been reformed in recent years. The only regulations on land use impacting on horticulture which were identified during the inquiry are those which limit the size of holdings and prevent corporate ownership in the Murrumbidgee Irrigation Area. These regulations could inhibit efficient horticultural production where economies from vertical integration and farm size may be possible. Arbitrary limits on farm size could constrain land holders adjusting their holdings to the size best suited to particular horticultural activities. (See Section 2.2.2 of Part B.)

The Commission has been unable to identify any significant institutional or regulatory impediments to the efficient allocation of land for horticulture.

Labour and related issues

Horticultural activities are among the most labour intensive in Australian agriculture. Although data are poor, the cost of hired labour and the imputed value of family labour together can represent about half the on-farm receipts for fruit and vegetables, compared with no more than a quarter for the sheep and wheat industries (see Section 2.2.4 of Part B). Further, labour can account for around 40 per cent of grading and packing costs for fresh produce such as citrus and apples. More than half of the inquiry participants raised issues associated with the cost and availability of labour and many drew attention to Australia's high labour costs relative to those of foreign competitors.

Many features of Australian horticulture reflect the relatively high labour cost environment in which it operates. The family farm is the predominant growing unit and underpins the ability of Australian horticulture to use and remunerate its own labour flexibly.

- Many operators curtail the need to employ additional labour by restricting holdings to a size that is manageable by family members, except where necessary for peak work periods such as crop harvesting.

- Farm production is often diversified. In addition to minimising the risk of price changes for particular crops, growing a mix of products can spread labour demands in ways that family labour can handle flexibly.

- Various technologies are used to reduce labour input. Chemical spraying avoids having to employ labour to hoe weeds. Mechanical harvesters reduce labour requirements for some crops, but for fresh produce this can be at the expense of crop quality and wastage and further costs at the packing shed. New tree growing techniques - such as planting trees of restricted height at high densities – can improve harvesting efficiencies by enabling fruit to be picked from ground level.

While individual growers have to decide their own cost-effective family labour strategies, the Commission has not found any regulations which impede efficient choices.

Hired labour accounts for a similar proportion of average horticultural farm receipts as imputed costs of family labour. State awards which apply to horticultural employment appear to have little influence and wages are determined largely by rewards offered elsewhere. Growers and packers often pay above award rates to seasonal workers, provide additional benefits (such as accommodation) or employ workers on piece rates so that greater effort is rewarded more highly.

A number of participants believe their principal competitor for labour is the Commonwealth Government's social security system. The level of benefits payable under the Job Search Allowance, and (incorrect) perceptions that relatively little seasonal work will entail a loss of benefits as well as a waiting period before benefits resume, were said to weaken incentives to work in horticulture. For example, for someone earning between $60 and $140 a fortnight from horticultural or any other work, the Job Search Allowance is reduced by half the earnings received. For earnings over $140 a fortnight, the allowance reduces on a dollar for dollar basis – effectively a marginal 'tax rate' of 100 per cent.

> 'It is considered that the unemployment benefit system discriminates against people taking on short term work such as seasonal horticultural work. It appears that it is usually more attractive for people to stay on the dole.' Tasmanian Government, Sub 79, p.23.

Nevertheless, Australia's social security system serves objectives which are independent of, and much broader than, the labour needs of horticultural industries. The Commission will not recommend changes to the social security system solely for the purpose of making seasonal horticultural employment attractive to job seekers.

Several participants also raised two other matters relating to institutional arrangements affecting horticultural labour markets:

- the 'fee for service' arrangements adopted in 1989 by the Commonwealth Employment Service in assisting growers who seek seasonal labour; and
- the difficulties in employing foreign 'backpackers' and holiday makers for seasonal work under existing work visa restrictions.

These arrangements reflect wider objectives of government: a move to greater cost recovery in the provision of government services and immigration control, respectively.

Some participants addressed education and training issues. There was a general view that TAFE colleges provide some valuable technical skills courses. While some considered that there is too great a proliferation of institutions providing horticultural science rural industry training advisory bodies gave evidence to the contrary (DEET, Sub.D148, p.3.). The Commission notes the views of the Horticultural Policy Council and its proposal for an audit of education and training needs (see box).

> **Education and training:**
> '… no hard data exist by which to relate the level of skills already possessed with those needed by the sector. Another problem is that the horticultural vocational courses presently provided are determined by educational institutions with relatively little input from industry. one reason for this is that the sector itself has difficulty determining the articulating its future education and training needs. An audit needs to be carried out in order to answer these questions, perhaps under the auspices of the recently announced Australian National Training Authority. It could also be used to determine the additional skills needed by the sector' (HPC 1992, pp.26-7).

Australian horticulture has high labour costs compared with many of its competitors in world trade. However, horticulture cannot be a low wage enclave in a high wage economy. Impediments to the efficient availability, use and pricing of labour in horticultural activities must be addressed. But the challenge for Australian horticulture is to fmd ways to raise productivity in the growing, harvesting, distribution, marketing and processing of products so that it is efficient, internationally competitive and able to support wages commensurate with those paid for comparable skills elsewhere in Australia.

Institutional arrangements which potentially influence labour markets in horticulture, particularly for seasonal work, include: the social security system; the charges made by the Commonwealth Employment Service for registering temporary vacancies; and work visa arrangements for foreign visitors.

Capital

In addition to the capital required for land acquisition, horticulturalists need capital for land improvements, orchard establishment, plant, machinery and buildings, and working capital. The capital servicing burden varies between activities but probably falls most heavily on those producers of perennial crops where full production does not occur until many years after planting.

Capital markets in Australia are generally competitive. Banks typically charge higher rates of interest on loans to small businesses than to larger borrowers. However, it is unlikely these differences are excessive when the higher costs and risks of such lending are taken into account.

There is an anomaly in the taxation treatment of expenditure on horticultural plantations which discriminates against investment in perennial crops relative to other investments.

For most industries, expenditure incurred on items which are used to produce taxable income are readily tax deductible. But for horticultural plantations, the Australian Taxation Office regards establishment costs as of a capital nature. As such, they are taken into account in determining capital gain, or allowable capital loss, on disposal of the plantation. Consequently, plantation establishment expenses are precluded from consideration for taxation purposes for long periods of time, often decades. Furthermore, the stipulation that a capital loss can only be deducted from other capital gains, and not from income, represents a severe restriction on the ability to have the original expenditure considered for taxation purposes. (See Section 2.2.3 of Part B for further discussion.)

In the Commission's view, neutrality of the taxation treatment of expenditure within and between industries, as far as it can practicably be achieved, is conducive to better investment decisions and a more efficient use of the nations resources.

The Commission finds that there is an anomaly in the taxation treatment of expenditure on establishing horticultural plantations and recommends that the taxation treatment of expenditure on new horticultural plantations be revised in a way which provides a more neutral treatment compared with expenditure on other activities.

Water pricing

In some other countries, horticultural production is based on natural rainfall - as for example, in the world's largest citrus producing regions in Brazil and Florida. However, irrigation is crucial for most of Australian horticulture. Nevertheless, water costs are not a large proportion of total costs. Water accounts for only around 1 per cent of average cash costs for vegetables and around 3 to 4 per cent of average cash costs for fruit (see Section 2.2.6 of Part B).

The Commission has recently reported on water pricing policies and found significant under-recovery of costs for water (IC 1992c). In many instances, water charges do not cover the operating, maintenance and depreciation costs of irrigation and drainage systems, let alone any return on the capital invested in dams and irrigation networks. Public investment has frequently been undertaken without regard to economic outcomes and environmental impacts such as increased salinity and waterlogging.

The Commission's proposed reform package seeks to promote more efficient and sustainable water use and includes:

- initiatives to reform pricing so as to achieve higher levels of cost recovery in new and existing irrigation systems;

- devolving the management of public irrigation distribution systems to regional bodies - to bring a more commercial focus to bear - but with a view to their privatisation; and

- introducing permanent entitlements to trade water in all irrigation systems.

Australian horticulture will need to adapt to more efficient water pricing and efficiency in the provision of water and drainage services. There is no point in requiring the community to continue subsidising water use merely to support horticultural production and exports (and other irrigated activities). Water subsidies, like other forms of industry assistance, impose costs elsewhere in the economy which usually result in a net loss for Australia.

The overall efficiency of resource use will improve if governments adopt the water industry reforms recently proposed by the Commission. Irrigation water is not a major cost component for Australian horticulture and growers have a variety of adjustment options.

Materials

Materials and services account for 40 per cent or more of on-farm costs (see Table 2.1 of Part B). The major materials used by horticultural industries include pesticides, herbicides, fertilisers, fuels and packaging. Import duties on all materials used in horticulture are being reduced to a maximum of 5 per cent by July 1996 under the tariff reduction program announced in March 199 1.

Most comment from participants related to the cost of packaging materials. Data available to the Commission indicate packaging materials can account for around 40 per cent of packing and storage costs for fruits, or from 15 to 20 per cent of their total value after delivery to domestic wholesale markets or points of export. The relatively small demand by Australian horticultural industries in relation to the economies of size in packaging manufacture and a lack of competition among domestic producers are seen by participants to contribute to higher packing costs than foreign competitors face.

Although Australian horticulture may face higher materials costs than its foreign competitors, the Commission has not identified any institutional or regulatory impediment to their provision at least cost, other than tariffs which are being reduced.

Environmental issues

In its submission to this inquiry, the Commonwealth Department of Arts, Sport, the Environment and Territories (DASET) identified the major areas of environmental concern as:

- land management practices;
- water management; and
- chemical use, including fertilisers, pesticides and herbicides.

The ways in which these concerns are addressed will have important implications for the future growth and development of Australian horticulture. Environmental issues are discussed in Section 2.2.7 of Part B and Appendix 1.

Sustainable land management requires the adoption of appropriate land protection systems, better soil management techniques and the conservation of natural ecosystems. Research and information dissemination have vital roles to play in educating horticulturalists about environmental best practice. State Departments of Agriculture and soil conservation agencies are all active in promoting such practices, as are a number of private firms.

Undercharging for water and waste water disposal has been a major contributor to soil salinity problems, and to rising water tables and waterlogging in irrigation areas, with detrimental effects on the quality of water in Australia's river systems (see discussion on water pricing above). Reform of the water industry is urgent and a mix of market incentives and regulation will be required to address the environmental problems stemming from irrigation.

The use of chemicals to control pests, diseases and weeds and to sustain appropriate levels of plant nutrition raises a number of issues for horticultural production, not the least for those wanting to promote a 'clean' image. The concerns relate to chemical residues and their effects on human health, occupational hazards in applying them and environmental effects.

The importance of management strategies that reduce the reliance on chemical controls is recognised within Australian horticulture. The Horticultural Research and Development Corporation drew attention to: the success in the biological control of scale pests of citrus and integrated mite control in pome fruit; research underway into reducing pesticide use; integrated pest management systems for bananas and fresh vegetable production in Queensland and apples in all producing States; and genetic improvement programs to incorporate inherent resistance to pests and diseases in plants.

Australian horticulture is an intensive user of water and chemicals. Its location close to urban settlements or strategic river systems means that any environmental effects arising from the use of water and chemicals have to be addressed if horticulture is to use the community's resources efficiently. Appropriate use of fertilisers and crop-protection products can enhance environmental quality by returning nutrients to the soil and reducing soil degradation. Case-by-case assessment of environmental impacts is required.

DASET supported the use of levy mechanisms on chemicals to fund residue monitoring systems. Some participants, such as the Australian Fertilizer Manufacturers' Committee and Incitec Ltd, noted that farmers have ample incentive to use fertilisers and crop protection products judiciously, and that any levies on their use would simply detract from the international competitiveness of Australian producers.

If possible, it is preferable to develop market-based pricing mechanisms which ensure that those responsible for environmental costs bear ('internalise') those costs. Charging the full cost of potential environmentally damaging inputs, such as water, is a market based mechanism along these lines. However, pricing and other market-based approaches may not always be the most effective means of addressing specific environmental problems. In those cases, regulation may be appropriate. Research and education programs also have a role to play.

Australian horticulture is an intensive user of chemicals and water. Adverse environmental impacts should be addressed through market-based mechanisms wherever possible and, where not possible, any regulatory controls should be proven to be cost-effective.

International comparisons

The Commission has found little useful information on international cost comparisons between Australian horticultural activities and their foreign counterparts. Two studies are reported in Appendix H.

The ranges of products grown and sizes of farms, different growing and cost conditions, whether commodities are destined for fresh produce markets or for processing, and the aggregated level at which most information is available mean that few conclusions can be drawn on any structural and other changes that might improve the performance of Australian horticulture. The variability of horticultural production and prices from season to season also caution against using comparative data from relatively short time periods.

International comparisons do, however, reveal that there is a substantial difference in the orange juice yields obtained in Australia and some other countries. The costs of producing fruit in Australia for the manufacture of frozen concentrate may therefore be up to 40 per cent higher than in Florida.

The ABARE study of the Australian and US citrus industries reported on an impediment, now removed, to the productivity in local orange juice production:

> the Australian citrus industry is well behind most other major citrus producing countries in the development (identification, selection) and use of superior rootstocks, clones and varieties. This is largely the result of a 30 year quarantine based ban on the introduction of budwood (rescinded in 1986) and the relatively small amount of resources invested in research. (Sub. 111, p.38-9)

While the problem of access to superior citrus rootstocks has been addressed through the lifting of quarantine bans, and plant variety rights have been introduced in Australia, the release of new imported varieties from quarantine and the trailing of new varieties under local conditions still involves long lead times (ABARE, Sub. 111, p.39). Nevertheless, as noted by the Australian Quarantine and Inspection Service, the need for quarantine is not seriously challenged (Sub. 112, p.2).

The Horticultural Research and Development Corporation (Sub.47, p.5) also reported on the slow up-take of new varieties:

> Australian horticulturists have been slow to take full advantage of the country's broad range of climatic zones to extend the season for a number of crops such as cherries, plums and table grapes, and to exploit high temperature climates in the north to produce specialist crops such as ruby grapefruit.

and

> The fresh fruit industries could well take heed of the experience with wine grapes by altering the varietal mix of orchards to better align production to world demand. For example, the mango industry has been developed with virtually total reliance on one variety, Kensington Pride. While this is popular in Australia and certain overseas markets such as Singapore, the market trend is tending to favour red blushed varieties such as Alphonse, Keitt or Palmer, the planting of which would broaden market opportunities. Numerous other examples involving other cornmodity groups could be quoted .

However, it is not clear to what extent this reflects continuing difficulties in obtaining new plant varieties following the removal of quarantine bans, restricted dissemination of information about plant varieties, uncertainties about production characteristics, lead times in establishing new perennial crops or the perceived returns from growing new varieties.

Overall, the Commission has found little guidance from foreign comparisons and relatively few regulatory or institutional impediments to the growing of horticultural crops in Australia. Potential impediments in transporting produce and in marketing it are discussed in subsequent chapters.

5 TRANSPORT

Australian horticulture cannot realise its full potential without access to efficient transport systems. Road transport moves most horticultural products to domestic markets, processors and export points. Rail and domestic aviation shift very little. Coastal sea freight is limited almost entirely to moving Tasmanian products to the mainland. Eighty-eight per cent of fruit and vegetable exports are shipped by sea and the remainder - high value perishable products - leave by air. Sea freight accounts for a substantial share of the landed cost in export markets of Australian horticultural products. Transport issues are discussed in more detail in Section 2.4 of Part B.

Australia's transport infrastructure has been a major focus of microeconomic reform in recent years. The Commission and its predecessors have reported on coastal shipping, the waterfront, road charging and vehicle regulation, domestic and international aviation arrangements, aviation infrastructure, and rail transport. While much remains to be achieved, the detrimental effects of past policies are now recognised by all governments. Some sections of Australian horticulture will need to adjust to more efficient pricing and more efficient provision of transport services. Nevertheless, thorough-going transport reforms will allow horticulture to maximise its contribution to Australian living standards.

Road transport

Road transport is highly competitive. However, Australian governments did not agree to introduce nationally consistent road regulations and to improve the efficiency of charges for heavy vehicles until July 1991. A National Road Transport Commission (NRTC) was established in 1992 to develop reform proposals.

The NRTC has proposed that registration charges be based initially on average mass and average distance travelled per vehicle class. Although an advance on current arrangements, average annual charges are not fully efficient because the road damage caused by vehicles increases with the distance travelled and mass. The result of the proposed charging regime is that some vehicles - the heaviest travelling long distances annually - will meet only about 50 per cent of their attributed costs.

Failure to better relate road-use charges to the costs imposed by vehicles will increase the cost of providing roads and add a cost burden on those users who are already meeting their costs. Horticulture will be disadvantaged where produce is carried in vehicles bearing higher registration charges than needed for their mass and distance travelled to achieve efficient road use.

Most horticultural products are moved within Australia by road. While road transport services are provided very competitively, governments have not ensured that road use has been charged for efficiently. Although an advance, the reforms to take effect in 1993 will mean that some vehicles will bear higher registration charges than their mass and distance travelled indicate are necessary to achieve efficient road use.

Other domestic transport modes

Although other modes for transporting horticultural produce domestically are not as significant as road, efficiency is nonetheless important.

Air freight is used to transport some perishable, high value horticultural products over long distances. For example, mangoes are air freighted from Darwin to southern markets and domestic air services are sometimes used to centralise or consolidate cargoes for subsequent export by air. Capacity and other economic regulation of interstate aviation ended in October 1990 and, with the Northern Territory Government deregulating all intra-territory services in January 1992, the only States continuing to regulate intrastate airline operations are Tasmania and New South Wales.

Australia's rail systems are being reformed by introducing more efficient pricing policies, reducing operating costs and eliminating services which are not viable and which governments refuse to finance directly as community services. The United Farmers and Stockowners of South Australia commented on the potential for a Darwin-Alice Springs rail link to improve the access of horticultural produce to South East Asian markets. Studies have shown consistently that such a link cannot be justified on economic grounds.

Coastal shipping is an issue for Tasmanian produce going to the mainland. The Tasmanian Freight Equalisation Scheme provides some offset to the high costs of those shipping services. Horticultural products are a major beneficiary, accounting for over 23 per cent of the north-bound component of the scheme in 1989-90. The Industries Assistance Commission found that it was difficult to support selective compensation to Tasmania for the freight cost disadvantages it faces (IAC 1988b) even though the ability to use alternative transport modes is limited. It would be preferable to remove or modify the transport policy - cabotage - giving rise to those cost imposts.

All levels of government need to press on in reforming Australia's domestic shipping, rail and air transport systems. With one exception, the Commission has not identified any significant institutional or regulatory impediments in those systems which affect Australian horticulture. It is difficult on efficiency grounds to support selective compensation for the disadvantages Tasmania faces as a result of Australia largely reserving the coastal trades for locally controlled and crewed vessels.

Sea transport of exports

Cost to ship a carton of citrus to South East Asian markets:

from	*$A*
California	5.00
Melbourne	7.60

Source: MVCMB, Sub.63

Sea transport is the main means of exporting horticultural products, usually as fresh produce in controlled temperature containers or as processed products. Sea freight can represent as much as two thirds of the landed cost of Australian produce in an export market. And while Australia is often closer to some markets, overseas competitors have lower fright costs. Two major sources of differences in sea freight rates were reported. Shipping services to and from Australian ports are more expensive per tonne kilometre. This reflects Australian wharves and in and out of ports is also higher than in other countries. Participants also raised shipping delays, irregular schedules, lack of shipping services, and deficiencies in the availability and reliability of containers as other factors inhibiting consistent export performance.

Many participants welcomed major productivity gains which have resulted from the waterfront reforms begun in 1989. However, they claimed they have yet to see those gains translated into reduced transport costs. The Commission is currently conducting an inquiry into port authority services and activities in which it will examine port charges and prices, and price setting mechanisms.

Most horticultural exports are transported on 'conference' ships. Shipping conferences are cartels of shipping lines in particular trades and operate in most of the world's deep sea trades. However, the presence of a conference does not exclude non-conference shipping from a trade. Conference shippers generally offer a higher standard and more regular service while non-conference operators typically offer lower freight rates. Australian exporters of horticultural produce have made only limited use of cheaper non-conference or charter shipping and are unlikely to be able to make greater use until export volumes and consignments are consistently large. Australia's conference export shipping arrangements are currently exempt under Part X of the Trade Practices Act. The Minister for Shipping and Aviation Support announced recently that a review of the exemption is due to be brought forward.

The relatively small volumes and consignments of horticultural exports preclude the use of cheaper sea transport options and result in a reliance on conference shipping. Institutional and regulatory impediments arising from the waterfront, ports and conference shipping are currently being addressed in other forums.

Air transport of exports

High value perishable horticultural products are increasingly being exported by air. Australian native cut flowers, such as Geraldton Wax and Kangaroo Paw, have a transport life of only 4 weeks so air freighting is essential. Mangoes, berry fruit, broccoli and asparagus are air freighted even to markets as close as South East Asia. Lucrative niche markets in the northern hemisphere off-season make air transport of produce to there viable.

Air freight cost as a percentage of final price received for Australian fresh produce:

Product	*%*
Graphs in Singapore	28
Pears in Singapore	39
Asparagus in London	58
Cherries in London	44

Source: VHEC. Sub.109.

Most exports of horticultural products by air are carried on scheduled passenger services but it is also possible to use scheduled freight services and charters. Air freight charters were deregulated in October 1987. However, the relatively small volumes of produce for export and variability in the timing of supply results in a heavy dependence on regulated scheduled passenger services. Participants raised a number of difficulties with these services:

- the limited flights and destinations available from Australia's international airports;
- the limited supply of air freight space, especially in the peak-demand period for horticultural exports from December to March which also coincides with peak passenger and Christmas mail demands; and
- a lack of storage facilities (such as cool stores) and related infrastructure at major airports.

Carrying horticultural produce is a 'marginal' proposition for airlines at times. Data presented by the Victorian Horticultural Export Council show that airlines reduce charges for produce when demand for cargo space is low. Space and additional storage facilities could be guaranteed year round but this would come at an additional cost and may make exporting by air unprofitable.

There is scope for the Commonwealth Government further to free up the regulatory framework of bilateral air service agreements that determine the frequency, capacity and routing of scheduled international passenger services. Aviation reforms announced in February 1992 did not address these overall constraints and, although other Australian carriers will be allowed to compete with QANTAS, its capacity and route entitlements are largely preserved until July 1997.

However, in the present inquiry the Department of Transport and Communications provided evidence (Sub.D128, p.7-8) of substantial unused freight capacity on scheduled passenger airlines during peak export months to potential export markets for horticultural products. This was

presented in support of the Department's view that bilateral air service agreements do not significantly constrain exports of horticultural products. Furthermore, QANTAS advised the Commission (Sub.D166, p.3) that even under a regime of unrestricted access for carriers, capacity would primarily depend upon passenger or inbound cargo requirements. Any increase in export cargo capacity would be incidental.

The relatively small volumes and consignments of horticultural exports preclude the use of cheaper air transport options and result in a reliance on scheduled international passenger services. The difficulties encountered in the export of horticultural products by air appear to be attributable to commercial factors rather than regulatory factors.

6 REGULATORY AND ASSISTANCE ISSUES

Horticultural growers have many options as to how and to whom they sell their produce. They can sell in central wholesale markets in most States, or directly to wholesalers, retailers, processors, exporters or to the public. Prices of horticultural products are determined competitively between many buyers and sellers. However, governments can have an important impact on particular production and marketing activities through market regulation, statutory marketing arrangements, competition policy, quarantine controls, food standards, import duties and anti-dumping action, discriminatory sales taxes, export incentives and other assistance measures.

Marketing regulation

Contracts between horticultural growers and buyers provide a means for agreement on pricing, quality, and the timing of delivery. All State Governments have Arbitration Acts which provide a framework to resolve contract disputes.

However, in New South Wales, Victoria and Queensland, governments intervene more extensively in the marketing of produce. These States have statutory controls which prevent or constrain alternative (competing) wholesale markets being established within the metropolitan markets of Sydney, Melbourne and Brisbane. For example, a wholesaler cannot operate within a 50 km radius of the Melbourne GPO unless all produce for resale is first purchased in the existing central wholesale market. Though potentially restricting growers' choice over wholesale market outlets, any effect is reduced by the availability of other outlets to which growers can sell.

These three States also have Farm Produce Acts to protect growers from unfair trading practices and payment defaults due to wholesaler insolvency. Generally, all people trading as wholesalers within the vicinity of the central market must be licensed and either contribute to a guarantee fund (in Victoria) or produce evidence of an insurance fidelity bond, bank guarantee or similar. security (in New South Wales and Queensland). There is no comparable legislation in Western Australia or Tasmania, but the South Australian Government has it under consideration. Any anti-competitive effects of licensing requirements, however, are reduced by the large numbers of licence holders - about 200 in New South Wales, 200 in Victoria and about 100 in Queensland - and unlicensed wholesalers who must pay growers in cash.

Marketing regulation is discussed in Section 3.1.5 of Part B and Appendix L.

Statutory marketing arrangements

The Commonwealth Government has removed most of its direct pricing controls over horticultural products in recent years. State-based statutory marketing arrangements (including marketing orders) continue to apply to some horticultural products, mainly those destined for processing. The production and marketing of potatoes for the fresh market are regulated in Western Australia (see Section 3.1.5). Details of other State marketing authorities covering dried vine fruit, citrus and wine grapes are provided in Appendix L and statutory marketing arrangements are discussed in Section 3.2.1 of Part B.

Fresh potatoes

The Western Australian Potatoes Authority licences growers and regulates the area planted to potatoes for the fresh market, sets wholesales prices, operates a price pooling arrangement and registers agents to handle and seel fresh potatoes. These arrangements, together with quarantine restrictions on interstate purchases, increase returns to growers and raise prices for Western Australian consumers. No production and marketing regulation applies, at present, to potatoes grown or sole for processing.

The Commission reported on statutory marketing arrangements for primary products in 1991. It found that many features of these arrangements - especially those dependent on powers of acquisition, production control and pricing - adversely affect the overall efficiency of resource use. Reviews of statutory marketing arrangements should adopt an economy-wide approach and governments should continue to streamline their procedures allowing for the reform of the authorities through which the arrangements operate.

The Commission re-iterates its previous finding that statutory marketing arrangements which depend on compulsory acquisition, production control and pricing adversely affect the overall efficiency of resource use. The two areas identified in this report for reform are dried vine fruits marketing arrangements and the activities of the Western Australian Potato Marketing Board.

Competition policy

Three aspects of national competition policy are relevant to Australian horticulture. The Commonwealth's Trade Practices Act regulates restrictive trade practices by corporations, including those of sellers and buyers of primary products. Together with State Fair Trading Acts, these mechanisms can provide growers with protection from the abuse of market power by others.

Many activities of statutory marketing authorities would contravene provisions of the Trade Practices Act if they were not exempt by virtue of section 5 1 of the Act and provisions in State legislation. Many compulsory powers of statutory marketing arrangements could be exempt in any

case because of the 'shield of the Crown'. In its report on statutory marketing arrangements for primary products, the Commission found few reasons to justify exemption but not make any specific recommendation given the different approaches that could be adopted in testing whether there is a 'public benefit' in the arrangements. The Prime Minister announced in October 1992 that a committee to review national competition policy would report by May 1993 on whether, among other mattes, the scope of the Trade Practices Act should be expanded to deal with anti-competitive conduct currently outside the scope of the Act.

Dried vine fruits

The dried vine fruits industry is highly concentrated from the packing stage onward. Entry to the industry is effectively controlled by the licensing of packing sheds by State dried fruit boards. This, together with statutory marketing arrangements, has enabled the industry to achieve domestic prices well in excess of export prices. The price differential between average domestic and export returns to packers of comparable sultanas was 46 per cent in 1999-91.

The Commission's 1991 report did consider that one area in the trade practices provisions - which is of relevance to growers of horticultural products negotiating with a processor - should be changed. It could not see any justification for the blanket prohibition on authorising voluntary recommended price agreements between fewer than 50 parties. Whether or not such an agreement is in the public benefit does not depend solely on the number of parties to the agreement. Rather, such- proposed agreements should be assessed on a case-by-case basis in view of the circumstances of the commodity in question, its markets and the degree to which such an agreement would reduce competition.

The Commission re-iterates its previous finding that there is no justification for the blanket trade practices prohibition on authorising voluntary recommended price agreements between fewer than 50 parties - assessment should be undertaken case-by-case.

Quarantine restrictions

Quarantine regulations prohibit or restrict the movement of fresh horticultural products to prevent the introduction or spread of diseases and pests from overseas, across State borders or between regions within a State. Unless based on consistent risk assessment procedures, quarantine measures unnecessarily impede efficient horticulture production and trade.

National quarantine regulations of most other countries restrict world trade in horticultural products and are a major obstacle to exports of Australian horticultural products. There is no dispute that quarantine regulations must apply when there is a significant risk of introducing disease. But it must be recognised that producers, including those in Australia, may attempt to use quarantine systems as a trade barrier if they are threatened by imports. Consideration has been given, in GATT negotiations, to regulations that would prevent quarantine systems from being used in this way.

State quarantine regulations were addressed in the Industries Assistance Commission report on the fresh fruit and fruit products industries (IAC 1988b). It found that these regulations could encourage sub-optimal production, hinder industry adjustment restrict consumer choice and adversely affect the efficiency of transport arrangements (for example, consolidating cargoes for export) and thereby, the competitiveness of exports. Subsequently, the Commonwealth Government stated it would take up these issues with the relevant authorities.

Co-operative effort between Commonwealth and State governments has resulted in progress towards establishment of a national fruit fly strategy. But, judging from participants' comments, little else appears to have changed. Some allege continuing use of interstate quarantine regulations to protect State industries from competition and AQIS said the lack of technical justification for them makes its negotiations with overseas authorities more difficult.

Quarantine laws are exempted from the mutual recognition processes agreed to by Australia's Heads of Government, but there is a process for challenging quarantine laws which are alleged not to perform a genuine quarantine function. The States need to agree to implement consistent risk assessment procedures for evaluating threats from pests and diseases. The Commonwealth has the same responsibility in managing Australia's import quarantine regulations. State quarantine issues are discussed in Section 3.1.6 of Part B.

Consistent with a previous Industries Assistance Commission recommendation, the Commission supports the development by the Commonwealth Government, with the States and Territories, of consistent risk assessment procedures for interstate and intrastate quarantine controls.

Food standards and labelling

The Industries Assistance Commission reviewed the regulations covering the composition, description, packaging and labelling of processed horticultural products in its 1989 report on Australia's food processing and beverages industries. It found that governments could reform food and labelling regulations in ways which: did not detract from their essential role of protecting the health and safety of consumers; increased the amount of information available to consumers; and reduced administrative costs. Since then, Commonwealth, State and Territory Governments have agreed on the need for reform and have established the National Food Authority to develop and review national food standards. Further details are provided in Section 3.6 of Part B and Appendix L.

Rather than specifying what is not allowed on the grounds of food safety, the National Food Authority has adopted a prescriptive approach to food regulation. Standards are based on descriptions of what constitutes a particular type of food additive and how food is to be packaged and labelled. This can have the effect of excluding foods even though they are safe. Various domestic horticultural interests have been active in seeking amendments to the Food Standards Code that would increase the print size and country of origin labelling requirements for imported foods. Such regulation can impose substantial compliance costs on importers – providing an advantage to local producers – without a commensurate benefit to Australian consumers.

What is orange juice?
Under recent amendments to the Food Standards Code, Australian produced fruit juices, cordials and soft drinks are allowed to contain 'orange peel extra' but it must be separately listed on the ingredients label and described as additional to and separate from fruit juice so as not to 'mislead' consumers. The difficulty in detecting peel extract in juices means imports can avoid the compliance costs of this requirements. Changing the definition of orange juice also has implications for sales tax treatment (see Box 3.1)

On 15 July 1992 the National Food Authority announced that it was undertaking a review of the policy for setting food standards. Nevertheless, on 30 July the Government announced that it would extend the Imported Food Inspection Program to ensure tighter inspection of imported foods at the point of entry. Food products which do not meet all national standards - 'truth in labelling', additives, product composition, residue levels and cleanliness - will not be allowed entry. Extending the scope of regulatory controls beyond those necessary to detect high risk foods and protect consumer health and safety will inhibit import competition and unnecessarily raise costs to Australian consumers.

The Commission supports the principle that food standards and labelling requirements be set to exclude only those products which threaten the health and safety of consumers.

Tariffs and anti-dumping measures

Nearly all fresh fruits, vegetables and nuts are free of import duties. Tariffs of 15 per cent apply to dried vine fruit, orange juice, fresh grapes and grape must. More highly processed fruit and vegetable products have a range of tariff rates. Tomato and potato products currently have tariffs of 20 per cent but most products are dutiable at 10 per cent or less (see Section 3.7.2 of Part B).

Almost all these tariffs are being reduced to 5 per cent by 1 July 1996 under the tariff reduction program announced by the Government in March 1991. There are some exceptions - tomato and potato products - which, because they were part of a separate phasing arrangement, will not reach 5 per cent until 1 January 1998. Tariff arrangements drew little comment from participants.

The Commission sees no reason to depart from the current tariff phasing arrangements for horticultural products.

Many participants referred to the need for anti-dumping measures to protect Australian growers from imports of processed horticultural products at 'dumped' prices (see Section 3.7.3 of Part B). They were concerned about the complexity of the arrangements, procedural delays and the difficulty of proving that dumped imports caused 'material injury' to local producers.

Since the introduction of new anti-dumping arrangements in September 1988, horticultural industries have lodged 10 dumping complaints. Dumping measures are currently in force against: canned pears from China and Spain; canned peaches from Spain, Greece and China; and canned tomatoes from Italy, Spain, Thailand and China. In the case of canned peaches and pears, action was taken against virtually all sources of imports. All these complaints involved processed products.

Procedures have changed in recent years to facilitate access to and maintain antidumping action. Growers can now initiate action against imports of processed products where previously they were deemed not to be directly affected (although this is currently being challenged by the European Economic Community as contrary to the GATT). Processing times for complaints have been shortened. The focus of the system remains on 'inquiry' to domestic producers rather than the effects of anti-dumping action on the wider community.

Some in the industry have argued that because horticultural products are perishable, special (fast-track) anti-dumping measures are warranted. The Commission notes that any such measures could prevent the industry from being exposed to legitimate import competition.

The Commission does not see any grounds for special anti-dumping arrangements for processed horticultural products which are not available to other industries. For fresh horticultural products, there seems to be no practicable way for countering dumping within the existing GATT framework; however, dumping does not appear to occur on a significant scale.

Export incentives

Horticulture is eligible for several Commonwealth Government programs assisting exports. In addition, several marketing and business training programs have a particular emphasis on export activity. The Government has also recently announced a separate series of measures to assist food exports (Button and Crean, 1992). These programs are discussed in Section 4.5.2 in Part B and Appendix L.

Australian horticulture received $6.9 million in 1989-90 from the longstanding Export Market Development Grants scheme. But horticulture has also been a major beneficiary in a proliferating range of newer export programs. The Marketing Skills Program funds tertiary education institutions and consultants to develop the export marketing skills of growers, company representatives and students. Horticulture has received 40 per cent of the funding so far. To assist the innovative development of products in the primary sector, the Innovative Agricultural Marketing Program provides 50 per cent of project costs up to a limit of $900 000 over a three year period. The program has an annual budget of $5 million, and since its inception in 1986 has allocated nearly $30 million, approximately one third of which has gone to horticulture. Since 1989 the program has required participants to refund a negotiated proportion of assistance if projects achieve sales success. As at February 1993 only $112 000 has been recovered.

Many participants were concerned about the way current export assistance arrangements are fragmenting the existing export effort by the horticultural sector and undermining the competitiveness of established horticultural exporters. The Commission and its predecessors have reported previously on how export subsidies can distort investment and production decisions.

The proliferation of export assistance schemes provides scope for horticultural exporters to obtain assistance simultaneously from a number of schemes, and their discriminatory nature can be detrimental to existing exporters. A review of these schemes is warranted but a prerequisite to that is an adequate information base about their use.

The Commission recommends that the Horticultural Policy Council establish an information base about all export assistance provided to horticulture. The information should include the amount of assistance provided to particular industries, the nature of firms receiving assistance from each program over the past five years, and activities covered by the assistance.

Sales tax

In its 1988 report on the fresh fruit and fruit products industries the Industries Assistance Commission recommended that the distinction in the sales tax treatment of local and imported fruit juices, and of juice concentrations, be removed. Similar distinctions apply to vegetable juices. The arrangements are of greatest significance for orange and tomato juice drinks (see Section 3.7.4 of Part B).

The Government announced in 1990 that it would remove the local content requirement from 1 July 1991, but that the partial sales tax exemption for drinks with more than 25 per cent juice would remain. Later that year, implementation was deferred subject to a report by the Commonwealth-State Citrus Advisory Group. The Group reported in September 1991 with split recommendations. Grower and packer interests and the Victorian and South Australian Departments of Agriculture recommended that there be a moratorium on removing the distinction for 5 years and a subsequent further review. The Government has yet to announce its decision.

Consistent with a previous Industries Assistance Commission recommendation, the Commission proposes that sales tax not discriminate on the basis of juice concentration or country of origin.

7 INSTITUTIONAL ARRANGEMENTS

The development of an internationally competitive horticultural industry requires efficient information systems for production and marketing as well as efficient organisations through which to co-ordinate growing, marketing and export activities. Many participants considered that Australian horticulture was deficient in both these areas, and that the extensive web of voluntary industry organisations detracts from, rather than enhances, industry performance.

The Commonwealth Government also perceived deficiencies in these areas, particularly regarding the co-ordination of export activities and the development of quality control, market research and promotion programs. In 1988 it established the Horticultural Policy Council, the Australian Horticultural Corporation and the Horticultural Research and Development Corporation. This tri-partite institutional structure which the Government adopted for horticulture is similar to that which operates for many other agricultural industries. A fourth important Commonwealth Government institution is the Australian Quarantine and Inspection Service. Information on these institutions is provided in Chapters 5, 6 and 7 of Pail B.

Industry and market information

Recent, reliable, consistent statistics are not available for many horticultural activities. Reasons for this are the incomplete coverage of farms and products in surveys (especially small farms and new products), a significant cash economy for some crops, and the wide variety of products which are often grown on a single farm.

Various government agencies currently collect industry statistics and provide a limited market intelligence service for horticulture. These agencies include the State Departments of Agriculture, the ABS and ABARE. However, their data collections and reports are not comprehensive and are frequently incompatible with one another. State agencies are increasingly curtailing the free provision of these types of services and are moving to a user-pays basis.

In order to address information deficiencies for horticultural industries, a statistics working party established by the HPC recently made recommendations designed to improve the accuracy and timeliness of data collections. Responsibility for further investigation now rests with the AHC. The small government contribution towards the task is appropriate. If cost-effective ways can be found to improve and fund statistical collection, the benefits might accrue more widely than to the horticultural sector.

The Commission supports investigation of the horticulture sector's statistical requirements and methods of collecting and disseminating horticulture statistics. The Commission also supports government funding for this preliminary investigation task and for the development of funding options for future industry statistical collections.

Price information for most fresh horticultural produce sold in major domestic markets is readily available on a daily basis. However, prices can change rapidly and price averages or ranges can conceal wide variations in product quality.

Horticultural produce is sometimes sold in the United States and Europe on the basis of description, made possible by comprehensive grading systems. Price information can be transmitted efficiently and marketing costs reduced by buyers not having to visually inspect produce before sale. Australia does not have a similar national product description scheme for horticultural products.

The Commission considers that the feasibility of developing a comprehensive grading system should be investigated and suggests that the HRDC fund such a task.

During its visits the Commission met a number of growers and exporters who are successfully developing and servicing export markets. They have a good knowledge of buyer requirements and market development prospects. Information about prices and prospects in export markets is usually more difficult and costly to obtain than for domestic markets. Larger firms may obtain economies in information collection, and the ability to closely retain the knowledge gained can be an important factor in decisions to invest in gathering information on foreign markets.

Organisational structures for exporting

A large number of independent marketers participate in exporting, taking advantage of high prices in foreign markets when they exist. However, about 15 organisations, with turnovers in the range of $5 million to $30 million a year, undertake the majority of horticultural exports. Some, such as Antico International, are trading companies. Others, such as Rivsam. and the Batlow Fruit Co-operative, are large grower co-operatives. Grower-based organisations in Queensland and New South Wales have joined forces to operate as a joint venture exporting citrus to Japan.

Australian horticulture is characterised by a diversity of different sized enterprises successfully growing, marketing and exporting produce. This diversity and the geographic spread of horticultural activities are reflected in a web of industry organisations. Membership of these organisations is mostly

voluntary. Decisions on more appropriate representational structures for voluntary organisations are best left to industry members. The Commission notes that in August 1992 the Commonwealth, State and Territory Ministers responsible for agriculture called for uniform legislation covering co-operatives because of a concern that lack of uniformity could be impeding co-operatives from acting as national bodies (see Section 3.3)

Citrus industry organisations

- There are at least 14 voluntary bodies representing around 3000 citrus growers in Australia.
- Each State has a peak grower body and many have a number of regional bodies. There are 4 in NSW
- There are a other groups representing exporters, processors and juice manufacturers.

See Appendix N for a chart of citrus industry organisation.

The Commission has not identified any significant institutional or regulatory impediments which limit flexibility with respect to size or integration of business organisations in Australian horticulture.

One possible means of co-ordinating production, distribution and marketing is through single-desk selling, where control is exercised through a single government agency or firm nominated by government. Examples are the New Zealand Apple and Pear Marketing Board, the New Zealand Kiwifruit Marketing Board, and Outspan and Cape in South Africa (see Section 4.3.2 of Part B).

By arranging export marketing for an industry within one organisation, economies of size might be realised in packing, negotiating freight rates, controlling inventory, investigating market prospects and promotion. However, for such benefits to be realised, single-desk sellers require access to large volumes of produce. National single-desk selling is unlikely to be feasible in Australia given the geographic dispersion of production and the limit that perishability places on the time available to consolidate large shipments.

Another argument put forward in favour of single-desk selling is that by controlling supply into certain markets, a price premium may be obtained. With the possible exception of dried vine fruits, the Commission is unaware of any horticultural product in which Australia, acting alone or in concert with others, has market power which could be exercised in foreign markets. Further, export licensing can perform the same function, and more efficiently, if licences are allocated through market-based mechanisms.

Single-desk selling can have unfavourable side effects by diminishing or removing incentives to market competitively so that selling costs may be increased.

For Australia, national single-desk export selling is inappropriate for most horticultural exports because of the geographically dispersed production of perishable goods, the lack of demonstrable market power, and because of its potential to reduce competitive disciplines.

Quality assurance

A theme which has been emphasised throughout the inquiry is the need for Australian producers to establish reputations as reliable suppliers of a consistent quality product for both domestic and export markets (Section 4.4.3 of Part B). The Commission encountered producers whose success in export markets stems from such a reputation and whose products are readily identified by a distinctive logo or brand name. Notwithstanding the success of many individuals, there is little consensus on how quality 'control' in horticulture should be achieved. Some favour prescriptive grades and standards and others favour inspection to certify that a particular quality is attained. Both approaches are likely to be inflexible and stifle innovation. Voluntary quality assurance programs are a better approach.

The Australian Horticultural Corporation has developed the Australian Horticulture Quality Certification Scheme (AHQCS) which was introduced in July 1991. This scheme provides formal recognition to businesses with quality management systems conforming to an internationally accepted standard (ISO 9002). The scheme does not mandate specific product quality standards but focuses on ensuring consistent adherence, through a credible quality control system, to the product specifications customers require.

AHQCS is one of a number of schemes in use or being introduced to give better description and greater assurance to buyers about the quality of produce supplied. All the schemes are voluntary. They differ in their rigour and cost.

The Commission sees benefit in the use of voluntary quality assurance schemes, such as the Australian Horticulture Quality Certification Scheme, which conform to international standards and are provided on a fee-for-service basis. In many instances, a government imprimatur can enhance the acceptability of a scheme, particularly in its early stages.

The Australian Horticultural Corporation

The Commonwealth Government established in AHC in August 1998 under the *Australian Horticulture Corporation Act 1987* 'to assist the Australian horticultural industries to achieve their full potential in overseas markets' and the development of the industries generally.

The Act givers the AHC powers to negotiate freight and insurance contracts, obtain and disseminate market and industry information, and exercise general corporate functions.

The AHC:

- provided horticultural industries with their only compulsory levy mechanism for non-R&D purposes;
- has export licensing, trading and agency powers;
- has concentrated on domestic promotions; and
- was set up by the Commonwealth with 'seed' money of $5.85 million for its first 5 years.

The AHC can charge for its services. Regulations can be made which would empower the AHC to control or prohibit exports. It can apply conditions to particular products or export destinations, including licensing and conditions pertaining to price. Specific export trading powers - exercisable with the permission of the Minister -would permit the AHC itself to export. It can also act as an agent.

Participation in the AHC by an individual industry is voluntary and is based on the decision of its peak body which must have the support of a majority of producers and production. Those presently participating in the AI-IC are: the apple and pear, and citrus industries (which joined at its commencement); the nashi and nursery industries (1989-90); the dried vine fruits industry, which participates under a special, more autonomous, arrangement (1991); the macadamia, avocado and chestnut industries (1992); and the honey industry (1993). As yet no vegetable industry participates in the AHC, although there have been preliminary discussions with the potato industry.

Funding for the AHC is primarily by producer levies and export charges, amounting to $2.8 million and $0.5 million, respectively, in 1991-92. It also received a total of $5.85 million from the Commonwealth Government over its first five years to help with establishment costs. That funding will terminate at 30 June 1993. The AHC received only $17 426 in 1990-91 from fee-for-service work.

Participating industry programs are implemented by the AHC in accordance with the outcome of a strategic planning process conducted with industry. The reflect the interaction between the AHC's interpretation of its powers and functions, and industry priorities. Total expenses for participating industry activities in 1990-91 were $2.4 million.

AHC industry activities in 1990-91

Activity	*$'000*
Domestic promotion	1 677
Export promotion	288
Corporate communications	175
Market research	111
Other	149
Total	2 400

Although the Act places all horticulture within the AHC's domain, the requirement for a co-operative, industry driven approach, and limited finance have constrained most of its activities to those sponsored by levy paying industries. Nevertheless, the AHC has some capacity to act on its own initiative, using the Commonwealth's initial 'seed' funding, in ways it considers beneficial to all horticultural industries. The AI-IC indicates that the cost of implementing these sector-wide marketing programs in 1990 -91 was $653 000.

In its report on the AHC, the Commission found little conclusive evidence to show that the AHC has been effective in increasing the international competitiveness of Australian horticulture (IC 1992a). however, it considered that several activities planning, quality assurance certification, export promotion, market research, encouraging communication amongst participants, and freight negotiations – have the potential to be beneficial to Australian horticulture and are

AHC sector-wide activities in 1990-91

Activities	*$'000*
Quality certification scheme	174
Domestic promotion	99
Export promotion	40
Market research	31
Market access	20
Food safety	15
Salaries and on-costs	274
Total	653

consistent with improving its international competitiveness. This may not be so for some other activities and approaches of the AHC, especially export licensing, domestic promotion and the AHC's policy of dealing with industries only through a single national peak grower body.

Industry levies

Access by horticultural industries to a statutory levy provides a means of..

- raising funds for activities which serve the 'common good' of all members of the industry; and
- overcoming the problem of individuals who would not otherwise contribute from 'free-riding'.

The AHC has a monopoly over the provision of levy-financed services on a Commonwealth-wide basis (apart from research and development for which a separate levy can be raised through the HRDC). An industry is unable to raise a compulsory national levy and spend it in its own right - it must have the AHC spend it on its behalf. In addition, the AHC has a power of veto over how levy money is spent, although that power is tempered by the control industries exercise over the size of the levy they choose to pay, and the option industries have to cease participating in the AHC. However, current arrangements compel horticultural industries to support the AHC if they are to have access to a national statutory levy mechanism. Further, industries are required to participate in programs which the AHC considers to be an inherent part of membership.

The Commission supports the ability of individual industries to have compulsory levies collected on their behalf, provided that:

- it is clearly the wish of the majority of participants in the industries concerned;
- the industries pay for the levy collections and the audit of their expenditure; and
- the common good purposes for which the levy is collected are clearly defined.

The Commission considers that a clear distinction should be drawn between activities the AHC engages in at the request of industries and those it instigates itself on the basis of national interest. The content of programs requested by industry should be decided by the industry concerned. Further, the efficiency with which the AHC undertakes activities requested by industry should be subjected to a market test.

The Commission recommends that where a compulsory levy is paid by a horticultural industry, levy funds for programs requested by that industry be paid directly to the industry. There should be no obligation on the industry to engage the services of the AHC.

Determining the 'common good' is rarely straightforward. The nature of common goods - once provided, they are available to all - means there is always an incentive for beneficiaries to opt out, if possible, from contributing to their provision.

However, there may be substantial minorities, as well as many individuals, for whom the 'common' good they are compelled to finance (generic advertising, for example) is worth less than the private benefits they would otherwise obtain from spending more on, say, branded advertising, pest research or farm improvements. For an industry to join the AHC both it and the Minister have to be convinced that a majority of producers and production support participation. Whatever decision rules are adopted, there will be trade-offs between the efficiency enhancing effects of providing a common good and the reduction in efficiency caused by diverting funds from uses which are of greater value to minority groups and individuals.

A national horticultural body such as the AHC has, by its nature, a focus which is predominantly national. Given the diversity that characterises Australian horticulture, too much of a national focus can stifle legitimate regional or other small group initiatives. For example, the AHC currently only allows up to 10 per cent of a participating industry's national domestic promotion budget to be devolved to State or regional bodies to undertake specific promotions through the ABC. The Commission considers that responsibility for determining the mix of national, regional and other priorities should rest with the industries from which the funds are collected.

Levies must be raised uniformly for each industry across Australia. While there is scope to fine-tune levies in the way that industries are defined, constitutional problems would arise if levies for particular products were applied to some groups but not others. However, it should be possible for a uniformly applied Commonwealth levy to be returned to State, regional or sub-industry bodies for a variety of statutory purposes.

The Commission recommends that levy funds be devolvable to industry bodies which are not national in character.

The benefits and effectiveness of generic promotion in the domestic market are strongly contested within Australian horticulture. (Promotion issues are discussed in Section 3.5 of Part B and Appendix K.) Extending the current statutory purposes to include research and development activities additional to those covered by the existing specific levy for research and development would allow greater flexibility, and potentially more efficient choices, to be exercised by those in the industry. (Research and development issues are discussed in Section 2.6 of Part B and Appendix J.)

The Commission recommends that industry bodies be permitted to use devolved funds for research and development.

In making these proposals the Commission envisages that the AHC could continue to operate with the same broad objects and functions it now has; National peak horticultural bodies, State and regional groups, individual enterprises and even governments would be able to approach the Al-IC on a fee-for-service basis.

Export licensing and trading powers

The AHC has the power to trade in its own right, that is, buy and sell produce for export. It can also act as an agent. The trading powers can be exercised only with the permission of the Minister and would, in turn, only be granted with the general support of the relevant industry. The AHC has sought to retain its trading powers but has expressed no wish to use them.

Several of those who have established their own reputations in export markets expressed nervousness at the potentially wide ranging export trading powers that could be conferred on the AHC. The Commission considers the AHC's trading powers to be unnecessary and possibly an obstacle to more effective co-operation with exporters. Situations where such powers might be useful, such as satisfying the requirements of importing countries, can be adequately handled through agency and export licensing powers.

Export licences are issued by the AHC for pears, nashi, citrus, honey and, on the advice of the Australian Dried Fruits Board, for dried vine fruits. The licences control the quality which can be traded, terms of sale and payment, and allowable commissions and importers. In the case of dried vine fruits, licensees are allotted an export quota.

Export licensing impedes the efficient marketing of Australian produce. The quality of traded produce and the terms and conditions under which it is traded are best left to the transacting parties. The development of quality assurance programs further weakens the case for export licences.

In formulating its proposals, the Commission has taken into account the infancy of internationally recognised quality assurance programs for Australian horticulture and has allowed until July 1995 for their further development and acceptance before restricting the circumstances under which export licences are issued.

The Commission doe's see limited roles for export licensing controls in particular markets. For example, an importing country may require that the quantities Australia exports to that market be limited or take place through an enterprise nominated by the Australian Government. Licences can also be used to ensure that Australian exporters extract any premiums due to market power in particular foreign markets. Any licences that are issued should be allocated through a process of competitive bidding.

The Commission recommends that the AHC's trading powers be removed. The Commission also recommends that from 1 July 1995 export licensing be confined to cases where it is needed to meet the requirements of an importing country or to extract any premiums available from market power in foreign markets, and that licences be allocated through competitive bidding.

Funding for the AHC

Some projects are undertaken by the AHC for horticultural industries on the basis that they are in the national interest, since their benefits are considered to accrue to the whole community. Some other projects benefit principally horticultural industries. And many projects provide dispersed benefits to both horticulture and the community.

The Commission considers that projects clearly in the national interest should be funded by Government. Where horticulture also benefits, an industry contribution to funding may be appropriate. In those cases, the contribution should be based on the size of an industry rather than on the size of the levies it chooses to pay.

Any Government funding of activities such as domestic promotion and product specific export promotion would be inappropriate because the benefits accrue to those in the industry, and not to the wider community. Indirect subsidisation of AHC industry promotions can occur if the AHC 's charges to industry for the promotional work do not include an appropriate contribution to overheads.

The Commission recommends that Government funding continue to be available to support activities conducted by the AHC on the basis of national interest. Any industry contributions to the cost of those activities should be linked to the gross value of production of the industries. Commonwealth funds should not be made available - either directly or indirectly - for domestic or product-specific export promotion.

Australian Quarantine and Inspection Service

The Australian Quarantine and Inspection Service (AQIS) operates as a unit of the Commonwealth Department of Primary Industries and Energy (DPIE) and has key responsibilities for export food inspection and Australia's system of quarantine security. Three particular issues have been drawn to the Commission's attention.

Important impediments to Australian horticultural exports are the stringent quarantine regulations imposed by some Asian countries which are Australia's closest markets.

AQIS negotiates with overseas authorities for the removal or modification of quarantine regulations. Industry has claimed that it sometimes is not able to make use of the access achieved because agreed conditions are impracticable. The Commission encourages greater co-ordination between industry and AQIS to overcome this problem.

Secondly, the Government's decision to charge industry the full cost of AQIS services has recently been fully implemented. However, some charges do not properly reflect the cost of providing the service, and this can result in inefficient use of resources. AQIS is continuing to address this problem and put forward various options, for discussion, in its November 1992 paper (AQIS 1992).

Thirdly, AQIS has a monopoly over the provision of phytosanitary certification services, although it has played an important role in developing a range of quality assurance schemes which lead to reduced need for traditional inspection and certification services. The next phase, which would benefit the Australian community further, is to introduce some competition in the provision of remaining inspection services. This approach also was raised by AQIS in its options for reform (AQIS 1992).

The Commission proposes that industry have an increased role in market access negotiations, that AQIS charges be better aligned with the cost of providing services, and that DPIE report on the scope for introducing competition in services now provided by AQIS. Formal recommendations are included in the next section.

8 SUMMARY OF FINDINGS AND RECOMMENDATIONS

The Commission was asked to examine a number of factors which could affect the international competitiveness of Australian horticulture and to report on any institutional or regulatory factors which might be impeding the development of an internationally competitive horticultural industry. It was also asked to advise on courses of action with respect to the horticultural industries which will raise overall economic efficiency within the economy.

Box 1: **Structural characteristics of Australian Horticulture which affect international competitiveness**

A: compared with broad-area Australian farming

- perishable products
- handling and transport costs a large proportion of cost to final seller/buyer
- labour intensive
- land and other capital per farm relatively low
- horticultural land has more alternative uses
- bulk of supply is to the domestic market rather than export markets
- global trade is relatively small and world prices are more volatile

B: compared with competitors in world markets

- diverse geographically and in varieties of products
- handling and transport costs are relatively high
- high labour costs
- makes little use of large national or multi-national trading organisations

Individual horticulturalists, co-operatives and other commercial organisations are already engaged in a wide range of activities which improve international competitiveness. Throughout the course of this inquiry the Commission has gained the impression that horticulture contains dynamic elements well aware of the challenges and opportunities to be faced in the next decade and with a preparedness and capacity to respond. The sector is highly competitive and the Commission has not found any major institutional or regulatory impediments to its continuing development.

Change is occurring in the way some parts of horticulture are organised. Both producers and processors are beginning to benefit from the integration of their activities, and growers are adjusting their practices as closer relationships with users and retailers inform them better of the changing requirements of the market. Some individuals and some industries within horticulture have established a strong track record in exporting and their successes are being emulated by others. However, because of the perishability of many horticultural products, their high transport costs and some legitimate quarantine requirements, it is likely that the bulk of horticultural production and marketing activities will remain oriented towards domestic use.

The Commission expects the private sector, both individually and collectively, to continue to be the driving force behind export success. Improved communication and information flows, the application of new technologies to all aspects of production and marketing, and the adoption of internationally recognised quality assurance schemes all have potential to further enhance individual and co-operative performance. Governments can best facilitate the growth and development of horticultural activities by removing impediments to efficient resource use generally and ensuring that the institutional arrangements they have established for the sector are responsive to the development priorities of the most diverse sector of Australian agriculture.

Box 2: **Institutional and regulatory impediments that need to be addressed**

- There is limited access to export markets.
- The AHC is a: monopoly provider of levy-financed services.
- The fees for: some AQIS-provided services do not reflect the cost of efficient provision of those services.
- AQIS has a monopoly over the provision of some services. income tax treatment of horticultural plantation expenditures, and. sales: tax treatment of fruit juices, contain anomalies.

The AHC can play a strategic role in encouraging structural and attitudinal change which can be to the longer-term advantage of both individuals and the wider community. This could result from facilitating strategic planning by industry groups, providing information on successful models for overcoming structural problems, identifying impediments to market development, and providing a framework for implementing collective market development initiatives. Each of these activities would need to be performed cost-effectively.

Against this background, this chapter summarises the Commission's findings on a number of matters and, where appropriate, the courses of action it recommends in relation to those findings. Cross-reference is made to more detailed material in Parts B and C of the report.

Land

- The Commission has been unable to identify any significant institutional or regulatory impediment to the efficient allocation of land for horticulture. (Section 2.2.2)

Labour

- Horticulture is labour intensive and labour demands are seasonal. Small farm sizes help to curtail the need for hired labour.

- Institutional arrangements which potentially influence labour markets in horticulture, particularly for seasonal work, are: the social security system; charges made by the Commonwealth Employment Service for registering temporary vacancies; and work visa arrangements for foreign visitors.

Capital

- Capital markets in Australia are generally competitive. However, there is an anomaly in the taxation treatment of capital expenditure on establishing new horticultural plantations. (Section 2.2.3)

- The Commission recommends that the taxation treatment of expenditure on new horticultural plantations be revised in a way which provides a more neutral treatment compared with expenditure on other activities.

Water pricing

- The overall efficiency of resource use will improve if governments adopt the water industry reforms recently proposed by the Commission. Irrigation water is not a major cost component for Australian horticulture and growers have a variety of adjustment options. (Section 2.2.6)

Materials

- Although Australian horticulture may face higher materials costs than its foreign competitors, the Commission has not identified any institutional or regulatory impediment to their provision at least cost, other than tariffs and these are being reduced. (Section 2.2.5)

Environmental costs

- Australian horticulture is an intensive user of chemicals and water. Adverse environmental impacts should be addressed through market-based mechanisms wherever possible and, where not possible, the benefits of regulatory controls should be shown to exceed their costs. (Section 2.2.7)

Transport

- Transport is a major factor in the cost of supplying horticultural products to both domestic and overseas markets.

- Most horticultural products are moved within Australia by road. While road transport services are provided very competitively, governments have not ensured road use has been charged for efficiently. Although an advance, the reforms to take effect in 1993 will mean that some vehicles will bear higher registration charges than their mass and distance travelled indicate are necessary to achieve efficient road use.

- All levels of government need to press on with reforming Australia's domestic shipping, rail and air transport systems. With one exception, the Commission has not identified any significant institutional or regulatory impediments in those systems which affect Australian horticulture. It is difficult on efficiency grounds to support selective compensation for the disadvantages Tasmania faces as a result of Australia largely reserving the coastal trades for locally controlled and crewed vessels.

- The relatively small volumes and consignments of horticultural exports preclude the use of cheaper sea and air transport options and result in a reliance on conference shipping and scheduled international passenger services. Institutional and regulatory impediments arising from the waterfront, ports and conference shipping, and air transport, are currently being addressed in a number of forums. (Section 2.4.2)

Statutory marketing arrangements

- The Commission re-iterates its previous funding that statutory marketing arrangements which depend on compulsory acquisition, production control and pricing adversely affect the overall efficiency of resource use. The two areas identified in this report for reform are dried vine fruits marketing arrangements (Section 3.2. 1) and the activities of the Western Australian Potato Marketing Board (Section 3.1.5).

Competition policy

- The Commission re-iterates its previous finding that there is no justification for the blanket trade practices prohibition on authorising voluntary recommended price agreements between fewer than 50 parties - assessment should be undertaken case-by-case. (Section 3.2. 1)

Quarantine

- Consistent with a previous Industries Assistance Commission recommendation, the Commission supports the development by the Commonwealth Government with the States and Territories, of consistent risk assessment procedures for interstate and intrastate quarantine controls. (Section 3.1.6)

- In seeking to negotiate fairer access to overseas markets for Australian products, it is vital that Australian quarantine barriers are themselves able to withstand scrutiny. (Section 3.7. 1)

Food standards and labelling

- The Commission supports the principle that food standards and labelling requirements be set to exclude only those products which threaten the health and safety of consumers. (Section 3.6)

Tariffs

- The Commission sees no reason to depart from the current tariff phasing arrangements for horticultural products. (Section 3.7.2)

Anti-dumping measures

- The Commission does not see any grounds for introducing anti-dumping arrangements for processed horticultural products which are not available to other industries. For fresh horticultural products there seems to be no practicable way for countering dumping within the existing GATT framework; however, dumping does not appear to occur on a significant scale. (Section 3.7.3)

Export Incentives

- Horticulture has been a major user of a proliferating range of export assistance programs. Export assistance programs are selective in their nature and bias investment decisions. The increasing range of the schemes provides scope for exporters to obtain assistance simultaneously from a number of schemes, and their discriminatory nature can be detrimental to existing exporters. As they presently operate, some of the schemes available to horticulture fragment existing export efforts. An adequate review of these programs cannot be undertaken in the absence of information about their use. (Section 4.5.2)

- **The Commission recommends that the Horticultural Policy Council establish an information base about all export assistance provided to horticulture. The information should include the amount of assistance provided to particular industries, the nature of firms receiving assistance from each program over the past five years, and activities covered by the assistance.**

Measures used overseas

- Australian horticultural exports are often impeded as a result of the assistance many foreign governments provide their horticultural industries. Australian exports of horticultural products are also impeded by quarantine measures. (Section 4.6)

- It is not in Australia's best interest to retaliate against or imitate the protective trade barriers, export subsidies and unwarranted quarantine controls used by other countries to support their horticultural industries. The Australian Government should continue to argue in international forums and in country-to country discussions for the removal of such measures.

Sales tax

- A recommendation that sales tax not discriminate on the basis of fruit juice concentration or country of origin was made by the Industries Assistance Commission in 1988 but the Government has yet to make a decision. Section 3.7.4)

- The Commission recommends that the present distinction between Australian and imported fruit juices in the sales tax arrangements be removed, and that partial sales tax exemption on fruit based drinks containing not less than 25 per cent of fruit juice be discontinued.

Industry statistics

- The Commission supports investigation of the horticulture sector's statistical requirements and methods of collecting and disseminating horticulture statistics. The Commission also supports government funding for this preliminary investigation task, and for the development of funding options for future industry statistical collections. (Section 1.3)

State agricultural authorities

- The Commission considers that a review of the horticultural activities of State agricultural authorities and related expenditures may be warranted. The Horticultual Policy Council appears to be an appropriate body to undertake such a task. (Section 1.4)

Grading system for produce

- The Commission considers that the feasibility of developing a comprehensive grading system should be investigated and suggests that the HRDC fund such a task. (Section 3.1.3)

Organisational structures for exporting

- Australian horticulture is characterised by a diversity of different sized enterprises successfully growing, marketing and exporting produce. The Commission has not identified any significant institutional or regulatory impediments which limit flexibility with respect to size or integration of business organisations in Australian horticulture. (Sections 2.5 and 3.3)

- For Australia, national single-desk export selling is inappropriate for most horticultural exports because for the geographically dispersed production of perishable goods, the lack of demonstrable market power, and because of its potential to reduce competitive disciplines. (Section 4.3.2)

Quality assurance

- The Commission sees benefit in the use of voluntary quality assurance schemes, such as the Australian Horticulture Quality Certification Scheme, which conform to international standards and are provided on a fee-for-service basis. In many instances, a government imprimatur can enhance the acceptability of a scheme, particularly in its early stages. (Section 4.4.3)

The Australian Horticultural Corporation

Effectiveness

- Whilst there is little conclusive evidence to show that the AHC has been effective in increasing the international competitiveness of Australian horticulture, many of the activities in which the AHC is engaged have the potential to be beneficial to Australian horticulture and are consistent with improving its international competitiveness. These are principally strategic planning, quality

assurance certification, export promotion, market research, encouragement of communication amongst participants, and freight rate negotiations. However, some other activities or approaches of the AHC are more. equivocal in their effects on international competitiveness, especially export licensing, domestic promotion and the AHC's policy of dealing with industries only through a single national peak grower body.

Industry levies

The Commission recommends that:

- **where a compulsory statutory levy is paid by a horticultural industry, levy funds for programs requested by that industry be paid directly to the industry;**
- **there be no obligation for industries to use levy funds paid to them to engage the services of the AHC;**
- **industry levy funds be devolvable to sub-industry bodies;**
- **purposes for which levy funds can be spent be defined by statute; and**
- **industry bodies be permitted to use industry levy funds paid to them for research and development.**

Export licensing and trading powers

- **The Commission recommends that the AHC's trading powers be removed.**
- **The Commission also recommends that from 1 July 1995:**
  - **export licensing be applied to a market only with the specific authorisation of the Minister in each case, and only when necessary:**
    - **to meet the requirements of an importing country; or**
    - **for premiums to be extracted through the exercise of market power;**
  - **licences be allocated by competitive bidding;**
  - **exporters be otherwise free to sell exports by whatever method they see fit, including consignment selling.**

Funding

- The Commission is of the view that funding should be provided to the AHC from the Government for activities which are undertaken on the basis of national interest rather than on the basis of being requested by industry. All other activities of the AHC should be funded by industry.

- The Commission recommends that:

    - the AHC provide services requested by industry on a fee-for-service basis;

    - Government funding continue to be available to support activities undertaken by the AHC on the basis of national interest;

    - should the Government require levy paying industries to contribute to the cost of the AHC's national interest programs, such contributions be linked to the gross value of production for those industries; and

    - Commonwealth funds not be made available for domestic promotion or product-specific export promotion.

The Australian Quarantine and Inspection Service (AQIS)

- The Commission recognises that substantial reform of quarantine and inspection services has been achieved by AQIS. That is a process which must continue, as recognised by the options for further reform circulated for discussion by AQIS in November 1992.

- Three concerns raised in this inquiry on which the Commission makes recommendations relate to market access negotiations, charges for AQIS services, and allowing competition in the provision of services currently provided by AQIS.

- **The Commission recommends that a mechanism be established, through the Market Access Committee, so that horticultural industry representatives have a greater involvement in market access negotiations with a view to ensuring practicable outcomes.**

- **The Commission recommends that, to encourage more efficient use of its services, AQIS better align its charges with the costs of providing services.**

- **The Commission recommends that the Department of Primary Industries and Energy report on the scope for introducing competition in the provision of some or all of AQIS inspection and certification services, possibly by franchising or contracting them to a range of State authorities or any other suitably qualified organisations.**

HORTICULTURE

PART B

DESCRIPTION AND ANALYSIS OF THE HORTICULTURAL SECTOR

1 PRODUCTION, TRADE AND ASSISTANCE

This chapter provides background information on horticulture to help place subsequent chapters in perspective. It commences with a discussion of world horticultural production and trade, then examines the important characteristics of horticulture in Australia and statistical limitations. Australian horticultural production and consumption are then discussed, followed by an analysis of Australia's trade in fresh and processed horticultural products. It concludes with a look at the level of assistance to horticulture.

1.1 World production and trade

The bulk of world horticultural production is not traded internationally, but is produced locally to meet domestic needs. This is because most horticultural products can be produced locally at a lower cost than the imported product.

In 1990 the largest traded fresh fruit and vegetable by value was oranges (US$2.7 billion), followed by bananas, apples and tomatoes (Table 1.1). Significant trade also occurred in fresh grapes, potatoes and onions. Bananas and potatoes were the most significant products traded by volume.

The most traded fresh product as a proportion of world production in 1990 was bananas (21 per cent), followed by oranges, apples and onions. However, where a high proportion of production is processed (eg, oranges into frozen concentrate, and grapes into wine or dried fruit), these numbers underestimate the proportion of product which is ultimately exported.

For several horticultural products in Table 1.1, international trade was less than 5 per cent of production. In such 'thin' markets, the prices at which trade takes place are likely to be unstable because marginal changes in regional production can translate into large quantities needed or available for trade.

According to Honma (1991, p.1) international trade in horticultural commodities such as cut flowers, vegetables and fruits is expanding at a higher rate than trade in other agricultural commodities. Major factors driving horticultural trade are the increased availability of air transport and controlled atmosphere containers. These have made it possible to ship perishable products internationally at lower cost (Honma 1991, p.13). Technological improvements in packaging are also likely to increase trade.

However, international trade in fresh horticultural product is still affected by perishability. Transport costs for fresh products (eg, for airfreight or refrigerated containers) are higher than those of processed products, and trade in processed product (eg, frozen orange juice concentrate) is often more important than in the fresh product.

Rising real income levels have contributed to the high growth rate of horticultural trade. The desire by consumers to have year-round supplies has increased trade, while the demand for new or exotic foods has increased the range of products being traded. Dietary changes have also contributed. Fruit, vegetable and nut consumption is rising as consumers particularly high income consumers - become more health conscious.

Table 1.1: **World production and fresh exports of major fruits and vegetables, 1990** [a]

	Production	*Fresh exports* [b]			*Exports/*
	Volume	*volume*	*value*	*unit value* [e]	*prod. volume*
	million Tonnes	million tonnes	billion $US	$US per tonne	per cent
Oranges[d]	52	5.7	2.7	475	11
Bananas	46	9.4	2.6	279	21
Apples	40	3.7	2.1	561	9
Graphs	60	1.6	1.7	1 011	3
Fruit	380	na	na	-	-
Tomatoes	69	2.4	2.0	845	3
Potatoes[e]	270	6.9	1.6	233	3
Onions	28	2.2	0.6	283	8
Roots and tubers, excl. potatoes	327	na	na	na	-
Vegetables, roots and tubers	**1 001**	**na**	**na**	-	-
Tree nut	4.5	na	na	-	-
Honey	1.2	0.3	0.3	1 000	24

(-) Not calculated. Na Not available

a Excludes legumes. Includes production used for processing purposes. Production figures for certain products, in particular vegetables and nuts, may be incomplete.

B exports classified according to Standard International Trade Classification Revision 3. Figures include dried for some products.

C Calculated by dividing value of exports by volume

D oranges exports include mandarins and tangerines.

E excludes sweet potatoes.

Source: FAO 1991a, FAO 1991b

1.1.1 Production

World production patterns vary between different horticultural products. Some products (eg, apples) are grown widely throughout the world so that regional shortages or surpluses tend to balance out through trade. For bananas, about 75 per cent of trade is supplied by Central and South America. Production and trade in bananas are controlled by a small number of multinational companies which reduce production risks (political and climate) by spreading production over a number of countries.

Where production is highly concentrated in one country, weather conditions can lead to large world price variations. For example, Brazil produces 22 per cent of world citrus production and accounts for about 85 per cent of world exports of frozen concentrate (Gallasch 1990, pp. 1,6). In 1988-89 a large orange crop in Brazil, combined with a better than average crop in the United States, substantially reduced the world price of frozen orange juice concentrate.

Favourable climate and other specific advantages (eg, low labour costs) have led some countries to specialise in particular products. For example, Brazil has specialised in producing frozen orange juice concentrate. It exports only one per cent of its oranges as fresh fruit (Appendix E, Table E5). Brazil has a number of specific production advantages for citrus, including regional concentration (80 per cent of all citrus is produced in Sao Paulo State), superior root stocks, clones and varieties, large orchards, fruit with a high juice yield, low labour costs and an efficient processing sector. However, the high proportion of fruit processed can be attributed to climate related pest and disease problems which damage the appearance of the fruit and make chemical control expensive (Gallasch 1990, p.6).

Another example of specialisation is apple production in New Zealand. Although New Zealand produces less than one per cent of world apple supplies, it accounts for 6 per cent of world trade by volume (OECD 1991, pp.22,23,70). Factors contributing to New Zealand's export orientation in apples include the geographic concentration of production (which enables packing and handling to occur at only a few locations), the development of young, high yielding orchards, significant production of newer preferred varieties, a lack of alternative uses for inputs, and sufficient volume to allow dedicated shipping to major markets.

1.1.2 Trade

Horticultural products are no different from other agricultural commodities in that the direction and volume of world trade in a particular product varies according to climate, the competitiveness of different sources of supply, differences in production seasons between countries and regional variations in production.

A feature of some horticultural trade is that major producing and exporting countries often import the same product. This can result from the seasonality and perishability of fresh product, or because some preferred varieties are not produced locally.

A particular characteristic of horticultural trade is that both supply and demand are dominated by developed countries (Honma 1991, p.1). According to Islam (1990), the major horticultural trade flows reflect the demands of the high income developed world. The single largest importer of fruit and vegetables in 1986-1988 was West Germany, followed by the United States (Table 1.2).

There are a number of established patterns in horticultural trade. European countries, for example, are major exporters and importers of fresh oranges, apples and pears. However, this does not necessarily indicate large global trade flows. For example, Spain is a major producer of oranges and exports large quantities to other European countries such as France and Germany. Movements of products over corresponding distances in the United States or Australia are recorded as domestic flows. Other major regional flows occur from Central and South America to North America. Important examples of North American imports include fresh grapes from Chile and frozen orange juice concentrate from Brazil.

Table 1.2: **Value of fresh and processed vegetables and fruits imported by the five major importing countries, 1986-1988 average, $US million** [a]

Country	*Vegetables*	*Fruits*	*Total imports*
Federal Republic of Germany	3 396	4 035	7 431
United States	1 497	3 566	5 063
United Kingdom	1 530	2 247	3 777
France	1 483	2 252	3 736
Japan	1 009	1 753	2 762
Total market economy imports	**16 220**	**2 2705**	**38 925**

a Excludes centrally planned economies.

Source: Homna 1991, p.14.

Seasonality is an important determinant of world trade flows. Large volumes of horticultural produce are imported by Northern Hemisphere countries each year, with major Southern Hemisphere suppliers including New Zealand (apples and kiwifruit), Chile (fresh grapes, apples, pears) and South Africa (apples, citrus, pears). Major trade flows between Southern and Northern Hemisphere countries are documented in Tables El, E2 and E3 in Appendix E.

Another significant international trade pattern is that from developing to developed countries. Developing countries' exports of horticultural products to developed countries are dominated by tropical products, such as bananas, mangoes, dates and pineapples. This is due to the greater concentration of developing countries in the tropical and subtropical regions, and the predominance of developed countries in temperate regions. The European Community and the United States accounted for 70 per cent of total banana imports in 1990 (CIE 1991, p.3).

Horticultural trade with and within Asia has increased over the past two decades. Imports of fruit, vegetables and nuts into Japan, South Korea, Taiwan and Hong Kong increased thirty-fold between 1962 and 1986 (Evans 1990, p.25). In 1986, the United States was the dominant exporter to these four markets, supplying 29 per cent of all fruit, vegetables and nuts. This compares with ASEAN supply of 17 per cent and China 19 per cent. New Zealand's share of total fruit, vegetable and nut imports into these four markets increased from a negligible level in 1962 to 4 per cent in 1986, while Australia's share declined from 2 to 1 per cent.

Japan is the world's fifth largest importer of horticultural products (Table 1.2). According to Honma (1991), Japanese imports of horticultural products grew by 12.5 per cent per annum in the 1980s, compared with a growth rate for total agricultural imports of 5.2 per cent annually. However, developing countries' share of the Japanese market declined from 47 per cent in 1980 to 39 per cent in 1988. Honma attributed this declining share to a rapid growth in vegetable trade over the period, particularly processed vegetables, with developing countries unable to compete with developed countries (Honma 1991, p.1)

Trade barriers, particularly quarantine, are a major impediment to horticultural trade. Because of the susceptibility of many horticultural products to a wide range of plant and insect pests, phytosanitary controls on imported product are often stringent (or prohibitive) and costly to implement. In addition, many countries regulate horticultural trade through measures such as tariffs and quotas (see Table 4.3).

As world consumption of horticultural products has risen, the volume of trade through commodity and futures markets of major horticultural products has increased. Products traded on the futures market include potatoes in the New York, Amsterdam, Chicago and Berlin, and frozen orange juice concentrate in New York. However, most horticultural products are not traded in large central commodity or futures exchanges. This is due in part to the diversity of product varieties traded, a lack of agreed product standards, fresh Product perishability and the relatively low volumes traded. Standards have or are being developed for all horticultural products to enable them to be traded by description, and apples may soon be traded in this way (OECD 1991, p.23). Potential benefits from further growth in both commodity and futures markets include reduced price risk, lower search and transaction costs and more direct transmission of price signals to producers and traders.

1.2 General characteristics of Australian horticulture

1.2.1 Production and exports

In large part Australia's production mix has been determined by cultural heritage; in particular, close ties with Europe. This is reflected in the importance of grapes, oranges, apples, peaches and apricots in fruit production, and potatoes, tomatoes and onions in vegetable production. The only major tropical or sub-tropical fruits in terms of value of production are bananas and pineapples (Appendix E, Table E10).

Australian production accounted for only about 0.35 per cent of aggregate world production (by tonnes) of vegetables, fruit and tree nuts in 1990 (FAO 1991a, p.125). Australia is a relatively small producer of the major horticultural products, accounting for about one per cent of world orange production, under 2 per cent of world frozen concentrated orange juice production, 1.5 per cent of world apple production and 3 per cent of world pear production (ABARE Sub. 111, p. 11). However, Australia has a small population size and is a long way from major export markets. By contrast, the nations of Europe and the United States have large, readily accessible local and regional markets.

High proportions (by volume) of most major products are processed in Australia. The proportion processed is 95 per cent for grapes, about 50 per cent for vegetables (Edgell Birds Eye, Sub.110, Exhibit 1) and greater than 50 per cent for citrus, pears, pineapples and peaches (Appendix E, Table E10).

Exports of most horticultural products represent less than 10 per cent of total production. Exceptions are dried fruit and pears (Appendix E, Table E10). In the past, exports of some products (eg, apples in the 1960s) have been a much higher proportion of production. Australia has lost market share as some markets have changed (eg, when the United Kingdom joined the European Economic Community).

Australian export volumes of most fresh and processed products are small compared with its Southern Hemisphere competitors. For example, South Africa (which produced 27 per cent more oranges than Australia in 1990) exported 445 kilo-tonnes of oranges in 1990, while Australia exported only 38 kilo-tonnes (Appendix E, Table E5).

1.2.2 Diversity and dispersion

Australia does not differ from most other countries in relation to the diversity of the horticultural sector. For example, the contiguous area of the United States is roughly equal to that of Australia and has a climate pattern which is even more diverse. There the same crops are grown in diverse areas (oranges in California and Florida) while other crops are more geographically concentrated (macadamias in Hawaii).

Australian horticultural production is dispersed over a wide geographic and climatic range, though there are significant concentrations of production for some individual products. Bananas, for example, are produced in tropical Queensland and the northern coast of New South Wales, while pear production is concentrated in temperate Victoria. Apples are produced in most States, while the bulk of oranges are produced in New South Wales and South Australia. While there is a considerable inter-State trade in fruit, States tend to be more self sufficient in vegetables with most grown close to population centres and consumed locally. A notable exception is Tasmania, which is the largest onion producing State. Production volumes by State are summarised in Appendix E, Table E8, and values in Table E9.

1.2.3 Capital and labour

Most forms of horticultural production in Australia have a higher labour intensity than broad-area agricultural industries. On average, labour (hired and imputed family) as a proportion of farm gate costs from 1980-81 to 1989-90 was 56 per cent for wine grapes, 47 per cent for citrus and 51 per cent for canning fruit. Ibis compares with 25 per cent for sheep and 22 per cent for wheat (Chapter 2, Table 2.3).

Horticultural properties generally use relatively less land and capital than broad-area agriculture. For example the area of the average horticultural farm was less than 5 per cent of the average wheat farm in 1988-89 while the average gross value of production was about two thirds (derived from Table 2.2). The average capital (including the value of land) to output ratios were significantly higher for broad-area industries, ranging from 4.6:1 for wheat to 8:1 for beef, compared with a capital to output ratio of 3.5:1 or less for horticulture (Chapter 2, Table 2.2). However, there are differences in horticultural production technologies, and consequently capital usage, between producers. For example, some producers harvest tomatoes by hand whereas others use machines.

1.2.4 Irrigation

A feature of Australian horticulture is the significant amount of production under irrigation. The decision to irrigate depends upon the quantity and reliability of rain throughout the growing season, and production location. Irrigation is critical for many Australian production areas with an estimated 90 per cent of pomefruit and about 95 per cent of citrus under irrigation (ABARE 1992a, p.20,30). In some other countries, horticultural production is based on natural climates. For example, the largest citrus producing regions in the world, Brazil and Florida, do not depend on irrigation.

1.2.5 Institutional arrangements

The Australian horticultural sector is characterised by a complex web of local, regional, State and federal bodies representing grower, packer, exporter and processor interests. Ibis is particularly the case for grower organisations, with the major products such as citrus or apples having grower organisations at each of these levels.

At the top of the organisational structure are the peak national grower bodies. These act as forums for issues affecting the industry (as communicated from local bodies through regional and State bodies), and in turn act as conduits for communication between growers, the Horticultural Policy Council (HPC) and Commonwealth government agencies.

However, the complexity of the organisational structure and problems of representation can cause communication problems. The Australian Vegetable Growers' Federation questioned the need for many existing organisations:

> Over many years a complex network of local, regional, State and national grower organisations has evolved for almost every product group. In many ways these groups are justified because of the specialised nature of each product and the distinct associated problems. However, this situation was more applicable when the focus was on production and handling technology. With the emphasis now shifted to the more general and commercial aspects of production and marketing, many groups and organisations are losing their relevance. (Sub.86, pp.6,7)

The large number of government organisations and regulations that affect horticulture complicate this picture. These include State based statutory marketing arrangements, price setting committees, State Departments of Agriculture, as well as Commonwealth bodies such as the Australian Quarantine and Inspection Service, the Horticultural Research and Development Corporation (HRDC), and the Australian Horticultural Corporation (AHC). In many cases, governments have enacted legislation with the object of increasing grower returns, or stabilising prices, production or incomes. For example, the Murray Valley Citrus Marketing Board of Victoria and New South Wales sets the minimum prices and the terms of payment for Murray Valley citrus fruit delivered to processors (NSW Government, Sub.41, p.7).

More general legislation, such as that which applies to agriculture generally, may also affect horticulture. The All States Group of Companies claimed that the NSW Farm *Produce Act* encourages poor growers to remain in the industry and inhibits wholesalers. It stated that:

> The restriction of [wholesaler] income to 10% for agency sales and the statutory obligation to pay growers before the buyers pay do put severe restrictions on wholesalers, whilst both growers and retailers are not so controlled by legislation. (Sub.37, p.10)

1.3 Australian production, consumption and trade

Horticultural production and trade statistics are provided in Appendix E. More detailed descriptions of particular products can be found in other publications, such as the ABARE's (1992a) submission to the Horticultural Policy Council study *'Future Directions for Australian Horticulture'*, and the National Farmers Federation (1991) publication *'Australian Agriculture: the complete reference on the rural industry'*. Throughout this section the value of production is the value placed on production using the wholesale prices realised in the market place as recorded by Australian Bureau of Statistics.

Data referred to in this chapter have been derived from official published sources. However, recent reliable production statistics are not available for many horticultural products. The data deficiencies are caused by incomplete coverage of farms and products in surveys (especially of small farms and new products) and the existence of a significant cash economy for some products, and are complicated by the wide variety of products which may be grown on a single farm.

A statistics working party established by the Horticultural Policy Council recently made recommendations to improve the accuracy and timeliness of statistics. The recommendations involve further exploration of data requirements, the methodology to be used and the funding options for statistical collection. Responsibility for implementing the recommendations has been delegated to the AHC.

1.3.1 Production

Over the 1980s the volumes of Australian production of most major fruits and vegetables increased (Table 1.3), the most significant being for bananas (45 per cent), potatoes (36 per cent), and other vegetables (50 per cent). Most other industries recorded modest increases, except for peaches where production declined 16 per cent. While the volumes of some products such as apples, pears and grapes increased marginally during the 1980s, the production of several newer commercial crops such as macadamias, avocados and mangoes increased significantly, albeit from low bases (Appendix E, Table E13).

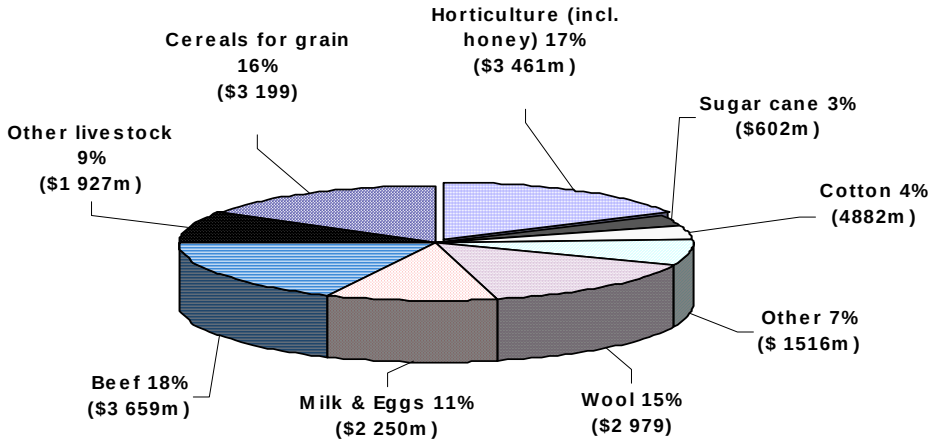
Table 1.: **Australian production of major fruits and vegetables, 1979-80 and 1980-81 average, 1989-90 and 1990-91 average, kilo-tonnes**

Product	*Average of 1979-80 and 1980-81*	*Average of 1989-90 and 1990-91*	*Change between periods*
	kilo tonnes	kilo tonnes	per cent
Vegetables (excluding potatoes)	960	1440	50
Bananas	125	181	45
Potatoes	874	1184	36
Apricots	28	34	21
Pineapples	123	148	20
Citrus	512	594	16
Pears	135	147	9
Grapes	831	881	6
Apples	303	313	3
Peaches	75	63	-16

Source: ABARE 1992a, p.4.

The value of Australian production of fruit, vegetables, nuts, nursery products and honey, was estimated to be $3 461 million in 1991-92, or about 17 per cent of the value of all agricultural production (Chart 1.1).

Chart 1.1: **Relative sizes of Australian agricultural sectors, 1991-92, $ million**

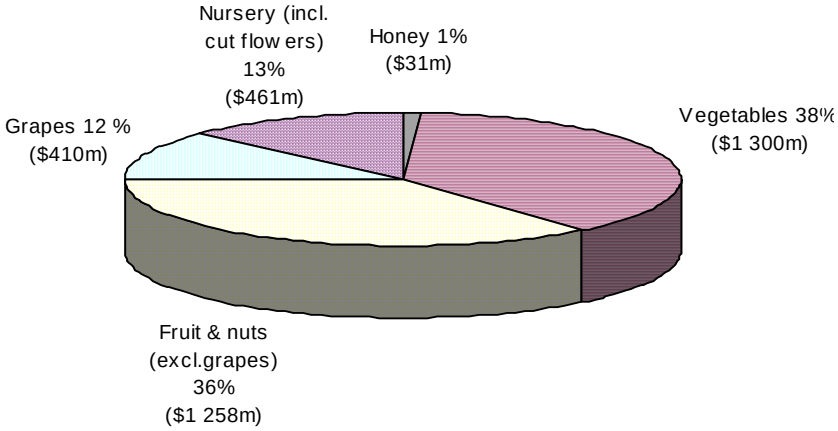


Gross value of agricultural production $20 475m.

Source: ABS 1992g (Cat. No. 7502.0, preliminary data).

In 1991-92 the production of fruit and nuts was valued at $1 668 million, followed by vegetables ($1 300 million), and nursery products ($461 million) (Chart 1.2). These values compare with those for broad-area crops such as wheat ($1 949 million), cotton ($882 million), barley ($641 million) and sugar cane ($602 million). Some participants said that official statistics underestimated the value of production. For example, the Nursery Industry Association of Australia provided estimates of $350 to $400 million for flowers alone and a further $1 000 million for nursery, although these figures include retail and allied trade contributions (Sub.D113, p. 1).

Chart 1.2: **Australian horticultural production, 1991-92, $ million**



Gross value of horticultural production $3 46Om.

Source: ABS 1992g (Cat. No. 7502.0, preliminary data).

The real value of fruit and vegetable production increased over the 1980s by about 19 per cent (Table 1.4). The increase was significantly higher for vegetables (37 per cent) than for fruit and nuts (6 per cent). 'Mere were also significant differences between product groups, ranging from a decrease of about 50 per cent for drying grapes to an increase of over 500 per cent for mangoes (from a low base). However, there are considerable year-to-year variations in the value of production for individual products (see Appendix E, Table E15).

Table 1.4: **The real value of Australian production of fruit, nuts and vegetables, 1979-80 and 1980-81 average, 1989-90 and 1990-91 average, constant $ million (1990-91 dollars) [a b]**

Product	*Average of 1979-80 to 1980-81*	*Average of 1989-90 to 1990-91*	*Change over ten years*
	$ million	$ million	per cent
Bananas	112	211	89
Wine grapes	175	208	19
Apples	241	200	-17
Oranges	175	173	-1
Stonefruit	136	141	4
Drying grapes	229	117	-49
Pears[b]	83	83	0
Table grapes	35	58	63
Mandarins	25	40	64
Pineapples	43	40	-7
Strawberries	19	29	48
Avocados	nss[c]	26	nss[c]
Macadamias	6	21	277
Mangoes	3	20	521
Almonds	9	16	82
Lemons/Limes	18	13	-26
Other citrus	16	11	-33
Other fruit, nuts	38[d]	32	53[d]
Total fruit and nuts	**1362**	**1438**	**6**
Potatoes	315	391	24
Tomatoes	148	180	21
Onions	74	84	13
Carrots	51	74	45
Mushrooms	38	88	132
Lettuce	47	60	28
Other vegetables	294	449	53
All vegetables	**962**	**1325**	**37**
Total fruit nuts, and vegetables	**2329**	**2763**	**19**

na Not available.
a Values have been rounded to the nearest whole unit. Totals may not add due to rounding.
b Values converted to $1990-91 using Australian Bureau of Statistics price deflators for gross domestic product.
c Not specified separately. Included in 'other fruits & nuts' category.
d Including avocados.
Sources: ABARE 1992a, pp.71-73; ADS 1992h (Cat. No. 7503.0), p.11; ABS 1992b (Cat. No. 5206.0), and previous issues.

With the exception of bananas and wine grapes, none of the major fruit products experienced a large increase in the real value of production (Table 1.4). The real value of apple production declined by about 17 per cent. However, products such as mandarins, table grapes and strawberries, recorded strong growth. The real value of total grape production was static, but with large increases for wine and table grapes, and a significant fall for drying grapes. The real value of nursery production (including cut flowers) increased by about 35 per cent between 1986-87 and 1990-91 (Appendix E, Table E18).

For only a few fruit and vegetable products did the value of production, averaged over 1989-90 and 1990-91, exceed $100 million. Fruits with production values exceeding $100 million were bananas, wine grapes, apples, oranges, stonefruit and drying grapes. These six products encompassed about 73 per cent of the estimated value of fruit and nut production in that year. Only two vegetables, potatoes and tomatoes, had production values of $100 million or more. Together, they accounted for 43 per cent of the estimated value of vegetable production.

Price data have not been presented because they differ for different markets - export, fresh domestic, or processing - and vary considerably between and within years (and between regions) according to variations in supply and demand in both local and world markets. However, Tables 1.3 and 1.4 indicate that real values generally increased less than volumes over the decade. In other words, prices of fruit and vegetables declined relative to those of goods and services in general.

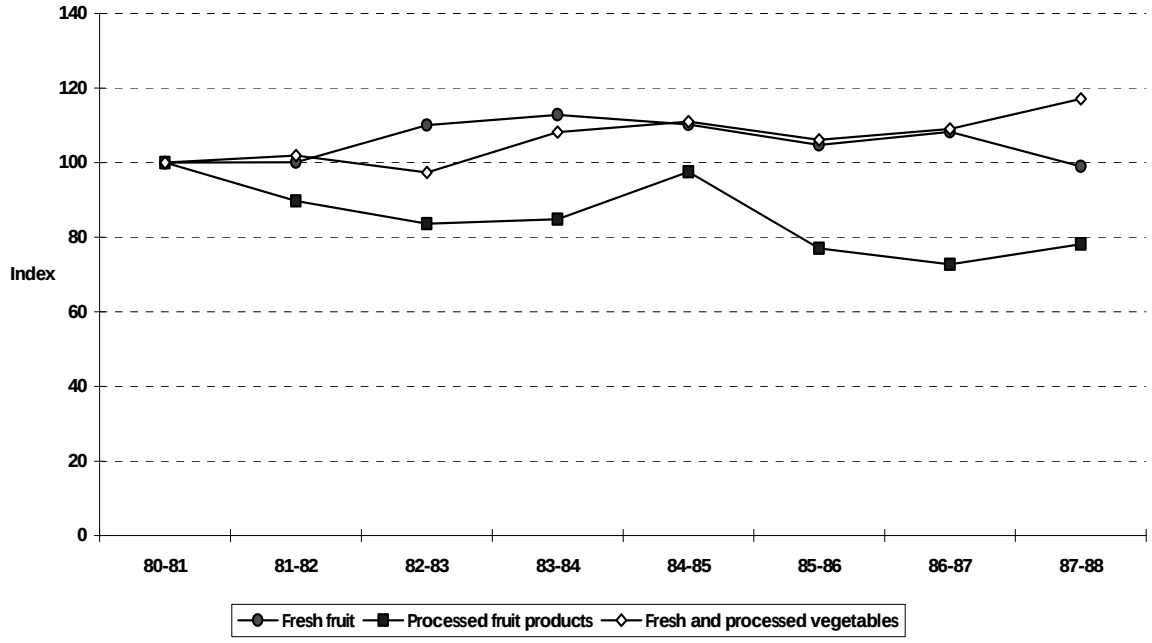
For most major horticultural products a high proportion of production is processed (about 95 per cent of grape production and 60 per cent of Australia's orange production (Appendix E, Table E10)). This reflects, in part, consumer preferences for the processed product, but also the world demand for some processed products (eg, juice, dried and canned fruit) and the higher cost of exporting the fresh, perishable product. The Commission estimates that the costs of export freight, insurance and commissions are 50 per cent of the fob value for citrus, and 63 per cent for apples (Chapter 2, Table 2.1).

1.3.2 Consumption

The per capita consumption of fresh and processed vegetables in Australia increased during the 1980s (Chart 1.3). While the per capita consumption of fresh fruit (including fruit for juicing) fluctuated but showed no significant trend, the per capita consumption of processed fruit declined. However, domestic consumption of fresh orange juice has increased significantly in the past two years, the use of oranges for this purpose in 199192 being more than double its level of two years earlier (ABARE 1992c, p. 166).

Sales of traditional fresh fruit have remained relatively static while interest in newer products (eg, mangoes, kiwifruit, avocados) has increased. The potato is the most popular vegetable consumed in Australia, accounting for about half of all vegetable consumption. According to MacAulay, Niksic and Wright (1990), frozen vegetable consumption has increased since the 1950s due partly to the convenience and consistency of the frozen products (pp.275,276).

Chart 1.3: **Apparent per capita consumption of horticultural products, Australia, 1980-81 to 1988-89, index 1980-81 = 100**



a Apparent consumption is defined as production plus imports minus exports.
Note: Separate figures for fresh and processed vegetables are not collected by the Australian Bureau of Statistics.
Source: ABS 1992a (Cat. No. 423%.0), p.7

Within horticulture, different fruits and vegetables may be substituted for each other for some purposes (eg, apples and pears, or cabbage and broccoli). There may also be some potential for substitution between fresh and processed product (eg, fresh and canned tomatoes).

Non-horticultural products can also be substituted for horticultural products. For example, potatoes are a major source of carbohydrates for some people, while the same requirement is met by rice or grain products for others.

While Australians have become increasingly health and nutrition conscious, and concerned with the freshness of the food consumed, there has also been an increase in demand for greater food convenience and variety (HRDC 1990, p.4). According to MacAulay et al. (1990):

> The major determinants of changes in food consumption in the future in Australia are fairly clear. As family sizes contract, and family affluence and time pressures increase, consumers will increasingly pursue convenience and variety in meals. As concerns to adopt a healthy lifestyle grow, so will interest in food quality. (p.282)

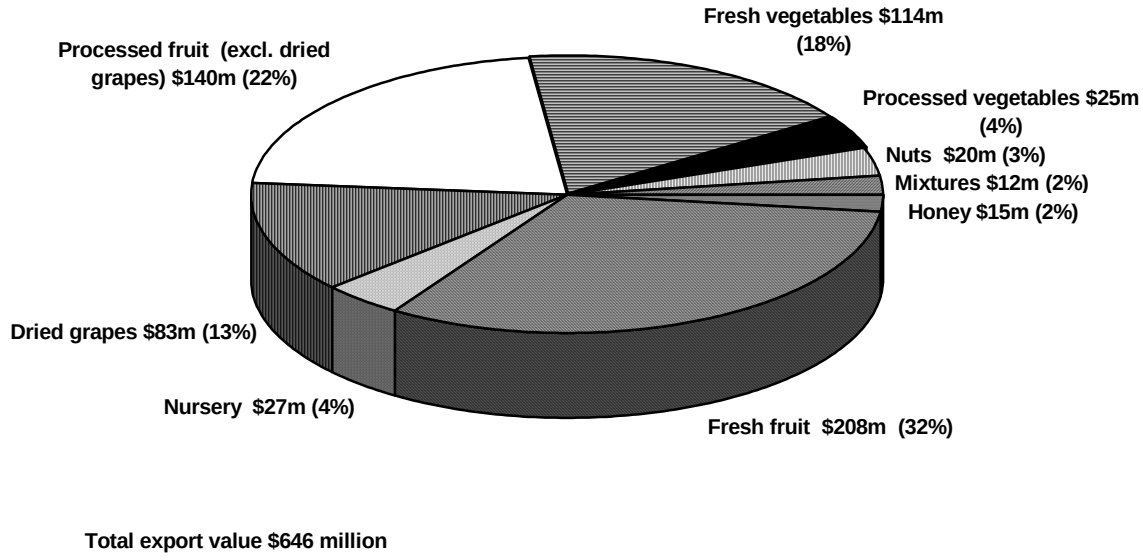
But it is not clear what these factors will mean for most horticultural products. Horticultural products generally have a 'healthy' image, and so should benefit from farther increases in health consciousness. Most horticultural products do not have any particular advantage over other food groups as a result of increased demand for convenience or variety (an exception is the convenience of potatoes as 'french fries').

Convenience or snack foods are an important substitute for fresh fruits, such as apples, pears, oranges and mandarins. Research has shown that over 70 per cent of buyers commonly consume these fresh fruits as snacks at any time of the day (HRDC 1990, p.58). Fresh fruits also compete directly with processed convenience foods in lunches. The market for 'healthy' processed foods such as muesli bars or fruit strips has enjoyed rapid growth in the last three to four years and now has an annual turnover of $350 million (Coles, Transcript, p.292).

1.3.3 Exports

The total value of fresh and processed horticultural exports, including nursery products and honey but excluding legumes, was $646 million in 1991-92. Chart 1.4 provides a breakdown of horticultural exports for 1991-92. Exports of processed fruit products were much higher than those of processed vegetable exports. Overall, exports of fruit and fruit products ($431 million) far outweighed those of vegetables and vegetable products ($139 million).

Chart 1.4: **Australian fresh and processed horticultural exports by category, 1991-92, $ million**



Source: Appendix F, Tables E12, E18, E19 and E20.

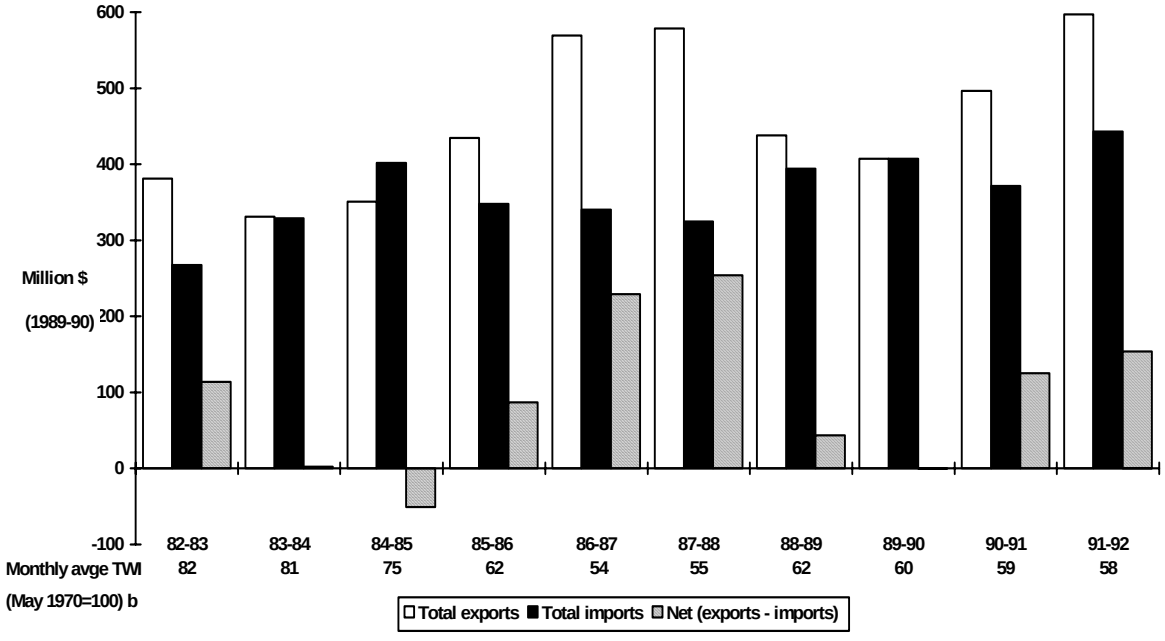
Exports of fruit vegetables and nuts were significantly higher in 1991-92 than in the previous year. The major growth area was fresh fruit (Appendix E, Table E12) and, to a lesser extent, fresh vegetables. Exports of nuts declined to $20 million in 1991-92 from $36 million in 1990-91. The increase in fruit exports was a result of significant growth in the quantity exported of many different fruits. Products contributing most to this growth were oranges, pears, grapes and apples. Export quantities were, with a few minor exceptions, up significantly across the board. This improvement in export performance was not confined to products covered by the AHC.

Fresh and processed vegetables exports recorded large percentage increases between 1982-83 and 1991-92, whereas fruit exports showed no significant trend (Appendix E, Table E12). Nut imports increased substantially in the late 1980s.

Export volatility

The real value of fresh and processed fruit, nut and vegetable exports has fluctuated widely over the past decade (Chart 1.5). Exports of fruit products have been particularly volatile while exports of fresh vegetables were less volatile (Appendix E, Table E12). Processed vegetable exports showed no clear trend over the period. However, a break in the ABS data series in 1988 limits the usefulness of comparisons for components of horticulture for years separated by the break.

Chart 1.5: **Australian trade in fresh and processed fruit, nuts and vegetable products, 1982-83 to 1991-92, $ million (1990-91 dollars)** [a]



a Excludes legumes. Values converted to $1990-91 using the Australian Bureau of Statistics price deflator for gross domestic product.

b Changes in the trade weighted index are a measure of changes in the Australian dollar's purchasing power compared with the currencies of our major trading partners. A decline in the trade weighted index reduces the prices of Australian exports to overseas buyers and increases the price of imports to Australian consumers.

Sources: Appendix E, Table E12; ABS 1992b (Cat. No. 5206.0).

Changes in exports arise from many factors, some of which are associated with variations in supply locally and in other countries and variations in exchange rates, which are driven for the most part by factors which are unrelated to the horticultural trade. These factors can be different for each country with which Australia trades or competes.

Table 1.5 compares the total value of Australia's fruit and vegetable exports with that of many of its competitors and potential competitors, which are mainly Southern Hemisphere countries. In these comparisons, annual export growth rates are calculated by two different methods. In the first, all values are expressed in US currency and have been converted to real terms by making use of US gross domestic product (GDP) price deflators. Although this analysis may be overly influenced by the changes in the value of the US dollar, it allows Australia's export performance to be compared with that of other countries. In the second method, starting with the same set of data, real values of exports are calculated in terms of the local currency, making use of exchange rates and price deflators within local currencies. This second analysis shows what export growth has meant within each of the countries.

Table 1.5: **Fresh and processed fruit and vegetable exports, Australia and selected countries, $US million (1990 dollars); and annual growth rates** [a]

Country	*Export value 1990*	*Annual growth rate* [b] *(US GDP deflator)* [c]	*Annual growth rate* [c] *(local currency CP1 deflator)* [d] *1980-901980-90*
	$US million	per cent	per cent
Australia [e]	**411**	**3**	**5**
Brazil	1778	5	14
Canada	559	2	1
Chile	1000	12	22
Indonesia	249	14	24
Malaysia	136	3	6
Mexico	1202	7	10
New Zealand	617	13	12
South Africa	629	-3	0
Thailand	1521	1	3
United States	5380	0	0

a Values in Table 13 and Chart 1-5 are consistent when allowance is made for the difference in currency and given that the Food and Agricultural Organisation values for 1989 are the Australian Bureau of Statistics values for 1988-89.
b Annual growth rates calculated by applying a log-linear regression to export values expressed in real terms.
c Current values in $US converted to $US(1990) using US GDP price deflators.
d Current values in $US converted to local currency values and then converted to real terms using local consumer price index deflators.
c The Australian data contain legumes and are thus not directly comparable with Australian data presented in Chart 13.
Sources: FAO 199115 (and previous volumes); IMF 1986; IMF 1991.

For most countries there have been large fluctuations in exports (see Appendix E, Charts E1 and E2), and statistical analysis suggests that only the larger export growth rates are unambiguously different from zero. Australia's horticultural exports grew at an average annual rate of about 3 per cent (in real US dollars) during the 1980s. This was about a quarter of the annual growth rates recorded in Chile and New Zealand, countries which are major Southern Hemisphere competitors. Indonesia and Mexico, which are less in competition with Australia, also had high export growth rates.

Although Australian fruit and vegetable exports grew at an annual real rate of 5 per cent (in real Australian dollars) during the 1980s, this growth was exceedingly uneven. Fruit and vegetable exports for 1980 to 1990, expressed in 1990 United States dollars, are presented for the same countries in Table E6 of Appendix E. That Table shows that the real value of Australian fruit and vegetable exports declined during the first half of the 1980s, grew strongly from 1986 to 1988, then declined in 1989 and 1990. However, Australia's horticultural exports increased significantly in 1990-91 and 1991-92 (Chart 1.5).

Fresh exports

Australia's major fresh fruit exports in 1990-91 were oranges, pears, apples and grapes, while the major vegetable exports were onions and asparagus. Table 1.6 shows the major export destinations for significant fresh horticultural exports. Exports of each product tend to be concentrated in relatively few markets.

However, those markets differ for different products. Important destinations for fresh fruit included Singapore, Malaysia, Hong Kong and the United Kingdom. The major destinations for onions were Germany and the United Kingdom. Asia was the main destination of most other fresh vegetable exports, while exports of cut flowers and nursery products went principally to Japan.

In addition to the products listed in Table 1.6, production in particular regions is often primarily for export to particular markets. For example, although not large from a national perspective, a range of horticultural products is grown in the Ord River Irrigation Area specifically for export to Singapore and Malaysia.

Some products are exported to niche markets where the product may be out-of-season or in vogue. Significant exports of cut flowers, plants, bulbs etc are made to Northern Hemisphere countries in their off-season. Also Australia has been successful in developing a niche market in Japan for certain products, including asparagus and cut flowers (mainly wild flowers).

For products such as cut flowers and bulbs Australia competes with countries such as New Zealand, South Africa, Chile, Brazil, and Argentina. Even for Australian wild flowers, Australia is experiencing increasing competition from other Southern Hemisphere producers and Israel.

For most temperate climate fruit and vegetable products, the major destinations are in tropical South East Asia where these products cannot be produced economically.

Table 1.6: **Major Australian horticultural exports, by value and destination, 1991-92**[a]

Product	*Value of exports*	*Major shares of Australian exports, by country of origin*
	$ million	per cent
Oranges	59.2	Singapore (30), Malaysia (22), Hong Kong (21)
Pears	38.2	Singapore (23), Hong Kong (14), United Kingdom (14)
Fresh grapes	35.9	Singapore (31), Indonesia (16), United Kingdom (15)
Apples	32.4	Singapore (27), Malaysia (19)
Stonefruit	10.1	Singapore (36), Hong Kong (26)
Whole melons	8.5	Hong Kong (64), Singapore (20)
Onions	29.5	United Kingdom (32), Germany (30)
Asparagus	20.7	Japan (96)
Carrots	14.6	Singapore (43), Malaysia (38)
Cauliflowers	12.7	Singapore (50), Malaysia (38)
Broccoli	6.4	Singapore (58), Hong Kong (26)
Tomatoes	5.1	New Zealand (51), Hong Kong (26), Singapore (20)
Dried vine fruit	82.7	Germany (35), Canada (22), UK (20), NZ (10)
Pears, processed or preserved	41.1	Germany (28), UK (22), Japan (17), Canada (13)
Fruit salad, canned or bottled	22.1	Canada (39), Sweden (12), Norway (10), Japan (10)
Peaches, processed or preserved	20.2	Canada (35), Japan (32)
Apple juice	9.6	Japan (68)
Grape juice	8.4	Japan (66), Canada (21)
Orange juice	6.6	New Zealand (40), Singapore (20)
Frozen vegetables	9-3	New Zealand (34), Hong Kong (32)
Macadamias	14.4	United States (52), Japan (27)
Fresh cut flowers	14.7	Japan (63), United States (13)
Dried cut flowers	8.8	United States (30), Japan (28)
Natural honey	15.3	United Kingdom (27), Singapore (15), Germany (13)

a Includes individual commodities valued at more than $5 million or major groups more than $7 million.
Source: ABS 1993b (Cat. No. 5436.0).

Fresh horticultural exports seldom represent more than 10 per cent of Australian production of individual products by volume (see Appendix E, Table E10). Citrus exports, for example, amounted to 9 per cent of the total volume of production in 199091. Fresh exports of fruits, nuts and vegetables made up about 5 per cent of total production volume in 1990-91.

Exports amounted to 9 per cent of the gross value of production of fruit, vegetables and nuts in 1990-91 (Appendix E, Table E10). This ratio was higher for fruit, excluding grapes, (11 per cent) than for vegetables (7 per cent).

Several Southern Hemisphere countries export higher proportions of horticultural production than Australia. New Zealand, Chile and South Africa have dealt successfully with large transport distances to establish off-season markets in Europe and North America. For example, Chile exported over twice as many pears as Australia in 1990, despite a lower production level. South Africa exported more than ten times as many fresh oranges as Australia in 1990 even though orange production in South Africa was only 27 per cent higher than in Australia. Summary statistics for Australian and selected countries' utilisation of oranges, apples, pears and fresh and dried grapes are given in Appendix E, Table E5.

In New Zealand's case, apple exports increased rapidly in the mid-1980s before tapering off in the last years of the decade (OECD 1991, p.68). About half of all New Zealand's apple production is exported fresh. New Zealand is a major competitor in the large European market for apples. Australian fresh apple exports have fallen from 33 per cent of total production in 1970-71 (IAC 1980, pp.A38,A51) and 17 per cent of total production volume in 1980-81 to below 10 per cent in 1990-91 (ABARE 1992a). While Australia's apple production in 1990 was only slightly lower than in New Zealand, apple exports were less than one seventh of that achieved by New Zealand (Appendix E, Table E2).

New technology is increasing the storage lives of fresh produce. An example is 'active' packaging in which the controlled release of gases from enclosing plastic film is used to generate the optimal storage conditions for a particular fruit or vegetable (CSIRO 1992). This will improve access to overseas markets for Australian exports of fresh product, but over time competing exporting countries are also likely to benefit from such technology. In addition, where fresh product can be substituted for some forms of processed product (eg, fresh tomatoes for canned tomatoes), improvements in storage and transport technology may reduce trade in the processed form.

However, advances in technology resulting in longer storage lives have the potential to reduce the trade in fresh produce by reducing wastage (and hence the volume traded) and extending the local supply period (ie, reducing counter-seasonal trade).

Processed exports

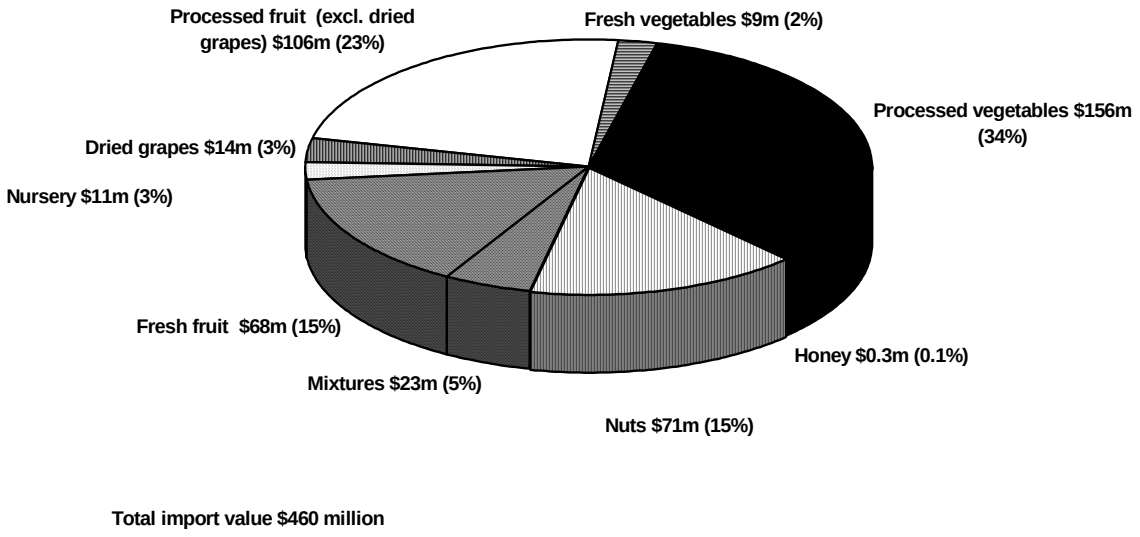
Fruit accounted for most exports of processed horticultural products in 1991-92 (Table 1.6). Australia exports large amounts of dried vine fruit, principally to Germany, Canada and the United Kingdom. Nut exports (including macadamias and pecans) were $23 million, mostly to the United States and Japan. Total processed vegetable exports (not listed), other than legumes, were valued at $25 million in 1991-92, with frozen vegetables accounting for about half of this amount.

A larger proportion of some processed fruit products are exported than of fresh products. For example, around 59 per cent of dried vine fruit production (by volume) was exported in 1989-90 (ABARE 1992a, pp.13,16). However, there is considerable international competition in markets for processed products, with export volumes of both dried vine fruit and canned fruit generally declining during the 1980s (ABARE 1992a, pp. 16,45).

1.3.4 Imports

The total value of fresh and processed horticultural imports, including nursery products and honey (excluding legumes) was $460 million in 1991-92. Chart 1.6 provides a breakdown of horticulture imports. Most horticultural imports are of processed product. Less perishable products, such as nuts, dried grapes and processed products, accounted for 84 per cent of horticultural imports in 1991-92 (Chart 1.6).

Chart 1.6: **Australian fresh and processed horticultural imports by category, 1991-92, $ million**



Source: Appendix F, Tables E12, E18, E19 and E20.

Imports of fruit, vegetables and nuts in 1991-92 increased from the previous year. The largest growth areas, in dollar terms, were processed fruit, fresh fruit and processed vegetables (Appendix E, Table E12). Imports of processed vegetables and total fruit increased over the period from 1982-83 to 1991-92, but fruit imports were more volatile and had a lesser systematic trend (Appendix E, Table E12).

Fresh imports

Berries were the largest fresh fruit import in 1991-92, with New Zealand and the United States the major sources (Table 1.7). New Zealand was also a major source of other fresh fruits. Fresh vegetable imports (not shown in Table 1.7) were minor, with garlic the largest single product. Singapore was the major source of fresh cut flowers.

Table 1.7: **Major Australian horticultural imports, by value and country of origin, 1991-92** [a]

Product	*Value of imports*	*Major shares of Australian imports, by country of origin*
	$ million	per cent
Garlic, fresh or chilled	5.9	US (40), China (23), New Zealand (19)
Green peas & beans, frozen	16.9	New Zealand (96)
Tomatoes, prepared or pres.[b]	16.0	New Zealand (39), Italy (36)
Asparagus, prepared or pres.[b]	12.9	New Zealand (63), Canada (35)
Corn, frozen	9.2	United States (50), New Zealand (50)
Mushrooms, prepared or pres.[b]	9.1	China (69)
Olives, prepared or pres.[b]	8.4	Spain (67), Greece (25)
Dried shelled green peas	6.4	New Zealand (96)
Berries	11.4	New Zealand (69), United States (29)
Stonefruit	7.2	New Zealand (99)
Orange juice	23.3	Brazil (91)
Canned pineapple	14.4	Thailand (55), Indonesia (35)
Dried grapes	13.8	Turkey (70)
Apple juice	13.4	New Zealand (52), Chile (21)
Jams, jellies and purees	12.6	New Zealand (28), United Kingdom (15)
Frozen berries	9.2	Mexico (31), United States (25), New Zealand (16)
Dates, fresh or dried	7.2	United States (37), Pakistan (22), Iran (21)
Frozen fruit and nuts	7.1	United States (37), Thailand (25), New Zealand (18)
Cashews	23.6	India (80)
Walnuts	13.1	United States (70), China (25)
Coconuts	11.4	Philippines (71)
Almonds	9.4	United States (100)
Hazelnuts	5.6	Turkey (67), United States (25)
Fresh cut flowers	6.5	Singapore (33)

a Includes individual commodities valued at more than ss million or major product groups valued at more than $7 million.

b Excludes dried product and that preserved in vinegar or acetic acid.

Source: ABS 1993c (Cat. No. 5437.0).

Imports of fresh product account for only a small proportion of Australian apparent consumption, where apparent consumption is defined as total production (fresh and processed) plus imports minus exports. By value, fresh imports account for about 3 per cent of apparent fruit consumption and 1 per cent of apparent vegetable consumption (Appendix E, Table E10).

Phytosanitary barriers prevent or restrict some fresh imports (eg, apples, pears and bananas). No fresh apples or pears are imported into Australia because of quarantine restrictions, mainly in relation to 'fireblight' which is present in many other countries.

Processed imports

Major processed fruit imports in 1991-92 included orange juice ($23 million, **93 per cent** from Brazil), canned pineapple, dried grapes, apple juice and frozen berries (Table 1.7). The largest processed vegetable imports were frozen peas and beans ($17 million) and prepared or preserved tomatoes ($16 million). New Zealand was a major source for many processed vegetable imports.

Imports of processed fruit and vegetable products were 17.9 per cent of the value of domestic sales in 1988-89, much the same as in 1983-84 (19.3 per cent) and 1986-87 (18.6 per cent) (ACIL 1992).

Perishability does not limit imports of nuts, dried or processed products such as canned and dried fruit, canned and preserved vegetables and frozen orange juice concentrate. Increased imports of processed products may reduce the demand for Australian fresh horticultural product for processing purposes.

Import volatility

The values of individual fresh and processed imports have been volatile. For example, an excess world supply of frozen orange juice concentrate in 1988-89 reduced world prices and increased imports. In that year, imports of fresh oranges and juice amounted to 182 kilotonnes fresh fruit equivalent (about 35 per cent of Australia's apparent orange consumption), of which 10 kilotonnes was fresh fruit. The fresh fruit equivalent of orange imports in the previous year was only 45 kilotonnes (9.5 per cent of apparent orange consumption) of which 7 kilotonnes was fresh fruit (ABS 1992a, Cat. No. 4306.0, p. 12; ABARE 1992a, p.22).

1.4 Assistance to horticulture

Each year the Commission publishes estimates of assistance available to Australia's manufacturing, agricultural and mining industries. For horticulture, most measured assistance is provided through tariffs and domestic pricing arrangements.

Tariffs, by raising the price of competitive imports, provide assistance to the production of currants, raisins, fresh grapes, grape must and citrus juices, and assistance is assumed to flow on to wine grapes, drying grapes and citrus.[1]

Measured tariff assistance declined in 1990-91 as a result of the Government's program of phased tariff reductions. Tariffs on currants, raisins, fresh grapes, grape must and citrus juices were further reduced to 15 per cent (DC 10 per cent) on 1 July 1992 and are to be phased down to 5 per cent by 1 July 1996.

[1] Because of data problems, the Commission does not measure assistance available through the sales tax differential on fruit and vegetable juice (see also Section 3.7.4 and Appendix N).

However, tariffs on certain potato products and tomato products are currently set at 20 per cent (DC 15 per cent). These are subject to a separate phasing arrangement and will be phased down to 5 per cent (DC free) by 1 January 1998 (see Section 3.7.2). The reductions in tariffs will also reduce the penalties on material and capital inputs used by the agricultural sector.

The Commission's estimates of assistance for the citrus industry have generally been high, based on the tariff on citrus juice. In 1990-91, for example, the nominal rate of assistance for citrus was estimated to be 19 per cent. This estimate was based on the assumption that domestic production of citrus juice was priced up to the landed duty paid cost of imports of citrus juice at the General tariff rate, and that prices received by citrus growers for fresh and juiced fruit were all increased by the same factor. The estimate provides an indication of the maximum level of assistance available from the tariff.

Alternatively, it may be argued that the tariff on citrus juice sets only a floor price for citrus, on the assumption that the price for fresh consumption is always at least as great as that for juicing. It can also be argued that, because most imports are sourced from developing countries at preferential rates, the Developing Country rate is the appropriate tariff rate. Using these assumptions the nominal rate of assistance for citrus from the tariff in 1990-91 may have been as low as 5.5 per cent.

However, these estimates do not include any assistance provided by the differential sales tax which gives preference to domestically produced fruit and vegetable juices. This assistance can fluctuate greatly according to the availability of domestic product and has the potential to provide the citrus industry with very high levels of assistance. If the assistance available from the differential sales tax had been fully utilised in 1990-91, the nominal rate of assistance to citrus would have been of the order of 58 per cent. These issues are discussed more in Appendix N.

Domestic pricing arrangements provide assistance by reducing competition that would otherwise act to ensure that returns from products sold domestically were similar to returns from exports of comparable products.

Measured assistance from domestic marketing arrangements doubled in 1990-91. A small amount of assistance from marketing arrangements was received by bananas in 1990-91, but these arrangements ended in October 1992. However, the major recipient of assistance from domestic pricing arrangements is dried vine fruits and particularly sultanas. These arrangements enable domestic prices to exceed export prices by an amount which varies from year to year, depending on world market conditions and what the domestic market will bear.

Statutory equalisation arrangements, which enabled returns from domestic and export sales of dried vine fruits to be equalised through a levy on higher-priced domestic sales, were abolished at the end of the 1990 marketing season. Despite their abolition, a significant price differential between the average domestic and average export returns to packers of comparable sultanas was observed in 1990-91 (the latest available data). This price distortion was 46 per cent (compared with 28 per cent in 1989-90). Continuation of a differential between domestic and export prices in 1990-91 may have been due to the licensing powers of the State dried fruit boards and the industry's exemption from Section 45 of the Trade Practices Act.

State dried fruits boards have the power to restrict entry into packing via their licensing powers. The concentration of the industry in only three States, with one State being the dominant producer, also reduces the potential for competition which would reduce the disparity between domestic and export returns.

In addition, the Trade Practices exemption allowed the Australian Dried Fruits Association to recommend prices and set the terms and conditions at which dried fruit was to be supplied by producers of dried fruit and allowed a scheme of voluntary equalisation amongst its members. This exemption expired at the end of October 1992 and the Commission understands that the Australian Dried Fruits Association has not sought its renewal. It is too early to know if this will result in any reduction in the differential between domestic and export prices.

For assistance measurement purposes it is assumed that all the assistance derived from the marketing arrangements is passed back to dried vine fruit growers.

The Commission's estimates of assistance to the sector (as for all agriculture) also encompass some other Commonwealth measures, such as research and development grants and export market development assistance, as well as any State Government statutory marketing arrangements which have significant national effects.[2] These estimates indicate that horticulture is characterised by wide disparities in assistance (see Chart 1.7).

In 1990-91, effective rates of assistance, which measure the net assistance available, ranged from 70 per cent for dried vine fruits to minus 3 per cent for fresh potatoes. (Negative effective rates of assistance indicate that the current assistance structure penalises an activity.) The effective assistance measured for dried vine fruits in 1990-91 suggests that this activity was one of the most highly assisted agricultural activities in that year.[3]

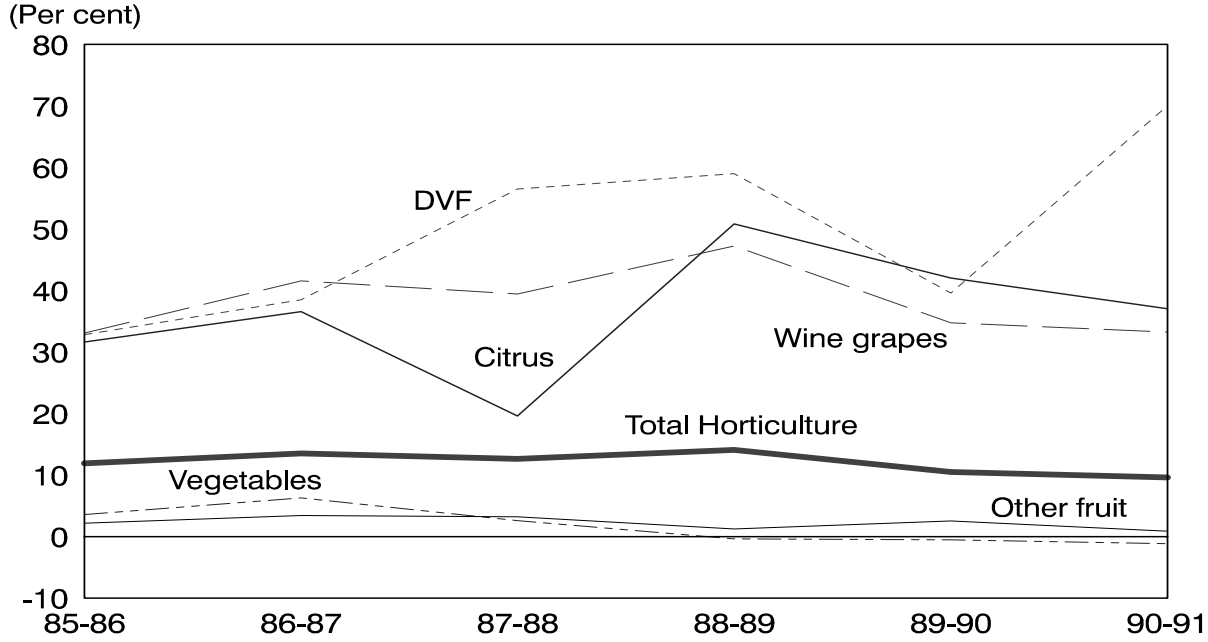
The average effective rate of assistance to horticulture in most years has been higher than the average for the agricultural sector. In 1989-90, for example, the average effective rate for horticulture was 10.4 per cent compared with the sector average of 8.3 per cent[4] The higher value for horticulture is due mainly to the high values for grapes, dried vine fruit and citrus, even though their weights in the measure of assistance are small (see Chart 1.7).

2 State expenditure on items such as research and agricultural extension services are not included in the estimates. In addition any assistance (positive or negative) which may arise from the Commonwealth or State government provision of infrastructure is not included.

3 The 1990-91 assistance estimates for agriculture were reported in the Commission's 1991-92 Annual Report.

4 In 1990-91 the situation was reversed with average effective assistance to the agricultural sector as a whole being higher than that afforded to horticulture. This increase in the sectoral average assistance was largely due to a one-off $300 million payment to subsidise wool producers' returns in 1990-91.

Chart 1.7 **Average effective rates of assistance, 1985-86 to 1990-91**



Note: For citrus, the estimated assistance is the maximum available from the tariff but does not include any assistance available from the differential sales tax (see also Appendix N).

Source: Commission estimates.

As well as the industry specific assistance arrangements which have already been described, assistance is available to horticulture through more general programs funded by both State and Federal Governments. The AM has estimated that about $76 million of funds from governments are expended on horticulture annually (Table 1.8). Table 1.8 also includes industry contributions of $26 million.

The bulk of the government assistance presented in Table 1.8 is provided through State Departments of Agriculture. The AHC presented this table to demonstrate that the Commonwealth Government contribution to the AHC was insignificant compared with other government contributions to horticulture. It later argued that the Commission devoted a disproportionate amount of the draft report to the AHC, while making hardly any comment on other sources and uses of funds.

Table 14.8: **AHC estimates of funds devoted to horticulture, 1990-91, $ million**

Organisation	*Government contribution*	*Industry contribution*	*Total*
Departments of Agriculture			
New South Wales	19.0	na [a]	19.0
Victoria	13.4	na [a]	13.4
Queensland	10.0	na [a]	10.0
Western Australia	9.8	na [a]	9.8
South Australia	5.9	na [a]	5.9
Tasmania	2.1	na [a]	2.1
Horticultural Policy Council	0.4	na [a]	0.4
Horticultural R&D Corporation	3.0	3.2	6.2
Australian Horticultural Corporation	1.0	4.0	5.0
CSIRO	[b]	[b]	8.0
Department of Primary Industries and Energy	0.7	-	0.7
Marketing Skills Program	2.2 [c]	-	2.2
Innovative Agricultural Marketing Program	0.9	-	0.9
Export Market Development Grants	1.8	-	1.8
Commonwealth Citrus Grant	1.0	-	1.0
State/Regional Statutory Citrus levies	-	2.5	2.5
Queensland Fruit & Vegetable Growers	-	5.8	5.8
New South Wales Banana Industry Committee	-	0.7	0.7
Dried Fruit Research	0.5	0.5	1.0
Australian Dried Fruits Corporation	-	1.4	1.4
Grape and Wine Research	1.1	1.3	2.4
Australian Wine and Brandy Corporation	-	2.1	2.1
Western Australia Fruit Growing Levy	-	0.5	0.5
Western Australia Potato Growing Levy	-	0.2	0.2
Western Australia Banana Compensation Levy	-	0.6	0.6
Australian Quarantine and Inspection Service	3.5	2.7	6.2
Total	$76.3 [b]	$25.5 [b]	$109.8

a Industry contributions assumed to be covered elsewhere (c& Horticultural Research and Development Corporation).
b Unable to allocate CSIRO funding for horticultural research between government and industry contributions.
c From the inception of the program.
Source: AHC (Sub.102, p.9).

The Commission has examined the activities of the AHC and HRDC. It has also commented on Commonwealth programs available to horticulture as well as other industries. In the case of the various export development programs, it has recommended that the HPC prepare an information base which describes the extent of assistance provided to particular industries, the nature of firms receiving assistance, and the activities assisted. Without such information it is not possible to adequately assess the effects of these schemes (Section 4.5.2).

Because of time and resource constraints, the Commission has not looked at the programs of the State Departments of Agriculture. Because they represent the bulk of funds spent, a review of the horticultural activities of State agricultural authorities and their expenditures may be warranted; the Horticultural Policy Council appears to be an appropriate body to undertake such a task.

Notwithstanding this, the Commission has made some estimates of State departmental expenditures on horticulture. These confirm the general magnitudes of the AHC estimates. The Commission's estimates of Commonwealth funding (see Table 4.2) are larger than the AHC's estimates, especially for Export Market Development Grants, but are smaller for State Government funding.

It is difficult, if not impossible, to identify funds and expenditures for horticulture separately in the financial statements of State Departments. Although total expenditures on all horticultural programs administered by State Departments are sometimes given, these are often funded in part by industry or the Commonwealth or by other departments. Thus, the inclusion of industry and matching HRDC funds within State funds as well as industry and HRDC contributions constitutes double counting and overestimates State Government contributions. There are also other programs, such as soil conservation and salinity control, which are not classified as horticultural programs but which have some application to horticulture.

The Commission asked State Departments of Agriculture to provide estimates of funding for horticulture in 1990-91, separated into the categories of research, extension services and regulatory functions. They were also asked to comment on fee-for-service receipts. The estimates mostly exclude administrative overhead costs which, for agriculture overall, are typically 10 to 15 per cent of total costs.

NSW Agriculture's total spending on horticulture in 1989-90 (the latest year f& which full details are available) was $19.9 million, compared with $18.7 million in 1990-91 (Sub.D155, p.2). This consisted of $7.2 million for research (of which $1.8 million was grants and subsidies from industry and other non-consolidated revenue sources), $6.5 million for advisory services, $3.4 million for technical support, $2.6 million for administration and $0.2 million for education. Total receipts from fees for service, licence fees, royalties and sales of publications and produce were less than $0.5 million.

The Victorian Department of Agriculture spent $7.4 million (excluding overheads) of State money on horticulture in 1990-91. The corresponding figure for 1991-92 included $2.1 million for research, which was supplemented by $1.7 million of HRDC funds and $0.6 million of industry funds. The Commission presumes that this number refers only to the Commercial Horticulture sub-program, and that additional expenditure in other sub-programs (eg, on quality assurance and

marketing) would increase this figure. (According to Annual Reports, the outlay on the Commercial Horticulture sub-program reduced from $7.1 million in 1990-91 to $6.2 million in 1991-92.) In 1989-90, according to the Baker (1990, p.38), $9.5 million (which includes an adjustment for overheads) was spent on horticultural research, of which approximately $1 million was industry funded.

Queensland Department of Primary Industry expenditure on its horticultural subprogram in 1990-91 was $12.5 million ($13.0 million in 1991-92), of which $2.5 million was supplied from industry and other external funds, mostly for research. A breakdown into component parts could not be given.

For Western Australia, government funds of $4.6 million were devoted to horticulture in 1990-91 consisting of $2.5 million for research, $0.8 million for extension, $1.2 million for regulation, and $0.1 million to an industry fund established to provide revenue insurance in the banana industry. In South Australia, expenditure of $4.2 million in 199192 (including $0.9 million of HRDC and industry funds, mainly for research) consisted of $2.4 million for research, $1.2 million for extension and diagnostic services and $0.6 million (although the Department considers this to be an underestimate) for all other categories. There are very few fees for service at this stage. Tasmania confirms that its expenditure is in the range $2.0 to $2.5 million.

The Commission estimates that, in the context of Table 1.8, Commonwealth Government contributions to horticulture in 1990-91 were about $16 million, which is more than the AHC's estimate. State Government appropriations utilised for horticulture were about $46 million, which is less than the AHC's estimate. The differences are probably due to the distinction between expenditure and sources of funds; industry and Commonwealth contributions are included in financial data used by the AHC. The differences are not of great importance. On average, research and extension services each accounted for about one third of State Government funds expended on horticulture.

The total contribution by the Commonwealth and State Governments to horticulture is about 2 per cent of the gross value of production, while the Commonwealth Government's contribution to the AHC is only 0.04 per cent. The Commission considers, however, that the size of the Government's contribution to the AHC (albeit relatively small) is not the issue. Rather, it is the powers of the AHC and the AHC's potential to influence the structures of industries and to discriminate in favour of and against individual regions and industries. These matters are discussed in Chapters 5 and 6.

State expenditures on research and extension services have not been included in the Commission's published measures of assistance because the details of these expenditures have not been available on a detailed basis for the various industries in the agricultural sector.

The desirability, nature and level of government funding of horticulture are discussed throughout this report, particularly in Chapter 6 in relation to the AHC and its activities, and in Section 2.6 in relation to research. A particular issue is whether the chosen research projects, as well as other government expenditures, are those which give the greatest returns. Sumich points out that:

> Some $100 million is spent on an annual basis by various Government bodies (both Federal and State). The effectiveness of this has not been assessed and addressed apart from the $1.2 million being spent for seed funding of the AHC. (Sub.D151, p.2)

A review committee of agricultural research in Victoria headed by Ian Baker, shortly before he became Minister for Agriculture, wrote:

> Until the 1980s, it was assumed that the Department of Agriculture had [no] other reason for its existence than to serve the farming community. ... What was believed to be in the farmers' interests was believed to be in the State's interest. However, in the late 1980s the Government no longer sees the Department as a free service to farmers. The Government now sees the Department's role much more as implementing Government policy for agriculture. (Baker 1990, pp.33,34)

States are reducing program outlays for horticulture, and are adopting user pays policies for some extension services, although growers interpret the introduction of fee-for-service as a withdrawal of services. At this stage, fee-for-service receipts are very small. In its 1991-92 Annual Report the Victorian Department of Agriculture specifies cost recovery rates for various categories of research and for different types of fees and services (pp.158,159), with most rates in the range 50 to 100 per cent. The Queensland Department of Primary Industries released in December 1992 an Extension Strategy Statement which indicates that the focus of future programs will be on benefits to industries, groups and the community as a whole rather than individuals. The emphasis is on developing skills and knowledge by working with people. Programs will be funded mostly by the Queensland Government, although charges would be made for services which benefited only individuals.

Other than Commonwealth Government provision of funds for research (eg, HRDC, CSIRO), Commonwealth funding is available to horticulture through the AI-IC and industry-wide marketing programmes such as the Marketing Skills Program, Innovative Agricultural Marketing Program and Export Market Development Grants (see Section 4.5.2).

1. 5 Summary

- Most horticultural products are consumed in the countries in which they are produced, with less than 10 per cent of the production of most major products being traded.

- The most traded fresh fruits on world markets (by value) are oranges, bananas, apples, tomatoes, grapes, potatoes and onions.

- World horticultural trade increased at a faster rate than other agricultural trade over the 1980s.

- Supply and demand in international horticultural trade is dominated by developed countries. The major horticultural importers are highly developed, predominantly Western, countries.

- Asia is a current growth market for horticultural products

- Australia's output of most horticultural products increased over the 1980s, while gross production values for most major products increased marginally over the same period. Production of newer products (eg, mangoes, avocados and macadamias) has increased significantly in recent years.

- Significant proportions of many major products (eg, citrus, grapes) are processed.

- Australia's horticultural sector is domestically oriented. Exports of horticultural products seldom represent more than 10 per cent of total production.

- The Australian horticultural sector is characterised by a complex web of local, regional, State and federal bodies representing different interests. The large number of government institutions and regulations further complicate the picture.

- Major fresh horticultural exports in 1989-90 were pears, oranges, grapes, apples and nuts. Dried and canned fruits were the major processed exports.

- Fresh fruit, vegetable and flower imports account for only a small proportion of apparent (fresh and processed) consumption of these products. Imports of processed product are much higher than imports of fresh product.

- Imports of horticultural products generally increased during the 1980s, particularly of processed vegetables.

- Processed vegetable imports are more significant than exports, whereas the opposite is true for fruit.

- Measured assistance to horticulture is slightly higher than the measure for agriculture as a whole - this is due to the relatively high levels of assistance to citrus, wine grapes, and dried vine fruit.

- In addition to the assistance included in assistance measures, State Departments of Agriculture contribute annually about $50 million by way of support services to horticulture.

2 COSTS OF PRODUCTION AND DISTRIBUTIONS

The international competitiveness of Australian horticulture depends on its costs of production and distribution to markets, compared with those of its foreign rivals. This chapter examines the costs of individual steps in the production and distribution chain, giving particular emphasis to on-farm costs and costs of transport. It also addresses the costs of packing and research and development, and some non-priced costs such as those associated with the environment.

A number of factors contribute to differences in costs incurred by Australian suppliers compared with their overseas counterparts. Apart from the natural endowments of land and climate, these include the prices at which inputs are available and the efficiency with which these inputs are used.

2.1 Production and distribution chain

Australia has the climatic conditions, soils and water supplies to produce a multitude of agricultural products, including horticultural products. It is therefore often claimed that Australia should have a competitive advantage for these products. This, however, does not necessarily follow. Horticultural industries compete with each other, and with other industries and urban householders for the resources they use. The results of this competition determine the prices they pay for the resources they use and ultimately the competitiveness of individual industries.

The linkages within the production and distribution chain which are relevant to a consideration of competitiveness are depicted in Figure 2.1.

Although the Commission sought information about costs of production and distribution, comprehensive data regarding on-farm costs, delivery and selling costs for the domestic and export market are not available. However, many participants did provide information about the costs of production and delivery of products for which they had a particular interest. From that information and Australian Bureau of Agricultural and Resource Economics (ABARE) farm survey data, the Commission synthesised cost structures for some horticultural industries for the various stages from production through to final buyers (Table 2.1). Also shown, for comparison purposes, is the cost structure for the wheat industry. While not purporting to accurately reflect average costs for each industry, the synthesised estimates do provide an insight into the likely major components of costs. These costs will, of course, differ from region to region and from market to market.

Figure 2.1: **Production and distribution chain for horticultural products**

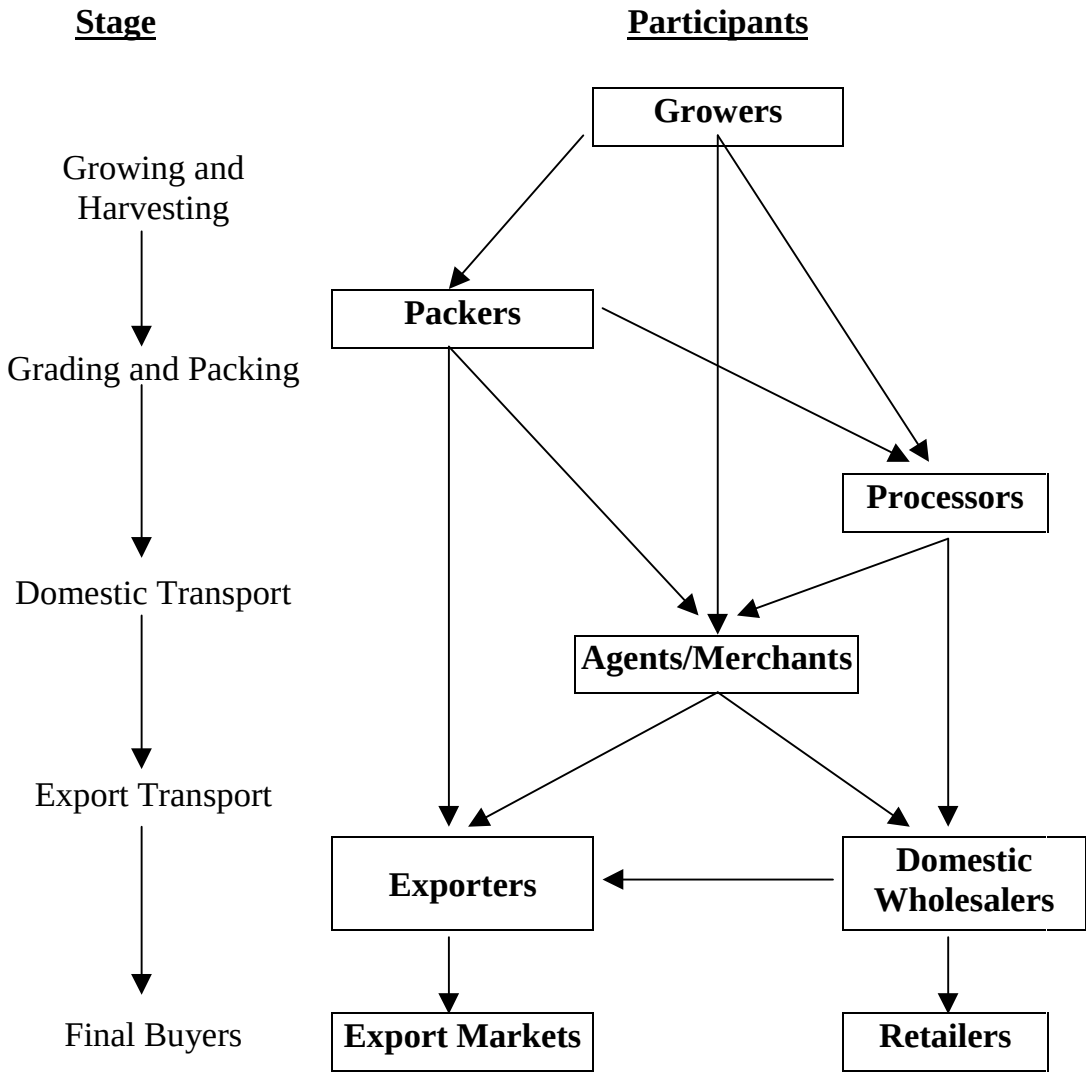


Table 2.1 presents cumulative costs of growing and distribution, scaled so that on-farm costs equal 100. In many cases off-farm costs are greater than on-farm costs. For example, the costs of packing and storing apples exceed the costs of their growing and harvesting, while the cumulative cost to land exports in another country (excluding any import duty or internal distribution or marketing costs) can be about four times the on-farm costs.

The indicative cost structures in Table 2.1 suggest that a given percentage reduction in the landed duty free price of exports has a more dramatic effect on grower returns from exports of horticultural products than broad-area crops, such as wheat. Assuming the incidence of the reduction is incurred wholly by the grower, a modest 5 per cent reduction in the landed duty free export price is equivalent to a reduction in the farm gate returns of 17 per cent for citrus and 20 per

cent for apples, but only 9 per cent for wheat. Although some of the effects of price fluctuations are likely to be absorbed by others in the distribution chain (eg, commissions are usually charged in percentage terms), to the extent that growers receive residual returns, these figures suggest that Australia's capacity to supply broad-area crops to world markets is 'robust' in the face of changes in international prices, whereas the same probably cannot be said for many of our horticultural commodities. For horticultural products it might take only modest changes in exchange rates in order for Australia to become uncompetitive in some world markets. This would not be the case for broad-area commodities such as wheat.

Table 2. 1: **Indicative cost structures for production and distribution of selected horticultural products (farm gate returns = 100)**

Component	*Citrus*	*Apples*	*Wine grapes*	*Deciduous canning*	*Potatoes*	*Wheat* [a]
On-farm production costs						
labour [b]	*42*	*37*	*46*	*42*	*55*	*22*
materials & services	*41*	*41*	*34*	*42*	*32*	*53*
plant and capital [c]	*17*	*22*	*20*	*16*	*13*	*24*
Farm costs	100	100	100	100	100	100
Packing and storage						
labour [b]	*40*	*42*	na	na	18	na
materials	*40*	*40*	na	na	*12*	na
other costs [c]	*20*	*25*	na	na	10	na
Ex-shed cumulative costs	**200**	**207**	**na**	**na**	**140**	**na**
Distribution costs						
Delivery to domestic market or point of export	*15*	*23*	*5*	*9*	*20*	*19*
Domestic commissions	15	*22*	na	na	*14*	na
Cumulative costs for domestic production and distribution	**230**	**252**	**105**	**109**	**174**	**119**
Export freight, insurance etc	*90*	*125*	na	na	na	*21*
Export commissions	*25*	*33*	na	na	na	*34*
Cumulative cost to land exports excluding import duties	**345**	**410**	**na**	**na**	**na**	**175**

na Not applicable.

a Farm costs based on farms producing wheat and other crops.

b Includes hired labour and imputed cost of family labour.

c Includes depreciation of plant and equipment, overheads, and returns to capital and management.

Source: Commission estimates based on various data sources including ABARF, ABS, Departments of Agriculture Farm Budget Handbooks and submissions.

The Commission has surveyed the available data covering the cost structure of various horticultural industries in various regions. This material generally covers only on-farm costs and, to a limited extent, delivery costs to domestic markets. The results of this survey are reported in Appendix G. Some limited material on international cost comparisons is provided in Appendix H.

2.2 On-farm costs

The basic factors which contribute to production and value-adding processes are capital (including land) and labour. In addition to these basic factors, materials and services are purchased from other sectors for the production and delivery of horticultural products.

There are significant differences between the production and value-adding characteristics of horticulture and broad-area industries. ABARE data enable the characteristics of horticultural and broad-area industries to be compared. Table 2.2 provides a summary of some basic physical and financial characteristics of selected horticultural and broad-area industries.

Table 2.2: **Characteristics of horticultural and broad-area farms, average per farm, 1988-89**

	Citrus	*Multi-purpose grapes*	*Wine grapes*	*Deciduous canning fruit* [a]	*neat b*	*Beef*	*Sheep*
Total farm area (hectares)	26	23	42	25	972	15972	5374
Land & improvements ($)	319 632	226 764	363 367	153 463	594 527	902 261	800 677
Plant & machinery ($)	38 581	34 425	41 575	45 167	118 133	46 667	50 230
Livestock ($)	86	250	483	2 016	25 161	236 231	106 057
Total capital ($)	358 300	261 438	405 551	251 066	747 452	1 189 385	971 305
Capital to output ratio	15: 1	14: 1	15: 1	L9: 1	4.6: 1	8: 1	53: 1

a Based on 1987-88 data.

b Based on farms producing wheat and other crops.

Source: ABARE Farm Survey data for 1987-88 and 1988-89 (ABARE 1992d).

The data indicate that horticultural industries are considerably less capital (and land) intensive than the broad-area industries cited and their enterprises are significantly smaller. For the nine year period 1980-81 to 1988-89 the average ratios of capital (including land) to output for broad-area industries were: beef 7: 1; sheep 6: 1; and wheat 5:1. In contrast, the average capital to output ratios for horticulture ranged from 2:1 for deciduous canning fruit to around 3.5:1 for citrus, multi-purpose grapes and wine grapes. The average farm area in horticultural industries was less than 5 per cent of the area in broad-area industries.

The implication of being less capital intensive is that if there are no significant differences between horticultural and other industries in the purchases of materials and services, as a proportion of the value of output, then horticultural industries must be more labour intensive. This inference is supported by other ABARE data presented in the following sub-section.

2.2.1 Structure of farm costs

The structure of farm costs of major horticultural industries differs markedly from many other agricultural industries (see Table 2.3).

Table 23: **Average cost structures and returns to value-adding factors of horticultural and other agricultural industries, as a percentage of on farm receipts: Australia, 1980-81 to 1988-89**

	Citrus	*Wine grapes*	*Deciduous canning fruits* [a]	*Wheat* [b]	*Sheep*
Hired labour	21	23	25	7	6
Family labour	26	33	26	15	19
Total labour	**47**	**56**	**51**	**22**	**25**
Materials and services	46	40	so	52	48
Plant and equipment	13	17	11	8	11
Returns to capital and management [ed]	-6	-13	-12	18	16
Total on-farm receipts	**100**	**100**	**100**	**100**	**100**

a Averages based on eight years data, 1980-81 to 1987-88.

b Based on farms producing wheat and other crops.

c The return to capital covers all assets employed, including those owned by the operator and those for which the operator pays rent and interest.

d The negative returns to capital and management may be due, in part, to over valuation of imputed family labour (see Section 2.2.4) and the use of taxation schedules to estimate depreciation of plant and equipment.

Source: Commission estimates based on ABARE farm survey data (ABARE 1992d); see Table G3.

ABARE has not carried out any surveys of the vegetable sector which enable its cost structures to be compared with fruit growing and other agricultural sectors. The Commission's analysis of data supplied by participants or contained in various farm budget handbooks[1] published by State Departments of Agriculture indicate that vegetable growing is more labour intensive than almost all other agricultural activities.

1 For example, Farm Budget Handbook, Commercial vegetable production in the Murrumbidgee Valley 1990-91, NSW Agriculture and Fisheries, November 1990.

This analysis reveals that labour would represent between 45 and 55 per cent of costs for most commercially produced vegetables.

For the agricultural pursuits reported above, horticultural activities are the most labour intensive. The costs of hired labour and imputed farm family labour generally represent more than 45 per cent of on-farm receipts, compared with no more than 25 per cent for sheep and wheat. As such, the international competitiveness of the horticultural sector would be significantly more sensitive to the relative cost of labour than other agricultural sectors.

Materials costs and services costs account for between 40 and 50 per cent of on-farm receipts for the horticultural industries reported in Table 2.3, which is about the same as for the other agricultural activities cited. The costs of plant and equipment inputs (using depreciation as a proxy for the cost of plant and machinery inputs consumed in the value-adding process) represent between 11 and 17 per cent of on-farm receipts for horticulture, slightly higher than for other agricultural activities.

Numerous participants alluded to particular costs as adversely affecting the competitiveness of horticulture, especially the availability and cost of labour. Although of lesser importance for the horticultural sector as a whole, some issues associated with the pricing of materials and services could affect the competitiveness of individual horticultural industries.

Also, as in most activities, not all costs to the general community of horticultural production are reflected in the prices which producers pay for their inputs. Some costs may be imposed in the form of environmental damage, through input overuse or misuse. Such use of inputs may not be conducive to sustainable agricultural production and may impact on the health and well-being of the community.

The following sections examine the major components of farm costs.

2.2.2 Land

Land use can often be changed between various agricultural pursuits and, in areas close to urban centres, manufacturing, service industries and urban dwellings compete for land. As such, the price of land is determined by the highest value use to which that land can be put. Land values may also incorporate the value of 'rights' attached to the land. In areas such as the Murrumbidgee Irrigation Area (MIA), land usually has water rights attached. Accordingly, the value of this land may be higher than similar lands which have no water rights. Also, land with water rights attached is valued according to the conditions and the price at which water is available. In some areas land tenure and land use regulations also affect values.

Although many land-use regulations have been reformed in recent years, some impediments remain. These include, for example, the exclusion of corporations from acquiring farming lands and the retention of the home maintenance area concept in the MIA, which limit the size of holdings. Remaining controls on tenure, farm size and water rights inhibit vertical integration, achievement of potential economies of size, and optimum production choices.

Many horticultural producers, particularly those located close to urban areas where the price of land has been 'bid up' by alternative activities, have relocated to areas where land costs are lower. However, this has not been without cost in obtaining other inputs, especially labour and transport.

In other situations, new horticultural opportunities have arisen in areas where alternative land-use activities are perceived to be less profitable. Examples of this are the development of macadamia nuts, coffee plantations, mangoes and other tropical fruits on land previously used for dairying on the New South Wales north coast.

In summary, because various activities compete for the use of land, it will be valued according to the use which will pay the highest price.]be exception to this is where there are government controls on land-use, water rights and water pricing. Any intervention which might distort land values or restrict land use is likely to advantage the competitiveness of one activity at the expense of another.

The Commission has been unable to identify any significant direct impediments to the efficient allocation of land for horticulture which would increase horticultural production costs. Although there are some restrictions on tenure, farm size and ownership, particularly in the MIA, their impact on how land is used and on costs is minimal. Water rights and water pricing continue to be an issue in some areas. Where these involve a subsidy, they would be largely incorporated in land values. As noted in Section 2.2.7 there are some environmental constraints on how land is used.

The extent to which horticulturalists own the land that they use has not been raised as an issue in this inquiry. However, the Commission has the impression that, compared with other countries, there is a lesser tendency in Australia for horticultural growers to lease additional land. This could partly explain the relatively small size of operations in Australia compared with, say, California and Chile. Re-organisation of the New Zealand tomato industry five years ago to make it internationally competitive resulted in 40 contracted growers (in one area) being replaced by five or six. These larger growers lease land in the region, frequently from growers who lost tomato contracts (Stephens et al. 1993).

2.2.3 Capital

In addition to capital requirements for land, capital is required for land improvements, orchard establishment, fixtures, plant and machinery, and working capital is also required to fund running costs.

Financial markets for these purposes are generally competitive. However, the costs of funds are not always equal because they depend on the market's assessment of risk. Some participants suggested that some sectors of the rural community are disadvantaged because banks impose higher charges on them than those imposed on other sectors of the community.

During July 1992, the Commonwealth Government announced its support for a 'code of practice' for banking and the establishment of a Government Task Force to facilitate the development of the code in consultation with relevant interest groups. The aim of the code is to ensure that bank customers are adequately informed of the fees, charges, terms and conditions that apply to loan and deposit accounts. The Task Force is focussing on consumer matters but will also give priority to issues of concern to small businesses, including farmers. The NSW Farmers' Association, which advocated introduction of the code, believes that the improvement in customers' ability to compare bank services will result in greater competition between banks and a more efficient financial market, to the benefit of farmers:

> ... the industry standard calculation of a comparison rate for all contracts is required. This would allow comparison between different products with different charges and different interest rate calculation balance periods. This in turn would facilitate a more efficient market as small businesses without sophisticated financial management resources would be better able to make comparisons between financial products and institutions. (Sub.106, p.49)

The horticultural industries, like other agricultural industries, have access, subject to certain conditions, to concessional credit through the Rural Adjustment Scheme (see Appendix I). To this extent, they are assisted.

Taxation treatment of capital expenditure

The Commission received no evidence that horticulturalists are significantly disadvantaged by distortions to the cost of capital items, but concern was expressed at the taxation treatment of expenditure on new plantations. Horticultural production based on perennials requires considerable capital expenditure some years prior to obtaining significant returns. For example, commercial returns from citrus do not occur until about seven years after planting.

The costs of establishing horticultural plantations depend on the type of trees, vines or bushes and the planting density and method, and can be higher than the value of the land on which they are planted. Anecdotal evidence suggests that for citrus, with a planting density of 600 trees per hectare, planting costs would exceed $10 000 per hectare and, for high density plantations of 1500 trees per hectare, costs would be as high as $25 000 per hectare. This places a significant capital servicing burden on producers.

Whilst this burden is an inherent part of growing such produce, several participants drew the Commission's attention to what they saw as an anomaly in the taxation treatment of expenditure on horticultural plantations compared with investment in other activities. In most industries, expenditures incurred on items which are used to produce taxable income are readily tax deductible.

The Western Australian Department of Agriculture raised the issue in the following terms:

> The purchase of fruit trees for establishing a new orchard does not constitute in any way a deductible expenditure for income tax purposes. They are considered neither fully deductible nor a depreciable capital item in the Income Tax Assessment Act. Although it is believed that orchardists may rind ways around this problem, it does seem to be an anomaly. In an era when high density planting is the norm, this is now a substantial expenditure item, and especially important to the economics of the enterprise, being 'up front' expenditure. (Sub. 100, p.29)

A similar view was expressed by other participants. For example, Warburton and Wright said that the taxation treatment of expenditure on establishing horticultural plantations distorted investment decisions and disadvantaged horticultural industries based on perennial crops relative to other industries.

The Commission sought clarification of the issue from the Australian Taxation Office and was advised that:

- depreciation is allowable for plant and equipment. However, trees are not regarded as plant and equipment and therefore a deduction for depreciation is not allowable;

- costs associated with establishing a horticultural plantation are deemed to be of a capital nature. As such they are not tax deductible unless specifically provided for (subsection 51(1) of the Act);

- the cost of establishing a horticultural plantation is taken into account for determining assessable capital gain, or allowable capital loss, on disposal of the plantation, for example, on the sale of the land. Where the plantation is destroyed (eg, grubbed out) it is considered to be a part disposal of the land;

- the amount of any gain or loss is calculated taking into account that part of the sale price attributable to the trees, and the cost of the original plantation which is indexed by the consumer price index; any allowable capital loss can only be deducted from other capital gains; and

- the replacement of trees that form part of a plantation would generally be regarded as an expense and, depending on the facts in each case, would therefore qualify for deduction under section 53 of the Act.

In view of the above advice, the Commission finds that there is an anomaly in the taxation treatment of horticultural plantations which discriminates against investment in perennial crops relative to other industries.

Determining expenditure on plantations to be of a capital nature precludes consideration of the expenditure for taxation purposes for long periods of time, often decades, and the stipulation that a capital loss can only be deducted from other capital gains, and not income, represents a severe restriction on the ability to have the original expenditure considered for taxation purposes.

The Commission understands that the taxation treatment of certain items of expenditure sometimes raises complex issues which, of necessity, are resolved in an arbitrary manner. However where distortions and anomalies are clearly identified, as they would appear to be in this case, the Commission is of the view that they should be addressed and corrected. Neutrality of the taxation treatment of expenditure within and between industries, as far as it can practicably be achieved, is conducive to better investment decisions and a more efficient use of the nation's resources.

The Commission recommends that the taxation treatment of expenditure on new horticultural plantations be revised in a way which provides a more neutral treatment compared with expenditure on other activities.

On a related taxation matter, the New South Wales Department of Agriculture drew attention to the Australian situation compared with taxation treatment of horticultural plantations overseas - in the United States, planting of trees and vines may be depreciated at a rate of 10 per cent on a straight line basis, whilst in New Zealand, depreciation is at a rate of 10 per cent but on a diminishing value basis.

The different tax treatment of new horticultural plantations in competing countries could affect the domestic industry's international competitiveness. However, this in itself would not be a sufficient reason to provide similar treatment. Taxation regimes differ between countries for many reasons and the treatment of any particular item for taxation purposes needs to be assessed in the context of the total Australian taxation system.

2.2.4 Labour

Most horticultural activities are labour intensive. More than half of the participants raised issues associated with labour. The major issues were associated with the cost and availability of labour and the impact these have on the international competitiveness of horticultural industries.

In addition to the direct cost of labour, many participants commented on the on-costs associated with employing labour. These, they said, have a direct impact on international competitiveness. The Australian Vegetable Growers' Federation said:

> Additional payments for sick leave, public holidays, annual leave, holiday leave loading, superannuation, workers compensation, payroll tax, etc. combine to make the cost of labour excessively high. (Sub.86, p.6)

Similar comments were made by Queensland Fruit and Vegetable Growers (QFVG), Story Agricultural Services and the Banana Industry Committee.

Some participants said that an additional problem facing the horticultural industry is a very high turnover of employees, and this results in additional costs of training which are not incurred in less seasonal industries.

Wage rates in Australian horticulture are determined largely by rewards offered elsewhere in the economy. In order to attract labour it is usually necessary to offer wages or other benefits (eg, accommodation) in excess of those in the relevant State awards, although on-costs and award conditions still apply.

Many participants cited the high cost of labour relative to Australia's major competitors as having a large impact on competitiveness and some provided examples of the cost of labour in Australia and in other horticultural exporting countries. This, they said, provides overseas producers with a considerable competitive advantage. For example, the Murray Citrus Growers' Co-operative Association said that labour costs in a US packing shed were US$4.25 per hour (about A$5.70) compared with A$10.20 in Australia (Sub.39, p.16).

Horticultural wage rates in developing countries such as Chile and Mexico are less than 15 per cent of those in the US, and even lower for unskilled workers. This results in greater use of labour and less of machinery. Even so, labour accounts for no more than 18 per cent of total production costs in the Chilean fresh fruit industry (USDA 1991, p.17). In Mexico, for example, low wages reflect low productivity, with absenteeism and labour turnover being high and interruption to technical production being commonplace (CITT 1991, p.218).

The US and Canada have production technologies and horticultural wage rates similar to those in Australia. In Australia, the response of growers to high wage rates is often to limit the farm to a size which can be operated by the family. In the US, labour arrangements allow employers and employees to make their own arrangements about wages and conditions more flexibly than in Australia. For example, there is greater use of piecework in the US. In addition, the US and Canada allow workers from the Caribbean and Mexico to be employed temporarily at wages about 15 per cent lower than for domestic workers (because social security and medical insurance taxes are excluded) (CITT 1991, p.157).

In relation to citrus packing, Revelant (1991) said that:

> The USA still has the advantage of very cheap labour that is not unionised and prepared to pack substantially at piece rates. ... Comparisons of manual packing labour also do not stack up when considering that it is common to see contract packers achieving rates of 50 to 60 cartons per hour in the US, whilst 30 cartons per hour would be considered good going in Australia. With labour rates for packers in Australia now in the order of $10 per hour, trying to compete with cheap $6 per hour equivalent wages makes the local task very difficult. (p.27)

Strategies used to reduce labour costs

A number of participants commented that horticultural industries have adopted, or are adopting less labour intensive farming methods such as mechanical harvesting in an attempt to avoid the high cost of labour. Some industries are using chemicals for weed control to avoid having to employ labour for the traditional method of hoeing weeds. Some are using crop diversification as a means to minimise costs.

- Mechanical harvesting

Many growers are adopting mechanical harvesting in order to minimise the need to hire labour. For some horticultural products, mechanical harvesting is not yet practical. For citrus, the physical characteristics of the tree and the variation in the ripeness of the fruit have to date prohibited the development of mechanical harvesting. For similar reasons, it has not been possible to develop mechanical harvesters for crops like bananas. Hilly terrain is generally unsuited to mechanical harvesting.

Mechanical harvesters have, however, been developed or are being developed for a number of horticultural products. These products include wine grapes, dried vine fruits, canning fruit, nuts, coffee beans and many vegetable products. However, the use of mechanical harvesting techniques is not without drawbacks or additional costs further along the marketing or processing chain.

Because many mechanical harvesters use a 'strip' (takes everything) process, the harvested product can be of a lower and more variable quality and there can be a significant increase in waste and packing house and processing costs. There can also be considerable damage to trees or vines. Also, to adopt mechanical harvesting often requires considerable capital investment, not only in the development and purchase of the harvester, but also in the construction of special trellising or the reworking of trees.

In addition to mechanical harvesters, considerable use is made of mechanical aids to assist hand harvesting of horticultural crops. These aids include mobile picking platforms for fruit and propelled platforms on which pickers sit while harvesting vegetables.

Although some machines and aids have been developed overseas, there has been significant development of them within Australia. In many cases, growers have developed such equipment at their own initiative.

In assessing whether mechanical harvesting is to be adopted, horticulturalists are required to weigh up the trade-offs - that is, whether the labour cost savings will be higher than the cost of extra capital expenditure required and the reduced returns for the product because of reduced quality, increased waste and increased labour costs further down the marketing or processing chain.

- Family labour

Most horticultural areas were developed as family farms when the availability of mechanical farming aids was limited. Consequently, farms were of a size where the farm family could undertake most tasks and there was little reliance on hired labour except at harvest time. Over time, with the development of mechanical aids, labour has become more productive and the farm size has increased as the farm family has been able to handle a larger area.

Many participants said that because of the high cost of hired labour, producers attempt as far as practicable to rely on family labour. It was said that many producers have restricted the size of their operations to a level which the farm family can handle. For example, participants made comments such as:

> The majority of these farms rely on family labour with mechanical aids to assist in operations on some crops. (Department of Agriculture (WA), Sub.100, p.12)
>
> Immediate and extended family members provided cheap labour ... horticulture was seen as a lifestyle, not a business. (United Farmers and Stockowners of SA Inc, Sub.57, p.9)
>
> Broadly speaking, citrus industry experience is that economies of size in larger operations tend to be off-set by family labour inputs and lower overheads in smaller farms and packing houses. (Australian Citrus Growers Federation, Sub.65, p.4)
>
> The cost of labour constrains farm sizes to some extent but the aggravation of employing people is also a factor and hence this encourages family units to manage with as little help as possible. (Flower growers Group of the Victorian Farmers Federation, Sub.61, p.7)
>
> The optimum property size for a single owner manager is about 50-60 acres. Further efficiencies could be attained through syndication of machinery and labour for neighbouring properties, giving a production unit of some 100 acres. We are not aware of larger units that are able to operate more efficiently than these family units. (Murray Citrus Growers' Co-operative Association, Sub.39, p.13)

Based on ABARE farm survey reports, imputed family labour costs represent as much as 30 per cent of the farm-gate returns from horticulture. However, whether growers value their labour as highly as the Federal Pastoral Industry Workers Award which ABARE uses in its imputation of family labour costs is unclear. Some negative rates of return to capital estimated in ABARE surveys, derived as the residual between gross farm receipts and other costs (paid labour, imputed family labour, materials and services, and plant and equipment), suggest that individual growers may value family labour less in dollar terms because they derive some other benefits from the lifestyle which farming offers or have limited alternative employment opportunities.

- Diversification and farm practices

Many horticulturalists grow a mix of products, which are harvested throughout the year, as a means of minimising the need to hire labour. In the MIA, for example, on a single farm there may be both valencia and navel oranges, wine grapes and possibly a range of vegetables. In other areas, such as in the Goulburn valley, some growers produce apples and pears, a mix of canning fruits and citrus. The other advantage of adopting such a strategy is to minimise price risk and maximise the opportunities from different soils and topographies.

For some crops such as bananas, where harvesting occurs throughout a large proportion of the year, growers minimise the need to hire labour by keeping their plantations small enough so that family labour can handle all or most operations.

Some growers of tree fruits have been adopting new growing techniques in order to improve hand picking efficiencies so as to reduce labour requirements. Rather than planting fruit trees in the traditional manner of about 600 trees per hectare, they have increased the tree densities up to 1500 or more trees per hectare by planting in a hedgelike fashion and restricting the growing height of trees. This enables all fruit to be picked from ground level without ladders or mechanical gantries and thus improve harvesting efficiencies.

Social security and Commonwealth Employment Service arrangements

- Social security

Many participants believe that the horticultural industries' main competitor in the labour market is the Commonwealth Government through the social security system. This, they said, is forcing up the cost of labour and restricting its availability, and provides incentives for many producers to turn a 'blind eye' to some employer/employee regulations.

The Tasmanian Government in its submission said that:

> It is considered that CES unemployment benefit system discriminates against people taking on short term work such as seasonal horticultural work. It appears that it is usually more attractive for people to stay on the dole. (Sub.79, p.23)

The All States Group said:

> ... others who seek work are often temporarily unemployed and the forfeiture of entitlements to social welfare benefits is a disincentive for seeking temporary employment - there is no doubt that the introduction of the tax file number system has decreased the pool of people seeking picking work. (Sub,37, p.9)

Many other participants also cited the level of benefits under the social security system as creating difficulties for producers seeking labour. There were many comments like that of Gerard Cassegrain and Co:

> The industry has difficulties in competing for labour against social security. Currently a family with three dependents obtains approximately $20K for social security. The annual wages/salaries paid by the industry for 38 hours work per week are about $25K, on which the employee pays income tax. (Sub.1, p.3)

The Department of Social Security explained that:

> In July 1991 the old unemployment benefit was replaced by Job Search Allowance and Newstart Allowance under the Newstart Program. Under Newstart, to remain in payment unemployed people must seek work or undertake training to boost their chances of getting a job. Severe penalties apply if those receiving payments do not undertake these obligations. The Newstart Program strikes a balance between providing financial assistance and incentives to obtain employment with penalties for those who are not genuine in their efforts to obtain work. (Sub.D114, p.1)

The Job Search Allowance varies according to age and number of dependants. For a person aged 25 years with no dependants the allowance is currently $281.90 per fortnight or approximately $7 300 per year. A single person can earn $60 per fortnight without losing any allowance, with this amount increasing to $90 per fortnight for a single earner couple and $120 per fortnight for a dual earner couple. Thus, a dual earner couple have an effective free area of $120 per fortnight without affecting their income support entitlement.

In addition, low income families (whether employed or not) are entitled to full Additional Family Payments (known as Family Allowance Supplement before January 1993) if the total annual income is below about $20 000. For example, the payment is $61.90 per fortnight for a child under 13. Rent assistance of the order of $75 per fortnight is also available.

If a single worker earns between $60 and $140 per fortnight, the allowance is reduced by half the earnings received in excess of $60 per fortnight. Thus, if the worker earns $140 per fortnight the allowance is reduced by $40 per fortnight. If the worker earns more than $140 per fortnight, the allowance is further reduced by one dollar for every additional dollar earned. Thus, for a basic allowance of $281.90 per fortnight, the allowance cuts out altogether at earnings of $381.90 per fortnight and there is no change in the sum of earnings and allowance for earnings in the range from $140 to $381.90 per fortnight.

There is thus no financial incentive to undertake additional casual work once the wage exceeds $140 per fortnight (unless the wage exceeds $381.90 per fortnight). Earning $140 per fortnight, which might be achieved after only two days, provides a combined income of $381.90 while minimising hours worked.

The qualifying period to obtain the allowance is generally one week, but payment, although backdated to the end of the qualifying period, is delayed by the two to three weeks required for processing the application. After qualifying for the allowance, an individual can be employed for up to six weeks on the Job Search Allowance and 13 weeks on the Newstart Allowance (and be ineligible for the allowance during that time) without facing a further qualifying period when employment ceases. Resumption of receipt of the allowance is delayed by two to three weeks.

It is apparent that the social security system reduces incentives for potential workers to seek employment in horticultural industries (as well as in many other industries). Although difficult to quantify, any marginal variations in payments under the various schemes are unlikely to have a significant impact on the availability of workers. However, the current inability of unemployed people to legally accept short term seasonal employment without incurring a delay prior to receiving unemployment benefits again appears to reduce the availability of labour and reduce the competitiveness of many horticultural industries.

Regardless of how the social security system is supposed to work, submissions indicate either that it does not always operate as it is designed to or that recipients and employers are not aware of the provisions, especially in relation to the fact that there is no loss of entitlements as a result of working for some weeks. In practice, there is some dissatisfaction with the delay in the resumption of payments after short term employment.

- Commonwealth Employment Service

Many participants commented on the operations of the Commonwealth Employment Service (CES) in assisting producers seeking seasonal labour. Although many comments were favourable, some were critical of how the service is provided. For example, the MIA Council of Horticultural Associations was critical of the 'fee-for-service arrangements' adopted by the CES. They said:

> Commonwealth Employment Service introduced a $W fee for horticultural growers to list vacancies for harvest labour arguing that this activity by the CES represented a "special" service to growers. (Sub.60, p.5)

The CES, which is part of the Department of Employment Education and Training (DEET), has an Australia-wide policy of a 'fee-for-service' when providing for the short term needs of employers. This applies to special short term projects, for example the building of a motel, on an enterprise basis and applies to seasonal workers on an industry-wide basis for industries such as horticulture. In the case of horticulture in the MIA, the fee is generally $35 per employer if registration is made before November each year (beginning of the season) and $60 per employer after that time.

Several participants told the Commission that growers resent the fee. The resentment is not so much about the monetary amount but about 'the principle of the matter'. It is understood that growers have avoided using the CES by meeting buses likely to be carrying seasonal workers, approaching potential workers outside the CES offices and undertaking their own advertising.

The Commission was also told of perverse effects of the 'fee-for-service' arrangement. Because the CES has only a limited number of growers registering now compared with the time before the arrangement was introduced (in February 1990), the CES's ability to assist the Department of Social Security in policing overpayments of social security benefits has been eroded. This was said to have increased payments made under the social security arrangements. For example, the Commission was told in anecdotal evidence that at one CES office the fees collected from employers registering amounted to less than two per cent of the estimated savings in social security benefit overpayments which would be achieved if a free service were provided.

In response to the Commission's draft report, DEET said that the introduction of charging for certain specialist services of the CES Network stemmed from the Government's desire to improve services to clients (Sub.D148, p.2). DEET added that the move to fee for service benefits employers through the introduction of market discipline to CES operations and fostering increased customer orientation in staff. At the same time, the modest charges are helping to offset considerable Government expenditure in the area of special additional employer services.

Whilst an a priori case for user pays for CES services could be made, it would appear inappropriate where charging creates a net cost to the Commonwealth as a whole.

The Victorian Apple and Pear Growers' Council said that it regretted the recent imposition of a fee for recruitment imposed by the CES in major fruit growing regions. It said that in the Goulburn Valley region of Victoria CES placement of pickers in regional orchards averaged about 4 000 each harvest season prior to the fee being implemented in 1991. For the 1991 season this figure dropped to approximately 400 and in 1992 to less than 800 (Sub.13136, p.3).

Non-resident foreign workers

Several participants stated that it is common for producers to rely on foreign visitors not in receipt of social security benefits for seasonal harvesting. The Victorian Apple and Pear Growers' Council said that under the Overseas Working Holiday Makers Scheme, a reciprocal arrangement between the Government of Australia and certain overseas countries, visitors between the ages of 18 and 25 years can be issued with a work permit for up to 12 months (Sub.D136, p.2). It also reported a 1991 survey by the Australian Tax Office which showed that up to one-third of harvest employees in major fruit growing regions were overseas workers. While such workers were supposed to pay tax at a rate of at least 29 per cent, the survey indicated that the only tax paid by three-quarters of them was the 15 per cent PAYE tax which applies to all seasonal workers.

Participants explained that the ability to utilise these workers has been frustrated to some extent by immigration laws and regulations. For example, Mr Jervis of the Western Australian Fruit growers Association said that there is an abundant supply of foreign 'backpackers' or holiday-workers and most are paid on a contract basis. However, he reported a number of problems with employing such people

because of matters associated with visas and tax file numbers. He suggested that such people who come to Australia should be given a work visa and a tax file number when they arrive. He also stated that from time to time the Immigration Department conducts raids on seasonal workers' workplaces and accommodation seeking out illegal workers or immigrants. He said:

> Sometimes they have particular people that they're seeking and 1 guess in those instances the raids are justified. However, last year we had the situation where we had 15 immigration people surround a local lodge or hostel and orchards, covering all exits in case people made a dash for the orchard. This upset quite a number of people, including the proprietor. (Transcript, p.785)

The possibility of utilising backpacker/holiday-makers was also raised by Mr Hodges of the QFM

> It would be remiss of me not to mention the availability of labour in terms of north Queensland growers, although it's probably not an issue in some other areas, but certainly the further north you go into the more - removed from the south-east corner - labour availability is an issue and affects harvesting and competitiveness. There are things the government could do to address that. We have made representations along the line of relaxing the working holiday visa scheme so that growers can utilise backpackers better in terms of the harvesting operations ... the scheme as it stands only allows for work experience for backpackers who are largely in the main overseas students and it only applies to a couple of countries. (Transcript, p.548)

Recently the Department of Immigration, Local Government and Ethnic Affairs has advertised the availability of a leaflet entitled *Who Can I Employ - An Employer's Guide to Australia's Visas and Entry Permits*. This advises that many visitors are working illegally in Australia and, as a result, job opportunities are reduced for Australians. It specifies that foreign visitors can only be employed if they hold a work visa.

Education and Training

Over thirty participants expressed concerns about the lack of appropriate education and training in horticultural industries. Typical of these were the views expressed by Dr Chris Yuen of the University of New South Wales:

> There is a pressing need to re-evaluate horticultural education, its nature and structure. The future prosperity of the horticultural industry is closely linked with the quality and relevance of the products of horticultural education. The quality and relevance of horticultural education will be crucial to maintaining and increasing comparative advantages of the horticultural industry both in the short and long term. At the present, there seems to be a mismatch between institutions which teach horticulture and the industry. There is a necessity to match the content of horticultural education and training programs and, therefore, the competencies of the graduates, with the education and training needs of be industry.

> The education system is deficient in responding to developments, challenges, and problems facing the horticultural industry. There is a need to refocus resources in the education system to develop new structures, mechanisms and courses which can respond more quickly and effectively to emerging trends in the industry. There is a preference by the industry for graduates not only equipped with the essential technical knowledge, but also rigorously trained in business principles, human relations, financial analysis, management and marketing principles and computer technology. (Sub.3, p.15)

Some participants consider that there are too many institutions providing horticultural science or management courses, each teaching group of insufficient size to contain a critical mass of expertise. The Horticultural Policy Council (HPC) commented that horticultural vocational courses were determined by educational institutions with relatively little input from industry, and proposed that there be an audit of education and training needs (HPC 1992b, p.26). Some participants expressed the view that TAFE colleges provide some valuable technical skills courses.

Some participants stated that the training guarantee levy had provided some incentives for producers, packers and marketers to provide education and training. Currently, taxpayers employing people with a payroll in excess of $222 000 are required to spend one per cent of their payroll on education and training, pay additional tax equivalent to that amount or give an equivalent amount to a charity. The levy is not an issue for most growers.

The South Australian Government said that:

> The Training Guarantee Levy has provided a focus on the need for training. Farms tend to have a lot of on-the-job training which is on-going. Farm workers do need to develop skills with respect to machinery operation, judgement on quality and harvest maturity, packing techniques and post-harvest practices such as cooling, grading, treating, palletising and stabilising. Some producers prefer permanent labour so that skills can be developed and utilised. (Sub.94, p.8)

An argument for such a training guarantee levy is that without it firms may not devote sufficient resources to education and training from a community-wide perspective. Without a levy, employers who do not provide education and training for their employees would have an incentive to 'poach' employees from those who did. However, the payrolls for most horticultural growers are not sufficient to require payment of the levy. Thus, there is little incentive for most horticulturalists to provide education and training programs for their employees, but there is an incentive to attract trained employees from elsewhere. However, this 'free rider' problem is not confined to horticultural industries; it occurs within and between any industries which require similar skills but unequal commitment to training.

2.2.5 Materials

The major materials used by horticultural industries are pesticides and herbicides, fertilisers, fuels and packaging. Although tariffs still apply to a number of materials used in horticulture, these are relative small and will be largely removed by 1996 under the general phasing down of tariffs.

With the exception of packaging materials, there was very little comment by participants on the cost of materials as an impediment to international competitiveness. QFVG provided data on carton costs as a proportion of harvesting and marketing costs, with values ranging from 23 per cent for pumpkin to 45 per cent for pawpaw (compare Table 2.1), and expressed its concern at the lack of competition in the packaging manufacturing industry (Sub.D130, p.3). The Western Australian Department of Agriculture said that because of the relatively small size of the Australian horticultural industries compared with overseas producers, benefits from economies of size in manufacturing packaging cannot be achieved. It said that concentration in ownership of packing material production may contribute to higher materials costs. NSW Agriculture would like the Prices Surveillance Authority (PSA) to investigate recent trends in the cost of packaging materials (Sub. 155, p. 1).

2.2.6 Services

Services used by growers are generally not internationally tradeable and so are available at prices determined by domestic competition. However, where irrigation water and electricity are provided solely through government business enterprises or authorities there may be no effective competition, and prices may not be fully determined by commercial criteria.

Horticulture accounts for around 15 per cent of the water used annually for irrigation, which includes both surface irrigation and pressurised systems - spray, micro-spray and drip. In 1988-89, the farm-gate value of 'irrigated' horticultural production was over $2.5 billion (IC 1992c, p.194) or a large proportion of Australia's horticultural output in that year. According to Australian Bureau of Statistics and ABARE survey information, water accounts for a larger proportion of cash costs for fruit than for vegetables, around 1 per cent for vegetables compared with around 3 per cent for fruit and 4 per cent for irrigated fruit regions.[2]

The Commission has recently reported on water pricing policies following an inquiry into water resources and waste water disposal (IC 1992c). The Commission found there is significant under-recovery of costs for irrigation. In many instances, water charges do not cover the operating, maintenance and depreciation costs of irrigation and drainage systems, let alone any return on the capital invested in dams and irrigation networks. In 1988-89, the latest year for which data are available, the real rate of return for each State's irrigation and drainage services was negative, ranging between -0.9 and -5.0 per cent. The Commission considered that, if systems are to be maintained or improved, the target rate of return on existing investments should not be negative and a 5 per cent rate of return could be reasonably expected for new investments.

[2] Estimates are based on averages derived form ABS Agricultural Finance Survey aggregated data for vegetables (ABS 1992i and earlier years) and ABARE Farm Survey data for certain irrigated regions for fruit (ABARE 1992d microfiche, various years).

The report found that in some areas water has considerable value above the price charged for its provision. The benefits to growers associated with these low prices for irrigation water have been capitalised into the value of water entitlements or land values. The report also recognised that the low charge has encouraged water users to demand services in excess of those they would demand under a user pays approach.

The adoption of more efficient pricing would lead to significant increases in the prices paid by horticulture for irrigation services. The effect of higher water prices would depend in part on how horticultural producers respond. Some may leave farming altogether. Others may reduce the amount of water applied, adopt water saving technologies (such as moving from surface irrigation to pressurised systems), reduce the area under irrigation, or move to dry land production.

2.2.7 Environmental impacts

The prices which horticulturalists (or producers of any kind) pay for inputs do not necessarily reflect the full costs of their use. Additional costs may be imposed on the community through environmental damage, degradation of natural resources by the adoption of unsustainable practices, or increased health risks. If these 'external costs' were 'internalised' (paid for directly by those who cause them), costs faced by producers would increase. However, the extent of that cost increase is difficult to estimate.

The large proportion of participants who addressed environmental matters highlights the wide-spread concerns about the environment which are held throughout the community. Some participants addressed the effects of irrigation in contributing towards a later rise of the water table after times of heavy rain. Any increase in salinity has effects not only on the farm itself, but also on downstream users of the water.

The subdivision of horticultural land for non-horticultural purposes, such as urban settlement, has caused some conflict between farmers and residents. Problems arise when horticultural practices create noise, dust or odour which is not confined to the farm. A more serious problem arises when horticulturists use chemical sprays that drift into residential areas. The New South Wales Government submitted numerous case studies which highlight the restrictions which can be placed on horticulturists when residents complain to local governments.

The Western Australian, Queensland and New South Wales Governments have investigated the feasibility of 'right to farm' legislation. Each investigation found that while the legislation may assist some horticulturists to continue farming productive land, it would be difficult to implement in a practical form. For example, matters of public health and safety need to be considered, and any new law may conflict with existing environmental laws. The New South Wales Government favours the continued use of the *Environmental Planning and Assessment Act 1979*, which can be used to ensure that future urban developments are designed so that they do not adversely interfere with horticultural activities.

In 1991 the Australian Apple and Pear Growers Association signed a 'Pesticides Charter' with a number of consumer and environmental groups including the Australian Consumers' Association, Australian Conservation Foundation and Greenpeace. The main aim of the charter is to reduce the level of pesticide use in the apple industry by 50 per cent over a five year period. The Association anticipates that growers will achieve this target through the use of integrated pest management methods, which include the use of natural predators and parasites, together with improved pesticide application methods.

The National Residue Survey, operated within the Department of Primary Industries and Energy, is a national program which monitors randomly selected raw food commodities produced in Australia for residues of agricultural and veterinary chemicals and environmental contaminants. Unless there are compelling reasons to the contrary, no product will be included in the survey unless the Minister is satisfied that its inclusion is in accordance with the wishes of the relevant industry. Discussions are being held with horticultural industries - some wish to participate to obtain scientific support for their ‚clean green' image, while others believe they do not need it because they are already 'clean' or have alternative procedures in place. Following legislation enacted in December 1992, new administrative and funding arrangements will apply from July 1993. Whereas costs were met previously by Government and sometimes partly through export inspection charges, the Government is now implementing a policy of full cost recovery from all producers in participating industries, primarily by means of a levy. Levy rates, point of collection, and sampling and testing procedures are being discussed with industries.

The major issues concerning sustainable development and horticulture were summed up in the submission by the Department of the Arts, Sport, the Environment and Territories (DASET), which said:

> Economic efficiency and international competitiveness in Australian horticulture will, in the long run, be limited by our ability to maintain a productive natural resource base. (Sub.82, p.1)

DASET addressed a number of costs to the environment which arise from farming practices. The arguments and costs it put forward are contained in Appendix 1. Where the prices paid for inputs do not reflect the 'private' (producer) costs and the social (eg, environmental and health) costs, there may be some justification for government intervention for the common good.

However, there is the contrary view. Incitec argued that profitability and sustainable horticultural production are dependant on proper and integrated use of fertiliser. Incitec said that fertilisers are required to correct nutrient deficiencies and to replace nutrients removed in farm production. It also said that crop protection products enhance yields and quality, and may not be harmful to health. Without the use of such products, it said, soil nutrient would be depleted, yield and quality would fall, and these would impose costs on the community.

If possible, it is preferable to develop pricing mechanisms which ensure that those responsible for environmental costs bear ('internalise') those costs. (DASET supported the use of levy mechanisms on chemicals to fund residue monitoring systems.) Charging the full cost of potentially environmentally damaging inputs, such as water, is a market based mechanism along these lines. However, pricing and other market-based approaches may not always be the most effective means of addressing specific environmental problems. In those cases, cost-effective regulation may be appropriate. Research and education programs may also have a role to play.

2.3 Packing and grading

Once harvested, produce is either delivered directly to processors or graded and packed for sale on the fresh domestic or export markets. While processed foods are not under reference, the competitiveness of this sector has a significant impact on the horticultural growing industries. The implications of competitiveness of the processing sector on the horticultural growing industries are discussed in Chapter 3.

Fruit and vegetables are usually graded on the basis of a number of quality characteristics, such as colour, blemishes, ripeness and size, before being packed and dispatched for sale on the fresh market. Some fruit and vegetables, once graded, are delivered in bulk to metropolitan fresh fruit and vegetable markets. They may subsequently be sold to retailers or to packers and processors. However, the majority of fruit and vegetables which are processed are usually delivered directly from the field, in bulk, to processors .

Packing practices vary considerably between individual fruit and vegetable industries. In some fruit industries, such as bananas, and in many vegetable industries, all grading and packing is carried out on the farm using farm labour. In other industries, such as citrus, a significant proportion of production is graded and packed in private or co-operative packing houses before being delivered to final markets. Produce which is considered unsaleable on the fresh market is usually sold to processors, used as stock food or destroyed. The proportion disposed in these ways varies from year to year because of variations in quality and also because of market supply conditions. When supplies are low, it is not uncommon for poorer quality fruit and vegetables to reach the fresh retail markets.

Grading and packing of fruit and vegetables are significant value-adding activities. The current costs of grading and packing fruit are about the same as the costs of farm production and harvesting. Labour costs generally represent approximately 40 per cent of grading and packing costs, packing materials represent approximately 40 per cent, while other costs account for the remaining 20 per cent (see Table 2. 1).

Participants made similar comments about the costs and availability of labour for grading and packing activities as they did about farm labour. Where harvesting takes place over a significant part of the year or there are several crops which can be harvested at different times, producers tend to pack on-farm utilising family labour in an attempt to minimise paid labour costs. The Commission has the impression that packing is probably more labour intensive in Australia than in some other competitor countries, based on the Commission's observations of labour intensive packing operations and comments that more capital intensive methods exist elsewhere.

Many participants suggested that the cost of packing materials in Australia compared with overseas adversely affects Australia's international competitiveness.

In 1991, the Australian Horticultural Corporation (AHC) and the NSW Department of Agriculture and Fisheries published a report on methods for reducing packing costs in the Australian citrus industry (Revelant 1991). The report found that the greater the proportion of fruit packed for the fresh market, the greater the net return per carton, regardless of area and shed size." A similar conclusion was reached by the Citrus Board of South Australia in its 1988 *Review of operational efficiency and economic viability of packing operations in the South Australian citrus industry.*

The New South Wales report also highlighted the role of new technology in reducing packing costs, particularly the labour cost component. Recent technology developments include electronic sizers, colour and blemish graders, and the Sunkist Automatic Pattern Packer. The Pattern Packer, which allows mechanical packing of citrus, was said to reduce unit packing costs to less than 75 per cent of those for an average sized shed packing 100 000 cartons (or a little over 1000 tonnes) per year. Greater cost savings were estimated for sheds with larger throughputs. In May 1991, there were 350 Pattern Packer machines in use in the United States compared with 20 in Australia. To obtain the full cost benefits of the Pattern Packer, the throughput of sheds would need to be substantially greater than the current Australian average, corresponding to a considerable rationalisation of packing operations in Australia.

2.4 Transport

Most horticultural products produced in Australia are transported by road to domestic markets and to points of departure for export markets. Rail is used to a lesser extent while sea freight within Australia is limited almost entirely to the movement of horticultural products between Tasmania and the mainland using coastal shipping. The modes of transport utilised for moving horticultural products from export departure points to export markets include both ships and aircraft.

One major factor identified by participants as affecting the international competitiveness of horticulture, particularly of fresh products, is the cost and availability of transport from the place of production to final markets. Much of Australia's horticultural production occurs in areas remote from domestic markets and from points where it can be dispatched to international markets. Also, the perishable nature of many horticultural products requires that they be delivered with special care and as quickly as possible. This imposes additional costs, such as for refrigerated containers and storage, or for air transport rather than sea transport. Most participants' comments were directed at the high costs or poor availability of a particular mode; a few were directed at transport in general.

A key finding of a recent survey of food processing, transport and distribution industries in Victoria was that Victoria had fragmented transport systems with poor interfaces between various transport modes (Sub.13156, p.1). QFVG emphasised that speed and efficiency in delivery are paramount in taking advantage of international niche markets with highly perishable products, and called for reforms in road, rail and air transport to be accelerated (Sub.D130, p.1).

2.4.1 Domestic transport

Road

There is a high level of competition between providers of road transport services. However, many participants cited a number of factors contributing to the cost of road transport and problems which impact on the competitiveness of horticulture in Australia. These included the impact of fuel excise, registration fees, transport regulations and the condition of roads servicing major horticultural producing areas.

The Commonwealth and State Governments agreed in July 1992 to details of a National Registration Scheme for road vehicles proposed by the National Road Transport Commission, although it may be a year or so before the necessary legislation is enacted. For each class of vehicle there will be a uniform registration charge throughout Australia. These charges, together with a uniform fuel excise charge, will be set at levels to cover road expenditure. (Governments may impose additional fuel excise taxes for general revenue purposes.) There will be slight changes to current road charges - those in Queensland will increase.

The basis of allocating road expenditure to vehicle classes has proven to be contentious. Road damage caused by a vehicle increases with increasing mass and distance, but under the arrangements the registration component of charges will be based on average masses and distances travelled within the class; there will be no charges related to actual mass or distance. Thus, although the charges are intended to cover road expenditure for vehicles in each class, on average, some individual heavy vehicles which travel long distances will not fully pay for the costs they impose on roads and some users will pay more than their attributable costs.

Governments have agreed that 18 cents per litre will be regarded as a fuel charge for road use. This is equivalent to approximately 9 cents per vehicle kilometre for a 6 axle articulated vehicle used for interstate transport. The Inter-State Commission estimated that such vehicles were responsible for road damage costs of 21.1 cents per kilometre on average (ISC 1990, Vol.1, p.85). On this basis, the registration charge would have to be equivalent to 12 cents per kilometre. Ten per cent of these vehicles travel more than 253 000 kilometres annually (ISC 1990, Vol.2, p.124). For these the registration charge required to recover road costs would be $30 360, which is more than seven times the amount of $4 000 that governments have agreed to charge.

The Commission does not have any information which would enable it to assess whether horticultural industries are paying too much or too little for the costs they impose on road infrastructure. The National Road Transport Commission claimed that the disadvantages of overpayments and underpayments by individual road users would be offset by the advantages and lower administrative costs of a simpler charging mechanism (DOTC, Sub.1)128, p.4). Such a statement is of no comfort to a user who is being charged more than the road damage costs involved. Nor is there any consolation in the Department of Transport and Communication's (DOTC) statement that registration charges are small compared with total vehicle operating costs - the marginal costs can be important when operating on small margins in a competitive sector. DOTC adds that the current reforms are just the beginning of changes to the charging process.

QFVG, while supporting microeconomic reform, said that there is great concern about the significant adverse consequences for fruit and vegetable growers of road freight costs - and hence competitiveness - arising from a National Registration Scheme for heavy vehicles, without commensurate efficiencies being gained in other areas of the economy. QFVG believes that the impact of increased transport costs on the industry, especially in more remote regions, needs to be carefully considered by the Commonwealth as well as State Governments (because much Queensland produce is road freighted to the southern capitals). It suggested that measures such as extension of the diesel fuel rebate scheme for the transportation of fruit and vegetables to markets would provide some relief.

Some of the regulations under the National Registration Scheme are aimed at reducing the social costs of unsafe driving practices. Although they may increase the cost of road transport, a judgement has been made that the benefits outweigh the costs and that they impact appropriately on those likely to cause the costs.

Poor road conditions and the inadequacy of the road system were also cited as contributing to increased cost of road transport, although heavy vehicles are often the cause of poor road conditions. In order to protect fruit from damage due to roughness of the roads, some operators are utilising trucks with expensive air suspension systems. This, they said, contributes to increased costs. The Banana Industry Committee (Sub.77) said that because of the damage caused to bananas when transported any great distance by road, the industry prefers to use the rail system.

It is generally accepted that because of distances over which fresh produce must be transported, road is the most economic option for the transport of horticultural produce under existing road/rail pricing arrangements.

Rail

Although rail transport is relevant for only some growing areas and most domestic transport of horticultural products is by road, several participants commented on costs associated with using railways. Others also commented on the inadequacy of railway infrastructure.

Bundaberg and District Fruit & Vegetable Growers' Association said that:

> Higher charges on transport companies for registration as well as reduced travelling periods must ultimately increase transport costs considerably. The fact that road transport plays such an important role in the horticultural industry is an indictment against the rail system operating in Australia. (Sub.59, p.2)

The Victorian Horticultural Export Council commented on reforms to rail transport:

> Federal government is embarking on an ambitious plan to increase the amount of freight carried by rail. The plan will require major changes to infrastructure which may not be cost effective. The long term prospect for rail was that it would haul more freight, satisfy community concerns over road safety and damage to roads, but would continue to lose money doing so. ... Rail freight rates in the past have been set below the costs of supplying the service, and were established to fulfil social and regional development objectives ... .
>
> However, it remains to be seen if it will be possible to achieve cost effective rail transport. Agricultural products have specific transportation requirements which will need major infrastructure changes. (Sub.53, p.4)

The United Farmers and Stockowners of SA commented on the need for additional infrastructure to improve access to Asian markets. It said that:

> ... access to South East Asian markets would be facilitated by a rail link to Darwin. Heavy produce either fresh or processed is unsuited to airfreight. A rail link to Darwin and access to regional shipping services would provide a comparative advantage over South Africa and the Americas.
>
> A rail link with Darwin would allow smaller parcels of produce to be exported than is now the case because of the scale of operation necessary for viable sea freight from Adelaide or Melbourne.

> However, in order to establish Darwin as the principal port, it would be necessary to introduce a rapid rail service that was more cost effective than road transport. (Sub.57, p.8)

In its recent report on Rail Transport (IC 1991b) the Commission recommended that each non-commercial rail service be withdrawn unless the deficit is funded by government by means of a community service contract specific to that service. The Commission found that general freight, which includes the movement of horticultural products, has a very low level of cost recovery. While bulk freight is profitable and long distance rail freight has the potential to be profitable under the National Rail Corporation, this is not likely to be the case for short distance general freight hauls, say less than 500 kilometres, the cost of which would make them uncompetitive with road transport. Horticultural products are transported by rail as general freight because rarely is the volume of product from one centre sufficient to achieve size economies. Road transport provides a more flexible door-to-door service at lower cost without being tied to timetables. Under the proposed rail reforms, there is likely to be an increasing amount of rail freight between capital cities, but a decline in rail freight within States. Services within States may continue from more distant regions provided there is sufficient volume of freight traffic.

In its inquiry into Rail Transport the Commission examined a number of studies which have been undertaken into a possible Alice Springs to Darwin rail link. A consistent theme of these studies has been that such a link could not be justified on economic grounds alone.

With the railways' 'user pays' policies, operating costs are being reduced, services which are not viable are being eliminated, and those charges for general freight which are below road transport rates are likely to be increased. There is thus little likelihood of reductions in rail freight rates for horticultural products- the opposite is more likely.

Coastal shipping

Coastal shipping was raised as an issue only in respect of shipping horticultural products between Tasmania and the mainland. The Tasmanian Government (Sub.79) said the high cost of freight between Tasmania and the mainland markets impacts adversely on the ability of the horticultural industry to remain competitive.

Freight costs between Tasmania and the mainland are reduced through the Tasmanian Freight Equalisation Scheme for the high costs of coastal shipping. The scheme was introduced in 1976 to alleviate the comparative interstate freight cost disadvantage of certain non-bulk goods from Tasmania.

The Tasmanian Government said that the Tasmanian Freight Equalisation Scheme partially offsets the freight disadvantage faced by Tasmanian companies shipping goods to interstate markets; the horticultural industry is a major beneficiary of the scheme. Freight equalisation payments on behalf of the horticultural industry account for over 23 per cent ($7.3 million in 1989-90) of the north-bound component of the scheme. The Tasmanian Government said that any reduction in benefits or possible abolition of the scheme would be a major threat to the industry.

The Tasmanian Apple and Pear Growers Association and the Tasmanian Licensed Fruit Exporters explained that those apple exports from Tasmania which had to be transshipped through Melbourne, because conference lines did not service the appropriate routes or there was insufficient trade to justify a charter, incurred additional costs of $2.50 per carton (Transcript, pp.1152-6). The freight equalisation payment is 86 cents per carton for domestic sales, but there is no payment for exports.

The Industries Assistance Commission dealt with the Tasmanian Freight Equalisation Scheme in a number of inquiries. Its report on Coastal Shipping (IAC 1988b) found that while the ability of Tasmanians to utilise alternative transport modes is limited, it is difficult to support selective compensation for Tasmania.

Domestic airfreight

Airfreight is used to transport some horticultural products domestically, although the volumes are very small. In most cases road transport can provide overnight service at lower cost. Airfreight is used only for rapid transport of perishable and high value products, particularly where long distances are involved. For example, mangoes are airfreighted from Darwin to southern markets. Sometimes domestic airfreight is used to centralise or consolidate cargoes for subsequent export by air.

There does not appear to be any regulatory impediment to airfreight operations, scheduled or charter, except for the exclusion of international carriers from domestic services. However, some aspects of restrictions on passenger services may indirectly impact on freight capacity, because passenger services carry a substantial proportion of airfreight on some routes.

2.4.2 Export transport

In recent years, approximately 88 per cent of the value of fruit and vegetable exports has been transported by sea. The cost competitiveness and accessibility of sea and air transport are important determinants of the international competitiveness of horticultural industries. Costs associated with the transport of horticultural products by sea generally represent half of the landed cost. The corresponding costs for air transport represent as much as two thirds of the landed cost.

Many participants cited export transport costs as major impediments to international competitiveness. The same transport conditions apply to horticultural products for both the domestic and export markets. That is, because fresh horticultural products are perishable, if they are to be internationally competitive they require a reliable, cost efficient transport system for delivery to final markets.

Sea transport

Sea transport is the principal means of exporting horticultural products, usually in controlled temperature containers, or as processed products. Active packaging (see Section 2.6) may also be important in the near future. Many participants cited the higher costs of sea transport to export markets, compared with those of foreign competitors, as a major barrier to international competitiveness. The South Australian Government indicated that sea freight can represent as much as two thirds of the landed cost of produce in an export market. It was also stated that although Australia is closer to Asian markets than is the United States, exporters in that country are able to transport horticultural products at lower costs than those faced by Australian exporters. For example, the Murray Valley Citrus Marketing Board (Sub.63) indicated that US exporters pay about A$5.00 per carton to ship from California to South East Asian markets, while the cost of transport of a similar carton from Australia is about A$7.60 ex Melbourne.

The relative costs of sea freight plus handling for various international movements of potato chips and frozen peas can be derived from Edgell-Birds Eye data for 1990-91 (Gilbert 1992) if it is assumed that production costs in a country are the same regardless of the export destination. Freight plus handling costs from the US and New Zealand to, Japan and Singapore are all approximately the same, and about two thirds of those from Tasmania to these destinations. Costs from Western Australia to Singapore are slightly less than from New Zealand to Singapore.

There are two major sources of the reported differences in sea freight rates. First, shipping services to and from Australian ports are more expensive per tonne-kilometre than services between other countries' ports. This partly reflects Australia's relatively small and irregular volumes. Second, the cost of getting freight across Australian wharves and in and out of Australian ports is higher than in other countries. Participants indicated that other difficulties confronting horticultural exports were shipping delays, lack of shipping services and deficiencies in the availability and reliability of containers. For example, the Victorian Government said:

> The high cost and unreliability of shipping services from Australia are significant barriers to the development of export markets for perishable goods such as horticultural produce. (Sub.69, p.7)

Mid-Murray Citrus Growers' Inc said:

> The notoriously unreliable shipping schedules have resulted in an inability to guarantee a consistent supply to overseas markets, therefore limiting the actual export demand of Australian products. (Sub.35, p.4)

DOTC replied that there are frequent sailings and significant excess capacity for the relevant services to South East Asia (Sub.D128, p.12). The industry has explained that scheduled departure times are often not suitably spaced and that some ships are delayed, due primarily to problems on the wharves. This can result in shipments from Australia arriving close together rather than about a week apart, as planned, leading to oversupply and depressed prices.

In June 1989, a three-year program was initiated to reform Australia's waterfront and shipping sectors. The program involved reducing stevedoring labour and reforming work practices on the waterfront, recrewing Australian vessels and retraining seamen, and consultations with the States about reform of port authorities at the State/Territory level. The waterfront reform program, which was implemented under the auspices of the Waterfront Industry Reform Authority, ended on 31 October 1992 and delivered a lower stevedoring cost structure, improved reliability and reduced ship turnaround times.

Although these changes have improved efficiency, there are still significant delays from time to time, and many participants claimed that the gains from reforms have not resulted in lower prices to users. The Western Australian Government said that:

> Although waterfront reform has made major gains, these have not shown up as reduced costs in transporting containers to Singapore. The export performance of horticulture in Western Australia is limited by the rate and extent of microeconomic reform, particularly of waterfront and transport reform. The export of fresh fruit and vegetables is affected by the expense, reliability, frequency and efficiency of transport and handling arrangements. Improvements in any of these areas that form part of the microeconomic reform process will benefit the export of horticultural products. (Sub.100, p.28)

DOTC responded that a PSA report into land based charges in Australian ports, tabled in September 1992, found evidence that cost reductions of about 12 per cent in 14 months had been passed on to shippers (Sub.13128, p.11), and that this result is supported in the first report of the PSKs monitoring of stevedoring costs and charges published in November 1992. DOTC added that translation of reductions in stevedoring charges into lower freight rates is essentially a matter for commercial negotiation with competing shipping lines.

Shipping companies claimed that rates were not determined on a cost-plus basis, but by market conditions (Shipping Conferences Services, February 1992, p.1). They said that rates had declined recently as a result of an oversupply of ships and declining trade. The current waterfront reforms were intended to reduce stevedoring costs (which might have some flow-on benefit to traders) and delivery times. Shipping Conferences Services commented that "The reform process is far from complete and recent statistics showing improved productivity on the waterfront have been favourably influenced by the decline in trade volumes arising from the current recession" (p. 1).

Although emphasis has been placed on waterfront reform, the House of Representatives Standing Committee on Transport, Communications and Infrastructure concluded that the efficiency, reliability and costs of sea transport also depend to a large extent on the interfaces between ports, land transport and warehouses (Morris 1992). The Committee found that there was considerable scope for increased co-ordination and co-operation between the various parts of the transport chain. Particular mention was made of greater flexibility in operating times and better communications, which could be enhanced by simpler and standardised documentation and use of electronic data interchange. The Government is implementing these reforms.

The activities of shipping conferences also affect sea transport costs. Shipping conferences are cartels of shipping lines in particular trades. They operate in most of the world's deep sea trades. The presence of a conference does not exclude non-conference shipping operators from a trade. Conference operators generally offer a higher standard of regular service while non-conference operators typically offer lower freight rates, although DOTC commented that the gap has narrowed in recent times. Non-conference lines carried 21 per cent of the value of Australian liner (ie, non-bulk) export shipping in 1990-91.

Part X of the Trade Practices Act exempts certain agreements concerning shipping of Australian exports from other provisions of the Act and thereby enables the conferences to operate from Australia. It also regulates certain anti-competitive practices in liner shipping. Part X is due for review in 1994. The PSA recently recommended that a review of this exemption be brought forward. Subsequently, Senator Peter Cook, the Minister for Shipping and Aviation Support, announced that the review of the exemption would be brought forward.

An extra problem for users of conferences is that after leaving Australia ships frequently take on additional cargo in New Zealand before proceeding to export destinations. Ibis is rational behaviour by the conferences, because the majority of the cargo imported into Australasia is unloaded in Australia, but it increases transit times for perishable exports from Australia. Tasmanian exporters face another difficulty in that conferences do not provide services from Tasmania to some export markets, necessitating trans-shipment via Melbourne at a considerable additional cost.

Although non-conference or charter shipping is available at lower cost, only limited exports of horticultural products have been shipped that way. The AHC made the observation that:

> Due to a lack of co-ordination within and between industries there is an almost total reliance on conference shipping rather than charter shipping and this results in higher shipping costs. (Sub.24, p.64)

The Commission understands that, following a hail storm in major horticultural producing areas in New Zealand, shipping space to Europe became available at short notice on a charter ship in March and April this year. A group of six Australian exporters elected to hire this space. However, because of the short notice, not all available space was taken up - principally because of the inability to co-ordinate exports at short notice.

The ability of New Zealand apple and pear producers to benefit from charter shipping is believed to be enhanced by the sole export powers held by the New Zealand Apple and Pear Marketing Board. The Board is able to charter ships some six months in advance and assure that all space is utilised (subject to seasonal conditions) because of its acquisition powers.

The Commission is currently undertaking an inquiry into port authority services and activities, and as part of that inquiry is examining port charging and pricing arrangements. The draft report for that inquiry was released in February 1993.

Air transport

About 12 per cent of the value of Australia's horticultural exports in the twelve months to June 1991 was transported by air. Although there has been increasing use of airfreight in recent years (about 5 per cent of horticultural exports were by air in 1987), the use of this mode has been restricted to high value perishable products, and particularly when exporters can obtain high prices in the off-season in Northern Hemisphere markets or supply a niche market and obtain returns which compensate for the high cost of airfreight (eg, Western Australian wild flowers).

The Victorian Horticultural Export Council provided some examples of freight rates compared with prices received (Table 2.4).

Table 2.4: **Freight rate comparisons and prices received**

Route	*Product description*	*Freight A$1 carlon*	*Price A$1 carton*	*Freight as percentage of price*
Melbourne to Singapore	10kg carton of grapes	8.00	28.50	28
Melbourne to Singapore	18kg carton of pears	12.50	32.00	39
Melbourne to London	6kg carton of asparagus	19.00	33.00	58
Melbourne to London	Rg carton of cherries	19.40	44.50	44

Source: VHEC, Sub.109, pl.

Most exports of horticultural products by air are carried on scheduled passenger flights, but there are also scheduled freight services. Despite recent changes to aviation regulations which make air charter services more accessible, perishable exports are still very dependent for uplift on scheduled passenger services and are limited by flights and destinations available from respective international airports. The VHEC said that:

> Exporters of perishable primary products are able to use either scheduled or charter air services, but associated with both are several logistic problems. The basic problem with scheduled air freight services has been the low status afforded to primary products and preference to other cargo. There is a shortage of air freight space to most major international markets in Europe, U.S.A. and S.E. Asia. The problem is particularly bad during March-May when there are high volumes of perishable produce being exported to S.E. Asia, and again in the pre-Christmas period when there is a high demand for

> high value, out of season produce in Europe but availability of air freight space restricted due to the high volumes of air mail. In 1985, the government amended legislation to free up the use of charter services. However, to reach European markets exporters must charter a 747, which carries 100 tonnes. This quantity of produce would flood the market if it was a single commodity, and if a mixed load was to be carried then it requires the organisation of many different people in an already fragmented industry. There is also the additional problem of finding a cargo for the return trip. (Sub.53, p.3)

In its issues paper for this inquiry, the Commission sought information from participants on the costs and availability of airfreight. Many participants provided details of the availability and cost of airfreight for particular products in which they have an interest.

Some commented on seasonal demands for, and the limited supply of, airfreight space. The Australian Horticultural Corporation referred to Christmas mail and passenger luggage crowding out cargo space for horticultural products on passenger planes in the period from December to March, which corresponds to a period of peak demand for horticultural exports (Sub.24, p.63). The Tasmanian Government made the same point in relation to peak production periods for the floriculture and nursery industries:

> At Christmas good prices are received for floriculture products nationally and internationally but space available on aircraft becomes a major problem as "holiday" passengers compete with freight. This impedes Australia's Southern Hemisphere advantage to supply out-of-season markets. (Sub.79, p.18)

DOTC said that the number of flights from Australia increased by 67 per cent over the five years to 1991, during which time airfreight exports increased by 32 per cent (Sub.D128, p.6). New air service agreements meant that the number of possible destinations increased too. DOTC argued that institutional restrictions are not a problem, and that it is the commercial judgement of individual airlines as to which ports they operate and how frequently, and such decisions are motivated more by passenger demand than freight demand.

DOTC has examined seasonal variations in aircraft movements, freight, mail and numbers of passengers, with particular attention to the period from December to March (Sub.D128, p.7). It found that even in the peak month of December passenger loads are not 100 per cent which infers that there is still room for some freight. However, the Commission considers that exporters would be unlikely to take advantage of opportunities created by last minute passenger cancellations. DOTC determined that unused freight capacity was at least 30 per cent from Melbourne to each of Hong Kong, Germany and the United Kingdom from December to March, although there is a minor capacity "squeeze" during the "peak period" for Hong Kong and Germany. The DOTC analysis is in terms of total airfreight whereas the times of peak demand for horticultural freight services are dictated by harvest times.

The VHEC, in response to some specific questions asked by the Commission, indicated that:

> Each airline carrier has a schedule rate to specific markets. However, there is flexibility in the rate depending on the carrier, the level of competition from other carriers, the time of year, demand for space and reputation of the exporter. Large freight forwarders or exporters which have a good relationship and regularly support a specific airline are able to obtain substantial discounts below the quoted market rate for airline space.
>
> Higher rates are paid for certain times of the year; some markets (Tokyo, Seoul, Taipei) have high demands and high value cargoes and hence command higher rates. (Sub.109, p.1)

The VHEC further said that the freight cost to export an airline pallet of horticultural produce from Melbourne to Kuala Lumpur in April was $2700; this was reduced to about $2100 in June due to low demand for space on this route. All carriers charge for airfreight by the cubic metre for cargoes of less than 167 kilograms per cubic metre; otherwise they charge by weight.

A number of participants referred to the practice by some exporters of over-booking airspace to eliminate the possibility of domestic competitors accessing airfreight space and competing against them in overseas markets. The VHEC commented that this did occur in the past, but over the last two years there have been a number of changes to the space allocation system to reduce this practice.

Some participants said that in the peak season horticultural product freight was sometimes unloaded because of inadequate cargo space. Qantas Airways advised the Commission that offloads result from a variety of causes all of which relate to the safety of aircraft. Furthermore, even though perishables are low yielding cargo for the carrier, Qantas said that its policy is to offload general cargo before live animals and perishables (Sub.13166, p.3). No doubt space could be guaranteed; however this would come at an additional cost which might make the airfreight of exports non-viable.

Qualturf found that Sydney international airport was unable to satisfy requirements to keep cargoes cool. Consequently it now sends its turf from Sydney to Malaysia via Perth (Transcript, p.182). Other concerns expressed by participants (eg, the South Australian and Tasmanian Governments) related to lack of storage facilities and transport and handling infrastructure. The VHEC said, in response to questions regarding the handling of perishables, that:

> Although airlines take as much care as possible in the handling of perishables, there are never enough adequate refrigeration facilities in any airport (including Singapore). Fruit and vegetables are the last produce to go into coolstores at the airports. (Sub.109, p.2)

DOTC confirmed that:

> In general the ground handling facilities available for international airfreight are not highly developed in their operating procedures, in the extent of available storage space, or in provision for specialised cargoes. The amount of cold storage space is particularly limited. (Sub.D128, p.8)

Airfreight facilities at Australian airports are owned and operated by the major airlines: Qantas, Australian Airlines and Ansett. The Federal Airports Corporation has noted the shortcomings in the current ground handling system and is considering how the service can be enhanced.

The Commission has been unable to identify any regulatory impediments to air transport of horticultural products. The inability to obtain sufficient space arises in part from the seasonal nature of production. Some of these problems might be overcome if export volumes were sufficient to warrant charter flights for a mixture of products and exporters co-ordinated their shipments.

2.5 Economies of size and scope

While it is often claimed that there are economies of size in the various stages of the production and distribution chains for horticultural products, there is little evidence to support such claims. The overall impression gained from submissions, visits and hearings is that there are no appreciable economies of size in growing, but there might be some in off-farm operations (see also Appendix G, Section G4). The wide range of farm sizes observed is itself evidence of a lack of economies of size in growing, although there could be diseconomies in very small farms.

If there were economies of size then growers, packers and traders would be expected to take advantage of them. In these circumstances the Commission is interested in economies of size to the extent that there are market impediments, such as restrictions on land ownership or on membership of co-operatives (eg, across State borders), which prevent adjustment to the desired size.

Beyond the farm, economies of size exist in packing (see the Pattern Packer in Section 2.3) and possibly in international transport (where large, regular and reliable customers are in a stronger position to negotiate lower rates). In so far as the cost of obtaining information about markets is the same for a large firm as a small firm, there are economies of size in the cost (as a proportion of sales) of market intelligence. This is of particular importance for international markets (see Section 4.4). In addition, a large firm is in a better position to ensure that product is handled carefully from farm to final buyer, especially to overseas buyers. Rather than relying on agents who may be less committed, a large firm could have its own cool rooms at the port or airport, and its own handling facilities for unloading overseas. It could even operate its own ships or planes.

The large number of multi-product farms indicates some economies of scope (ie, factors which make it cheaper to produce a range of related products than to produce individual products on their own). Multi-product farming is partly associated with risk management and, in the case of vegetables, the need to rotate crops. In addition, the need to hire labour can be minimised by growing a mix of products which are harvested at different times during the year.

2.6 Horticultural research and development

Research and development (R&D) affects the cost structure of the horticultural sector in two ways - it is an expense for those who contribute funds, but at a later time it generally reduces the costs of the activities at which it is targeted.

2.6.1 Current horticultural research

The majority of horticultural R&D (as recorded in official statistics) is undertaken by public research agencies, namely the CSIRO, State Government agencies and tertiary institutions (see Appendix J). In 1990-91, the horticultural sector contributed about $4.9 million to horticultural R&D undertaken in public research agencies (see Appendix J). In the same year, the Commonwealth and State Governments provided approximately $40 million to horticultural research (Fitzpatrick, Gregory and Minnis 1991). These funds were distributed directly from the Commonwealth and State Governments, and indirectly through the Horticultural Research and Development Corporation (HRDC), the Rural Industries Research and Development Corporation (R1RDC) and the Australian Horticultural Corporation (see Appendix J).

Horticultural research is undertaken for most stages of the production and distribution chain, but primarily for on-farm activities. The major research effort is devoted to plant improvement and production techniques, which employs 50 per cent of horticultural researchers (see Appendix J, Table J4) and the control of pests and diseases which employs 41 per cent of researchers. Only 9 per cent of all horticultural researchers are assigned to the packaging, storage and transport sectors.

Competitive pressures within the horticultural sector provide an incentive for ongoing R&D activities. If an industry can develop a new variety, eradicate an existing disease or introduce an innovation that lowers production costs, then it may gain an advantage over domestic and international competitors. An example of potentially successful horticultural research which could significantly improve Australia's international competitiveness is the recent development of a plastic film that improves the freshness of packaged fruits and vegetables, thereby increasing the opportunities for export sales. The product, known as 'active packaging', was developed in a joint venture between the CSIRO (over $1 million), the HRDC ($700 000) and Australian National Lines Ltd. ($700000).

The introduction of new varieties is important for maintaining competitiveness, especially in export markets. Failure to use or develop new varieties was a contributing factor to Australia's dramatic decline in exports of apples to Europe in the 1970s (AAPGA, Transcript, p.1141). Large inputs of research and development over several years are required to determine suitable growing districts and to provide sufficient stock for commercial production. The introduction of some varieties, especially citrus, has in the past been impeded by quarantine restrictions (see Section 3.7.1).

2.6.2 The rationale for government involvement In research

A substantial amount of horticultural research receives government assistance. One argument for government support for R&D is that firms (eg, growers, processors, distributors) may not, acting individually, devote enough resources to this area from a community-wide perspective because the benefits of R&D generally do not accrue exclusively to those who undertake it. That is, the social benefits (the total of all benefits both public and private) of some R&D activities may exceed the private return the firm can capture from selling its new product or service, or licensing some new production process.

Organising and obtaining funds from the individuals who would benefit from socially worthwhile research can be very costly or impossible if left to voluntary processes. The normal operation of market forces fails to provide appropriate private incentives for innovative activity and a case may be made for government intervention. Governments have several options: they can implement statutory levies so that most potential beneficiaries contribute to research; subsidise private research; undertake direct public research; or introduce institutional arrangements that encourage research in the private sector (eg, plant variety rights, see Appendix J, Box J1).

Australian governments use all of these policies to encourage horticultural R&D. Expenditure on research is tax deductible at 150 per cent for approved expenditure of $50 000 or more by incorporated bodies, with a deduction varying from 100 to 150 per cent for amounts between $20 000 and $50 000, except that the deduction is reduced if the research also receives other government assistance (eg, HRDC dollar for dollar funding). Statutory levies and voluntary levies and contributions to the HRDC, State research trust funds and other horticultural research organisations are tax deductible outright under income taxation law if they are expenses incurred in conducting a business or are donations to approved research organisations.

It is beyond the scope of this inquiry to assess each government program that is used to assist horticultural research. Nevertheless, the Commission emphasises the need for Governments to continually consider the benefits and costs of current and potential arrangements. Costs of supporting research include the administrative costs of implementing a policy, the lobbying costs of those seeking assistance and the costs imposed on the community and industries in general if their taxes are used to support specific industries (horticulture in this case) which appropriate most of the benefits. There is always the possibility that the costs of intervening to correct a 'market failure' may exceed the expected returns or benefits.

2.6.3 Co-ordination of research activities

Many participants with an interest in horticultural R&D described the present distribution of research resources as being 'uncoordinated', 'scattered' throughout the country, and lacking a 'critical mass'. For example, the Bureau of Rural Resources (BRR) provided evidence which shows that horticultural R&D consists of a large number of small research institutions (see Appendix J, Tables J6 and J7). The Bureau commented:

> ... horticultural research as currently structured reflects the demands of the fragmented, diversified and largely domestic horticultural industries and that should the industry attempt to develop a strategic direction for horticulture in terms of production and export opportunities, it probably requires the development of a strategic plan to also transform the research structure to one which would provide those end results. (Transcript, p.900)

The CSIRO has also criticised the current distribution of research capacity:

> On the surface it appears that Australia has significant research resources devoted to horticulture but they are widely scattered between institutions and commodities, are focused on the domestic market and have few groups possessing a critical mass. Furthermore, it is difficult to assess how much time these personnel spend on actual research activities. (Fitzpatrick et al. 1991, p.48)

RIRDC added its support to the comments made by the BRR and CSIRO:

> ... horticultural R&D in Australia is fragmented and would benefit from the development and implementation of a national strategic plan. ... Many current horticultural research groups are too small and lack both facilities and breadth of expertise to make a significant impact on horticultural development in Australia. At the same time Australian horticultural research needs to be very closely linked to industry goals. (Sub.D119, p.3)

The spread of horticultural research throughout Australia should be expected given Australia's regional differences in climate, soils, pests, diseases and marketing infrastructure. Moreover, the Commission has observed recent changes to the administration of horticultural research that have the potential to improve its co-ordination and productivity. For example, the CSIRO recently undertook a major review of its horticultural research priorities (Fitzpatrick et al. 1991). Another example, highlighted by the New South Wales Government, is the establishment of the Sunraysia / Riverland Scientific Coordination Group:

> The New South Wales, South Australian and Victorian Departments of Agriculture and the CSIRO have decided to establish the Sunraysia / Riverland Scientific Co-ordination Group, whose major objective will be to move to multi-organisational programs in South Australia's Riverland District and the Sunraysia area in Victoria and New South Wales, over the next 12 months. The initiative will ensure the maintenance of a high standard of research and advisory services across the Sunraysia / Riverland without regard to State borders, while ensuring the best use of scarce research resources. (Sub.41, p.6)

The HRDC also has the potential to improve the co-ordination of research activities (see Chapter 7). The HRDC, commenting on its allocation of funds to R&D, said:

> The overall philosophy of HRDC is to support nationally co-ordinated programs in which the activities of individual R&D agencies throughout Australia complement each other in achieving specific objectives that offer the best investment prospects in terms of improving efficiency and competitiveness and in the realisation of maximum market potential. This applies irrespective of whether the opportunity or problem to be researched has a national or regional base. (Sub.47, p.16)

The Australian Horticultural Growers' Council expressed support for an organisation such as the HRDC:

> ... there is still too much waste and duplication in research programs designed and implemented on a State basis. One of the major advantages of a national focus such as that supplied through the HRDC is the removal of duplication and a national focus for R&D activity as provided through the industry peak body. (Sub.D142, p.4)

State Government funds for horticultural research are allocated to State Departments of Agriculture. Administrators within these departments are then responsible for distributing funds between research agencies and projects. A recent trend is for the research administrators to determine the importance of a project by the amount of 4 outside funding' the project can attract. As noted by the Victorian Government, horticultural industries are also being encouraged to be more self reliant in funding and determining research priorities, and private firms are being encouraged to operate some of the research activities traditionally undertaken by State Governments:

> In the last five years there has been a re-assessment of the Government's role. The horticultural industries are being encouraged to be more self-reliant in determining industry priorities and funding of services. Where appropriate, private agribusiness groups are encouraged to provide services traditionally provided by government and a commercial approach is adopted with industry participants for the commercialisation of Department of Food and Agriculture research. Production research traditionally funded by the State is now heavily dependent on industry funding. (Sub.69, p.10)

While the lack of co-ordination of horticultural research between different States and different research bodies may result in some duplication of effort, duplication is in some cases desirable because of the uncertainty of success, the need to confirm the results of others, and the fact that many results are not reproducible in different regions and climates. Nevertheless, it is possible that there is some wasteful duplication of research, and better results could be achieved by a more co-ordinated approach and with larger research teams.

The BRR maintains the Australian Rural Research in Progress database. This could, in principle, be used as the basis for investigating duplications and for co-ordinating research. While the HRDC requires all projects it supports to be included in the database, it suspects that only about 80 per cent of all horticultural research is recorded in it, partly because of desires to keep some projects secret. The HPC would be an appropriate body to monitor horticultural entries in the database, and to encourage all researchers to contribute to and use it. There is also a use for databases which describe completed research, both domestically and internationally. The HRDC could be responsible for encouraging industries and the various research groups to avoid wasteful duplication, while recognising that some duplication is desirable and necessary.

2.6.4 On-farm versus off-farm research activities

A feature of horticultural research is the relatively large proportion of funds allocated to on-farm research activities.

Table 2.5 shows that for 1991-92, the HRDC allocated 82 per cent of its funds to on farm research projects. (Table J4 shows a similar result for the total numbers of publicly funded researchers engaged in different types of horticultural research.) Yet post-harvest activities represent a large proportion of the total cost of most horticultural products. For fresh products, farm costs as a proportion of total costs are often less than 50 per cent (see Table 2.1). Edgell-Birds Eye (Sub.110) estimated that, for 1989-90, off-farm costs as a proportion of total costs were 45 per cent for canned asparagus and 80 per cent for canned tomatoes.

Table 2.5: **HRDC research funding profile, 1991-92**

Research activity	*Proportion of funding*
	per cent
Pests & diseases	35
Production techniques	30
Plant improvement	17
Post-harvest disinfection	13
Processing	5
Transport	0
Management	0
Market research	0

Source: Fitzpatrick et al. 1991, p.49

Table 2.5 does not include research undertaken by processors and other large firms in which the Government contribution is received by means of the 150 per cent tax concession for research expenditure. The extent of such expenditure in horticulture is not known. While the net cost to the individual or firm of expenditure through the HRDC costs less per dollar of research undertaken, expenditure under the 150 per cent tax concession for research enables the benefits of the research to be captured by the firm by keeping the information confidential. Because such expenditure is more likely to be made by processors and others for off-farm rather than on-farm research, and is not included in the research statistics, the split between on-farm and off-farm research is uncertain. Nevertheless, it is likely that the majority of horticultural research is devoted to on-farm activities.

One reason for the low proportion of government research funds going to off-farm activities may be that there is less likelihood of market failure in these areas. For example, a processing company may undertake research and still be able to capture the benefits of the research by keeping the information confidential. Another possibility is that growers of horticultural products perceive that their share of benefits from on-farm research exceeds their share of benefits from post-farm research. Growers thus direct research money to on-farm efforts by their own contributions and by the influence they can exert as members of research boards.

The HRDC believes that there is an imbalance of research funding in the horticulture sector. To overcome this problem it has stated that it will encourage horticultural industries to re-assess their research requirements so that by 1995 "production related research will become about 50 per cent of their budgets and that post-harvest research including storage, transport, processing, product development and marketing studies will account for the major part of the balance" (HRDC 1991). The Tasmanian Government cautioned against arbitrarily reducing the level of funds going to on-farm research projects:

> A major concern is the argument for splitting funding 50:50 'pre' and 'post' harvest. The conclusion for this division and the argument appears not to recognise in many horticultural industries that many pre-harvest matters have a significant impact on the post-harvest return. Also the issues of marketing, transport and processing have tended to be left in the hands of the private sector. (Sub.D127, p.5)

2.6.5 The trade-off between research and promotion

To determine the optimal division of funds between research and promotion requires information on the rates of return from both activities. During the inquiry the Commission received little information on the returns from research and no useful information on the returns from promotion (see Section 3.5). Thus the Commission can give no definitive advice on the best allocation of industry and government funds.

As is the case for several agricultural industries (eg, wool, dairy, meat), producers in some horticultural industries pay levies to fund both research and promotion, as well as other activities. Taxpayers also contribute research funds, and some of the Government's funding of the AHC has been used for promotion. Research activity typically includes on-farm research with the objective of lowering production costs as well as off-farm research with the objective of lowering marketing costs and gauging consumer demand. The benefits from successful research and promotion activities are distributed among producers, marketing agents and final consumers (see, for example, Alston 1991 and Wolilgenant 1991) according to various market parameters such as the price responsiveness of demand and supply.

Ideally, the same people would be responsible for making decisions about how funds were distributed to research and promotion and would try to allocate funds between the two activities so that the returns from the last dollars spent on each were equal. The optimal allocation is likely to be different for producers and taxpayers. In practice, the information base needed to decide on optimal allocation patterns does not exist (mainly because returns from research and promotion are extremely difficult to estimate) so decisions about the relative funding levels for these activities tend, of necessity, to be somewhat arbitrary. This is probably as true for the horticultural industries as it is for other agricultural industries.

Just as the AHC considered that the general level of resources devoted to marketing by horticulture was too low (Sub.24, p.34), so the RIRDC believed that "the levels of industry levy currently dedicated to R&D by many horticultural industries in Australia are too low to encourage and support an adequate R&D effort on many of the problems and opportunities facing the horticultural sector." The HRDC cited a recent study of rural research which:

> ... indicates an internal rate of return of 28% for a research project on nematode-tolerant grapevine rootstocks, and 87% for a project on mechanical pruning of grapevines. Anecdotal evidence would suggest that many completed HRDC-funded projects would be comparable at least to these. (Sub.D121, p.4)

While such results are impressive, there are probably other projects whose benefits do not even cover their costs.

2.7 Other costs

Apart from the costs mentioned above, a number of other costs are associated with the delivery of horticultural products to markets. These include packing house licence fees, export permits and phytosanitary inspections and certification (Section 7.3), promotion (Sections 3.5 and 4.4 and Appendix K) and organisational levies. In addition to these, there are marketing expenses such as commissions, brokerage and insurance.

2.8 Summary

- Costs beyond the farm gate often account for well over half the total costs of getting fresh product to market. For some products the costs of packing and storage are as much as the costs of growing and harvesting. Overseas transport is an even greater cost. Off-farm costs are, of course, less for product sold to processors.

- Within Australia, horticulture differs from broad-area agricultural industries in that labour accounts for a much higher proportion of costs. Thus, any reduction in labour costs is important in improving Australia's international competitiveness. The response by growers to high wage rates is often to limit the farm to a size which can be operated by the family.

- Several participants have commented that the levels of social security payments, and the associated conditions, 'provide disincentives for both permanent and seasonal work in horticulture.

- With only minor exceptions, there are no significant impediments to the efficient allocation of land for horticultural purposes. However, there are some restrictions on land use (eg, spraying) imposed by local councils.

- There is an anomaly in the taxation treatment of horticultural plantations which discriminates against investment in some horticultural industries relative to investment in other activities. The Commission recommends that the taxation treatment of expenditure on new horticultural plantations be revised in a way which provides a more neutral treatment compared with expenditure on other activities.

- Increased water prices, where there is under-recovery of the costs of irrigation, will decrease the international competitiveness of horticulture but increase allocative efficiency.

- Australian horticulture is an intensive user of chemicals and water. Adverse environmental impacts need to be addressed through market-based mechanisms wherever possible and any regulatory controls must be cost effective.

- The high costs of international sea and air transport are constraints on horticultural exports, and imports. Improvements in international freight costs are particularly important. There is scope to reduce costs by improving the efficiency of handling and by organising larger consignments. Improvements in handling would also raise the quality of product delivered overseas.

- Production characteristics are so diverse that it is not surprising to find a wide range of sizes. Whereas unit costs do not, on average, appear to decline markedly with farm size, there appear to be some economies of size for off-farm activities including packing and, for exports, the negotiation of freight rates and provision of charter ships, the provision of information, and reducing losses due to poor handling.

- Most horticultural research is government funded and most of the effort is directed at farm operations. Industries are not taking full advantage of the dollar for dollar research funding offered by the Government through the HRDC.

- The organisation of much of horticultural research on a State basis results in some wasteful duplication. The HPC and HRDC could encourage greater contribution to and reference to the national database for rural research, and greater co-ordination of horticultural research effort.

3 DOMESTIC MARKETING

This chapter explores the domestic marketing of horticultural products and attempts to identify inefficiencies which might affect international competitiveness. It examines how prices are determined and the likely effects of the current regulatory environment and identifies areas where the Government could act to improve market incentives and enhance international competitiveness.

Approximately 90 per cent of domestic production of horticultural products was sold on domestic markets in 1989-90. A significant proportion of some products is sold domestically for further processing. Details of domestic sales and exports for individual horticultural products are provided in Appendix E (Tables E10 and E11). In Table 3.1 is a summary of those statistics for broad product groups.

3.1 Fresh markets

To be internationally competitive on the domestic market, producers must be able to deliver at prices which are less than those of imports. However, because of the perishability of many horticultural products and the high costs of international transport, the structure and efficiency of most horticultural industries producing for fresh markets is determined by competition from domestic sources (other producers and other products) rather than from imports.

3.1.1 Sales pattern for fresh produce

Domestic consumption of fruit and vegetables is dominated by sales of domestically grown produce. Less then 5 per cent of domestic consumption of fresh horticultural products has been imported in recent years. The highly competitive nature of the domestic market means that imports of fresh horticultural products are economically feasible only for some high value products when they are out-of-season in Australia. This is a consequence of the perishable nature and the high cost of transport of fresh products.

Many options are available to growers as to when and how they sell their products and to whom. They can sell in the central wholesale markets in most States, or directly to wholesalers, retailers, processors, exporters or the public.

Supermarket chains account for about 65 per cent of fresh fruit and vegetable sales to final consumers in major capital cities. These organisations purchase a significant proportion (up to 70 per cent) of their requirements under contract directly from growers, grower co-operatives and merchants in horticultural

producing regions. The Commission understands that, although not going through the centralised wholesale market system, the prices paid by these organisations under these contracts reflect market prices in the major metropolitan markets, although there may be some price premiums because of the quality of the product purchased. The remainder, which are 'top ups' depending on demand, are sourced from metropolitan markets. Within some central wholesale markets, growers may sell on their own behalf (except in Perth, Adelaide or Brisbane) or use merchants or commission agents. Buyers include food retailers, providores (eg, suppliers to the food service industry), exporters, country buyers, brokers and processors.

Table 3.1: **Production and markets for horticultural products, percentages based on value, 1990-91**

Product	*Production*	*Domestic sales* [a]	*Export sales*
	$ million		per centper cent
Citrus	225	81	19
Pome fruit	266	82	18
Stone fruit	140	95	5
Bananas	235	100	0
Fresh grapes	61	66	34
Other fruit	158	91	9
Total fresh fruit	1085	89	11
Drying grapes	129	100	0
Wine grapes	172	100	0
Nuts	36	50 [b]	50 [b]
Potatoes	377	99	1
Tomatoes	184	98	2
Mushrooms	94	100	0
Onions	76	70	30
Carrots	67	84	16
Lettuce	60	95	5
Other vegetables	426	90	10
Total vegetables	1284	93	7
Dried grapes [c]	102	31	69
Canned fruit [c]	na	53 [d]	47 [d]

na not available

a Domestic sales is calculated as the residual; includes product sold fresh and for processing.

b Commission estimate.

c Values calculated for 1989-90.

d Percentages based on volumes.

Source: ABS and Commission estimates.

Information from participants indicates that, in general, the domestic prices in markets are determined competitively, although there are some government interventions which may influence the operation of

market pricing. Some State Acts, regulations and associated statutory marketing organisations and other institutional arrangements affect competitiveness and the efficiency of the operations of horticultural markets. They are discussed further in Appendix L.

Trading between growers and wholesalers of fresh horticulture in New South Wales, Victoria and Queensland is regulated under their State Farm Produce Acts[1]. These Acts differ from each other in detail and coverage. For example, the Queensland legislation covers all wholesale transactions in markets from Cairns to Brisbane, while Victorian legislation applies to all wholesalers trading anywhere within Victoria. There is no comparable legislation in Western Australia or Tasmania; however, in South Australia similar legislation is under consideration. In these three States the Governments do not intervene in the State horticultural markets.

Generally, the Farm Produce Acts require all wholesalers covered by the Acts to be licensed and to produce evidence of a fidelity bond or indemnity (Victoria) or of an insurance fidelity bond, bank guarantee or similar security (New South Wales and Queensland).

The Acts also place various requirements on wholesalers in respect of the terms and conditions of trading with growers, and on the documentation required. Inspection and settlement of disputes are also covered. Victoria is the only State that provides legislative support for market reporting. The primary purpose of these Acts is to protect growers, particularly those more distant from the central wholesale markets, against unfair trading practices and from the possibility of default owing to wholesaler insolvency.

3.1.2 Price volatility and risk management

Prices of fresh horticultural products are volatile with peaks and troughs throughout the year because of the seasonal nature of production and, in some cases, demand. This volatility is generally predictable and growers make production decisions on the basis of their price expectations. As such, seasonal variations in prices do not create any particular problems which are out of the control of growers.

Prices are also affected by year to year variations in seasonal conditions. For example, if the output of a particular crop is adversely affected in a particular region its price can rise significantly. On the other hand, particularly favourable seasonal conditions in all producing regions may create a supply glut and result in market prices well below what would normally be expected. These price fluctuations are unpredictable, although a common occurrence.

1 New South Wales: *Farm Produce Act 1983*; *Victoria: Farm Produce Wholesale Act 1990*, and Queensland: *Farm Produce Marketing Act 1964-1982.*

Unlike growers of many other agricultural commodities, the ability of horticulturalists who sell on fresh markets to manage price risk from abnormal seasonal variations is limited. In bulk commodities, like cotton and wheat, there is some opportunity to limit price risk by participating in futures markets or by stockpiling commodities. There are, however, no readily accessible futures market for fresh horticultural products which could be used to minimise price risk through hedging. Futures markets exist for potatoes (Berlin, Amsterdam, Chicago, New York) and some fresh and processed fruit and vegetables, such as orange juice (New York), dry vegetables (Bologna, Italy) and fresh and processed fruits (Padua, Italy). However, given the isolation of Australia in relation to these markets, there is little relationship between futures prices and Australian prices for horticultural products. Further, given the relatively small size of most horticultural enterprises, it is doubtful whether the benefits to be gained in hedging in these markets would offset the costs of access.

Stockpiling is not a option for most fresh horticultural products because almost all are perishable.

3.1.3 Selling methods

Many participants expressed concern about the process by which products are sold on fresh markets and about how returns to the various parties in the marketing chain are determined.

Products are often sold on commission. A commission agent does not purchase consigned produce but sells it on the grower's behalf and returns the proceeds of the sale less commission and any other charges that are specified in the wholesaler's terms of trade. Under the licensing arrangements in the central metropolitan markets in New South Wales and Queensland the maximum rate of commission is set at 10 per cent of the wholesale value. Growers carry all the marketing risk and it is possible under such circumstances that growers could end up with a net bill for horticultural products consigned to a market via a commission agent.

Where direct purchases by supermarkets are made, they are sometimes under contracts which specify quality, how quantities and prices are determined and payment arrangements.

Growers may have the option to sell horticultural products to a merchant. A merchant buys consigned produce at a price negotiated with the consignee before its sale (or 'before its sale to the ultimate user'). The merchant assumes the risk and could make windfall profits or losses.

Generally, there is no compulsion about the way in which products are sold by growers on the fresh markets. It is a matter of choice (and custom) as to who assumes the risk. Clearly, however, for the owners it would be irrational to sell products on commission unless there were guarantees that the

product would be handled and marketed efficiently. Some growers have formed co-operatives in an attempt to avoid having to sell to merchants and to retain an incentive to sell in a way which maximises returns, as well as achieving other economies. Some co-operatives use pooling arrangements for returns. Under these arrangements, marketing risks are shared between pool contributors and there can be cross-subsidisation between growers.

Horticultural produce is sometimes sold in the United States and Europe on the basis of description, made possible by the use of comprehensive grading systems. The adoption of electronic marketing by description is thereby facilitated. Efficient production decisions can be made on the basis of price information transmitted from the market. This avoids the necessity for inspection by the buyer, and there are consequent savings in terms of transport and commissions. There is a considerable reduction in the role of central metropolitan markets. Australia does not have a similar quality or product description system.

In the Draft Report the Commission sought views on whether a comprehensive grading system should be adopted in Australia to facilitate trade by description. The Victorian Apple and Pear Growers Council, which supported such a scheme in principle, foresaw problems arising from diversity of production and handling conditions. The Council said some grower bodies have co-operated with the Australian Horticultural Corporation (AHC in developing a pear manual, and an apple manual is planned. Such manuals form the basis of standard practices which impact on fruit quality, a key factor in product description. The Apple and Pear Growers Council said that while it is not averse to such a scheme, it is at a loss as to how the scheme would be developed (Sub.D135, p.5). The NSW Department of Agriculture believes that the development of product description schemes is the responsibility of industry bodies, although governments may have a role in facilitating the establishment of such schemes (Sub.D155, p.1). The Victorian Government has a similar view and added that the success of any national grading scheme to facilitate trade by description would be dependent on a strong commitment from industry (Sub.D156, p.2). It pointed to the AUS.MEAT system and the Commonwealth Export Control (Fresh Fruit and Vegetables) Orders, which are based on OECD standards, as a basis for a scheme. The Horticultural Research and Development Corporation commented that it was unlikely in the medium term that produce would be widely sold by description except where high quality brand names were involved. The Australian Horticultural Exporters' Association agreed with the need for suitable grading systems as they 'facilitate forward sales and thus bring a measure of stability to an export operation'.

The Commission considers that the feasibility of developing a comprehensive grading system should be investigated and suggests that the Horticultural Research and Development Corporation fund research into this topic.

3.1.4 Alternative markets for fresh produce

Many participants suggested that a nexus exists between the price which processors pay for produce and the prices obtained for fresh produce. They suggested that where processors offer low prices for produce then growers have only two options. They can accept these prices or they can divert this produce to the fresh market. This, they said, depresses prices on the fresh market. (Of course, as discussed later, low fresh produce prices could also depress prices of produce for processing.)

Two observations can be made about the impact of processing prices on fresh markets. First, the characteristics of products for processing generally differ from those sold on the fresh market. For example, some varieties or grades of pome fruits are only suitable for canning, wine grapes are grown specifically for wine making and not for the fresh market, and tomato varieties grown for canning would not be saleable in any significant quantities in the fresh market. Second, growers of non-perennial produce for processing usually negotiate prices prior to planting or, in the case of perennial produce, the prices offered are determined by competition between processors or, for a few products, by price negotiating committees.

3.1.5 Government involvement in fresh markets

A fundamental issue is whether governments should be involved in managing trading and transactions between growers and other participants in marketing. For government involvement to be justified on efficiency grounds, it must be demonstrated that freely operating markets do not allocate resources in a way that maximises the social value of output (ie, that there is 'market failure'). Even Government action to correct market failure would only be justified if the benefits to society from such involvement outweigh the costs.

Often it is argued that the absence of government involvement could result in: under provision of market information; collusion among wholesalers/traders; and inadequate protection for growers against wholesaler insolvency, payment irregularities and fraud.

Market information

There are many ways in which growers can obtain price information about the fresh market. Indeed, with widely broadcast market information, prices prevailing in metropolitan markets for individual horticultural products are available to growers on a daily basis. Outlets include the press, radio, TV, teletex and recorded telephone facilities. The prices, however, are daily averages and ranges. This information can conceal wide variations about quality premiums that are of importance to the growers, their agents and packers, and their value in decision-making is widely questioned.

It is not always possible for growers to take advantage of favourable prices. This is because of the delay between planting and harvesting. Vegetable growers plant on the basis of the prices they expect will prevail some three to six months later. For tree fruit and nuts the lead time after planting is, of course, much longer - up to seven years. Here, growers need to make judgements on prices which may prevail some considerable time in the future.

Information about prices for most horticultural products sold in fresh markets is readily available on a daily basis. This information is available for all major markets, so the possibility exists for growers, if a sufficient margin exists to cover any additional freight costs, to choose on which markets they sell their products.

Prevention of collusion among wholesalers/traders

In earlier Industries Assistance Commission (IAC) inquiries into fruit and vegetable industries participants suggested that there was collusion between wholesalers/traders to exploit growers (IAC 1986 and 1988a). However, the Commission received no evidence about this matter in this inquiry.

Given that there are a large number of independent agents and buyers, and because horticultural market information is readily available, it is unlikely that collusion, even if it did occur in fresh markets, could be effective for very long. Even if it were possible for collusion to occur, then Governments have at their disposal powers under the Trade Practices Act and various State fair trading Acts to take appropriate action.

Protection for growers

It is frequently argued that growers should be protected against wholesaler insolvency, payment irregularities and fraud. In New South Wales, Victoria and Queensland, wholesalers who trade with growers as merchants or agents are required to be licensed under State legislation (although, in New South Wales and Victoria, those wholesalers who settle immediately in cash are exempt). These licences provide for indemnities to protect growers and purchasers and also provide for dispute resolution. The licences are also conditional on other factors such as being of good character and not being bankrupt. They protect growers who sell on credit or entrust their produce to licence holders for sale on commission.

There is no corresponding legislation in other States. The need for licensing is thus sometimes questioned. The risks of default of payment exist in all activities, but various means are available to shift the risks or otherwise avoid them, such as cash sales and insurance. Many buyers sell direct under contract to reputable final buyers. Growers have access to redress under common law. In a small market where there are fewer dealers, reputations are better known and growers are better able to assess risks.

It is said that licensing requirements, by restricting entry, have the potential to reduce competitiveness. However, the large numbers operating in the markets - there are about 200 licence holders in New South Wales, 202 in Victoria and slightly less than 100 in Queensland - ensure that there is competition. Unlicensed wholesalers who use cash sales can also provide additional competition.

Location of markets

There are constraints on setting-up alternative (competing) wholesale markets within the metropolitan boundaries of Sydney, Melbourne and Brisbane which could limit growers' choices of market outlets. These are imposed through the State market authority or trust legislation. For example, in Melbourne the legislation stipulates that a wholesale operation cannot be undertaken within a 50 km radius of the GPO unless that operation first purchases all of its goods for resale from the existing central wholesale market. In Sydney, similar restraints apply within the County of Cumberland unless the proposal is approved by the Sydney Market Authority.

Regulation of fresh potatoes in Western Australia

The production and marketing of potatoes in Western Australia are subject to regulation. The Western Australian Potato Marketing Authority (PMA) was set up in 1946 to provide a continuous supply of fresh table potatoes to consumers and to ensure adequate grower returns. It does this through licensing growers and operating a delivery system based on licensed area; setting wholesale prices and operating a price-pooling arrangement; and registering agents to handle and sell potatoes. The PMA tries to reduce price instability by regulating the area of potatoes planted to produce the estimated market requirements. At times of excess production, the PMA disposes of the surplus in the eastern States or on export markets. The major proportion (80 per cent) of potatoes marketed through the Authority are retailed by supermarket chains in Western Australia.

Potatoes have, in the past, been purchased from interstate, and therefore affected price setting by the PMA. Potatoes from Victoria have been banned since January 1991 due to a potato cyst nematode outbreak, and stringent hygiene requirements exist for imports from other States.

It is clear that licensing growers, regulating the area which can be planted to potatoes for the fresh market, and regulating prices, together with quarantine restrictions on interstate purchases, limit the supply of potatoes on the Western Australian fresh market. This results in consumers in Western Australia paying higher prices for potatoes than would otherwise prevail and these increase returns to licensed growers.

Under the Act, the Minister for Agriculture is required to review the operations and effectiveness of the PMA periodically. The potato marketing arrangements in Western Australia were reviewed in 1992 but, at the time of publishing this report, the review has not been released. In November 1992 the WA Minister for Agriculture announced that the Authority would be retained with a sunset clause at the end of five years.

The PMA has not been involved in any regulation of potatoes grown or sold for processing. However, in the November announcement the Minister foreshadowed the extension of PMA's activities into the potato processing sector. Under a new agreement with Edgell-Birds Eye, the PMA would be responsible for paying a rebate to Edgell-Birds Eye using pool return funds from growers, the amount of the rebate decreasing over time. There was a change of government in Western Australia in February 1993 and at the time of publishing this report the status of the PMA's arrangements was uncertain.

Conclusion

The Commission considers that the impact of existing market regulations generally is not particularly onerous. Indeed, the highly competitive nature of the markets for fresh fruit and vegetables generally makes them efficient and free of distortions, with the exception of potatoes in Western Australia where regulations clearly impede market flexibility.

3.1.6 Interstate quarantine

Interstate quarantine regulations also affect competitiveness within States. The States impose interstate and intrastate quarantine restrictions under various State plant protection/disease Acts. These can prohibit or restrict the movement of horticultural products to prevent the introduction or spread of diseases and pests for particular products.

Some participants criticised interstate quarantine. The Flower growers' Group of the Victorian Farmers Federation said that it 'in general regards interstate quarantine as nonsensical' (Sub.61, p.8). The Nurserymen's Association of Victoria stated that quarantine is divisive and works against enterprises and markets spanning the nation (Sub.70, p.6). The South Australian Government noted a tendency for the States to engage in "a little bit of unfair trading" using interstate quarantine restrictions (Transcript p.678).

Also, the Australian Quarantine and Inspection Service (AQIS) pointed out that interstate quarantine requirements can impede the activities of importers who seek distribution into other States. AQIS also said that its bilateral negotiations with overseas authorities are made more difficult where adequate technical justification for such interstate restrictions is lacking (Sub.51, p.2). As previously noted, the marketing position of the PMA is strengthened by the difficulty in bringing potatoes into Western Australia from other States because of stringent hygiene requirements.

Tesselaar's Padua Bulb Nurseries said that there is a possibility that local growers may manipulate interstate plant quarantine regulations (Sub.21, p.5). The Nurserymen's Association of Victoria similarly claimed that it is often industry, not the regulatory authorities, which perpetuates historic approaches (Sub.70, p.6).

Interstate quarantine was addressed in the IAC's 1988 report on 'Fresh Fruit and Fruit Products Industries' (IAC 1988a). The Commission said that consumer costs can be increased and product range reduced by State quarantine regulations. Inappropriate industry structures may be encouraged and adjustment hindered, and transport efficiency and the competitiveness of export endeavours hampered. The Commission considered that the Commonwealth Government (through the Australian Agricultural Council/Standing Committee on Agriculture) should continue to seek uniform criteria and procedures and seek to speed up progress.

In its response, the Government stated that impediments to developments identified by the IAC would be brought to the attention of the relevant authorities. Little seems to have changed, however. The Horticultural Policy Council (HPC) said in a 1991 report on 'The Impact of Fruit Flies on Australian Horticulture" that the lack of uniformity in State quarantine restrictions had reached the stage where the efficiency of interstate trade in horticulture products is being impeded.

Interstate quarantine has the potential to adversely affect efficiency. The structure of particular horticultural industries can be detrimentally affected by protecting growers within a particular State from interstate competition. Also, the regulations can impede imports, where distribution into multiple States is sought, as well as exports, by preventing consolidation of shipments. The provisions also limit the range and increase the cost of horticultural produce to consumers. AQIS said that if it were possible to rationalise interstate quarantine requirements, there could be a cost saving for industry through the reduction in the need to observe multiple State requirements (Sub.51, p.2).

It is not appropriate for the Commission to evaluate individual State quarantine provisions. The Commission does not possess the technical expertise to make such judgements. However, it considers that the differing degrees of risk perceived by various States from particular pests and diseases can have several adverse efficiency effects.

In response to the HPC report on 'The Impact of Fruit Flies on Australian Horticulture" there has been a move towards establishing of a national fruit fly strategy in Australia. In an attempt at standardisation, the Commonwealth and State governments are co-operating to develop a "code of practice" for each of the problem fruit fly species in Australia. It is anticipated that a code for the management of Queensland fruit fly will be implemented progressively during 1993, which will enable AQIS to present a uniform and auditable system of measures to quarantine authorities in importing countries in support of access proposals for Australian export produce. Further, the Standing Committee on Agriculture has a "Working Group to Review Mechanisms for Establishing Nationally Integrated Plant Quarantine Strategies" which is to report in February 1993.

Mutual Recognition

In a communique in May 1992, the Heads of Government of the Commonwealth, States and Territories announced that, as part of the mutual recognition process of achieving mircoeconomic reform, a final agreement had been signed to introduce legislation to eliminate regulatory impediments to the national markets in goods and entry to occupations.

The agreement provides for all jurisdictions to legislate so that goods that can be sold lawfully in one State may be sold freely in any other State or Territory. The States and Territories will request and empower the Commonwealth Government to pass a single Act which will apply equally throughout Australia and will override any State or Territory laws or regulations which are inconsistent with the principles of mutual recognition. Quarantine laws are exempted from mutual recognition but there is a process for challenging quarantine laws which are alleged not to be addressing a genuine quarantine issue. The agreement also provides a mechanism for achieving negotiated uniform standards, where necessary, in the interest of public health or safety or environmental protection.

The Commission supports the continuation of efforts to introduce uniformity in criteria and procedures for assessing pest/disease risks and for subsequent interstate quarantine regulations. It also considers that this uniformity should be introduced at the earliest opportunity but without jeopardising the industries' continuing economic and ecological viability.

3.2 Horticultural produce for processing

As indicated in Table 3.2, a significant proportion of some horticultural products is processed. Many horticulturalists produce specifically for processing. However, when prices in the fresh markets are depressed and the returns are not profitable, growers for the fresh market may attempt to sell the products to processors (though, as noted in Section 3.2.1, the characteristics of products for processing generally differ from those sold on the fresh market).

3.2.1 Statutory marketing arrangements

Statutory marketing arrangements apply mainly to products used for processing. The only arrangements for produce sold on fresh markets are for potatoes in Western Australia.

Statutory marketing arrangements (including statutory marketing authorities and marketing orders) under State legislation apply to some horticultural products sold to processors (for details see Appendix 1, Section L1).

Table 3.2: **The proportion of major horticultural products delivered to processors, based on tonnes, 1989-90**

	per cent
	per cent
Grapefruit	64
Oranges	60
Mandarins	15
Lemons/Limes	55
Apples [a]	39
Pears [a]	51
Apricots	84
Peaches	58
Wine grapes	100
Other grapes	85
Vegetable [b]	50[c]
Pineapples	78
Black currants	73
Blueberries	22
Cherries	12
Mangoes	13
Raspberries	37

a The average aver the previous five years has been taken due to the cyclical nature of pome fruit production.
b Commission's estimate.
c This includes tomatoes, peas, carrots etc canned, bottled, dried, juiced, pickled etc or processed into pastes, purees, SOUPS, alcoholic beverages etc.
Note: A significant proportion of horticultural produce which is processed is subsequently exported.
Sources: ABARE 1992a; Fitzpatrick et al 1991; information supplied by the AHC.

Products for processing covered by statutory marketing arrangements and marketing orders, where a substantial proportion of production is processed, are listed in Table 3.3.

The Commonwealth has in recent years removed nearly all its direct pricing controls which affected horticultural products, although State statutory marketing authorities still have Trade Practices exemptions.

Government involvement in statutory marketing arrangements is often said to be justified on the grounds that it:

- contributes to price stability on domestic markets;
- reduces grower risks and thereby contributes to reliability of supplies; and
- helps overcome unequal bargaining power for those fruit and vegetables where there are few processors and many growers.

Table 3.3: **Products for processing covered by statutory marketing arrangements**

State	Products covered by statutory marketing arrangements
New South Wales	Wine grapes
	Citrus (Central Coast)
	Citrus (Murray Valley)
	Dried fruit (through licensing powers, esp. for packing)
	Citrus (MIA)
	Processing tomatoes
Victoria	Citrus (Murray Valley)
	Dried fruit (through licensing powers, esp. for packing)
	Wine grapes
	Processing tomatoes
Queensland	All products (residual powers, currently not used)
Western Australia	Dried fruit (through licensing powers)
South Australia	Citrus
	Dried fruit (through licensing powers, esp. for packing)

Source: Various submissions.

Participants' comments

The United Farmers and Stockowners of SA said that:

> Generally speaking, growers have very little countervailing power in the market for their produce. Even in circumstances where relatively few growers supply the market, domestic supply currently exceeds domestic demand and growers have little influence on price ... [and] mechanisms which give growers countervailing power are necessary. (Sub.57, p.27)

They also said that:

> Given the nexus that exists between the price growers receive for processing fruit and vegetables and the price for fresh fruit and vegetables, there is a strong argument in favour of consultative mechanisms authorised by the Trade Practices Commission to develop recommended prices for processing fruit and vegetables to assist growers and processors in their individual negotiations, having regard to criteria agreed to by the industry.
>
> Such mechanisms stabilise industry pricing without interfering with healthy price competition and minimise the potential for market abuse through lack of pricing information.(Sub.57, pp.27,28)

Many participants commented on why the Government should or should not be involved in regulating marketing and what the role of Statutory Marketing Authorities (SMA) should be in achieving specific goals. The Murray Valley Citrus Marketing Board said that the role of government in citrus should be limited to assisting and fostering production and distribution. It said that SMA's are vital in this regard and should not be jeopardised. Mid-Murray Citrus Growers Inc said:

> The Federal and State Governments must reverse the trend to emasculate the powers and finally dismantle the Statutory Marketing Authorities, as advocated in the Industries Commission Report recently released.
>
> The Statutory Marketing Authorities are the only protection that primary producers have to counter concentrated market domination, with mergers minimising the competitors in the marketplace. (Sub.35, p.11)

The Australian Horticultural Growers Council and the Australian Vegetable Growers Federation also supported the role of SMAs, but said that:

> ... these functions of SMA's [market intelligence, promotion and market development] can also be carried out by regional or local marketing groups that operate on a co-operative basis. (Sub.67, p.13; Sub.86, p.13)

The United Farmers and Stockowners of SA claimed that there is no case for State government intervention other than providing quarantine services. Government support for research, market development and promotion is best achieved at the national level.

Further, the Queensland Government said:

> Within the Queensland industry there has historically been little support for statutory marketing. Powers of "direction" ... have resided with the Committee of Direction of Fruit Marketing for many years but have been little used. Industry has deemed legislative powers providing for controlled marketing arrangements to be unnecessary and that these matters should be left to free enterprise. (Sub.91, p.7)

The Victorian Government said:

> Development of large, vertically integrated companies capable of achieving economies of scale and capturing export opportunities has been inhibited by the high financial risks associated with the labour intensive and seasonal nature of horticultural production, perishability of produce, high freight costs in exporting, extreme price volatility and a **range of statutory interventions in pricing and marketing arrangements** *(the Commission's emphasis).* (Sub.69, p.5)

Economic effects

The Commission reviewed the operations of statutory marketing arrangements in a recent inquiry (IC 1991a). In that review the Commission was asked, among other things, to assess the objectives of statutory marketing arrangements.

The Commission found that many objectives of statutory marketing arrangements are sound from the viewpoints of both growers and the wider community. However, with some exceptions, these objectives are not sound from a community-wide viewpoint if they are based on powers which compel growers to participate, exclude entry to markets, or impose price increases on Australian user industries and consumers.

On the basis of comments received from participants in this inquiry, the Commission has found no reason to revise the general findings in its report on statutory marketing arrangements.

Minimum pricing arrangements can affect industry efficiency in several ways:

- by reducing grower risks, they can raise growers' price expectations and thus encourage increased production usually without the discipline (as would be found in a contract) on buyers to absorb that increased production;

- they may provide an incentive for processors to grow their own produce, reducing their demand from existing growers;

- processors who cannot purchase inputs at competitive prices may be threatened by competition from other domestic processors or from imports based on cheaper inputs. In such a situation, the optimum decision for a processor is to cease production rather than to produce at a loss. As a consequence, growers lose sales;

- where the arrangements increase assistance to growing, the less efficient growers may be encouraged to remain in production at the expense of more efficient growers;

- the quality of horticultural products grown may be biased towards the processing market because of higher returns there than would otherwise be the case;

- there may be consequent pressures to limit supplies which can be accepted for processing; and their administration may not be sufficiently flexible to ensure that incentives to growers about the needs of the market are not masked.

If the objective of minimum pricing arrangements is risk reduction or greater price stability then there could be private market ways of achieving this, such as forward contracts, which avoid some of the adverse effects on efficiency noted above. Moreover, if minimum prices are set so that they mask actual market prices, and result in processors ceasing operation, then their effect would be to increase instability rather than reduce it. If, on the other hand, they closely mirror market prices, their effects on, and the benefits to, growers of having such schemes will be much lower.

Dried vine fruits

The Commission identifies statutory marketing arrangements for dried vine fruits as a major area for reform. The powers of the Australian Dried Fruit Board and the corresponding State Boards are summarised in Table Ll. Taken at face value, only a few of the tabulated powers are undesirable. However, pricing arrangements within the industry are unsatisfactory, both from the consumer's point of view and in terms of economic efficiency.

The industry arranges that domestic prices are considerably greater than export prices. This arrangement depends on the pricing power of the domestic producers together with protection from imports afforded by the tariff (see Section 1.4). The increased price paid by domestic buyers is effectively a subsidy to exports, resulting in a transfer from domestic consumers to producers and overseas buyers.

The industry may still have the ability to maintain high domestic prices and to equalise domestic and export returns through powers exercised by State Boards in the licensing of producers. Through their membership of - Boards, existing packers can prevent competition from other packers. Packers and growers can then voluntarily arrange prices to their mutual benefit, and the ultimate disadvantage of consumers.

Processed food and beverages

While processed food and beverages are not under reference, the competitiveness of that sector has a significant impact on industries which grow horticultural products. Perishability is less of a problem for processed products than for fresh products. Thus there is greater pressure on processors to be internationally competitive. A processor has greater prospects of being internationally competitive if it can obtain inputs at internationally competitive prices.

In its report on the food processing and beverages industries (IAC 1989c) the IAC investigated a wide range of factors which could affect the competitiveness and efficiency of these industries. A finding of that inquiry was that Commonwealth and State regulations governing the marketing of agricultural products have added to the input costs of food processing industries.

The Trade Practices Act

The preceding discussion has focussed on the operation of statutory marketing arrangements which predominantly fall within the domain of State Governments. However, the Commonwealth Government also has some influence. Statutory marketing arrangements have exemption from the Trade Practices Act, by virtue of s.51 of the Act and provisions in State or Territory legislation and the 'shield of the Crown' (See Appendix 1, Section L2).

The Commission, in its recent report on statutory marketing arrangements, discussed the impact of removing exemptions of SMA's from the trade practices legislation (IC 1991a). The Commission considered that a range of existing SMA practices would, apart from their statutory protection, contravene the Act, including the use of vesting and acquisition powers to coerce individual growers to behave in a specified way, collusive conduct between growers in influencing prices, some exclusive dealing arrangements, and the use of licensing, permits and quotas to control the availability of some primary products.

The Commission found few reasons to justify exempting SMAs from the Trade Practices Act and questioned the usual justifications for their objectives, but it did not make a conclusive recommendation:

> In each case, judgement needs to be made about whether separate provisions are required, or whether general trade practices arrangements are appropriate and sufficient. (IC, 1991a, p.107)

The Commission did, however, identify one area where the Trade Practices Act should be amended. It said that it:

> ... sees no justification for the blanket prohibition on authorising voluntary recommended price agreements between fewer than 50 parties. Whether such an agreement is in the public benefit or not does not depend solely on the number of parties to the agreement. Rather, it should be assessed on a case-by-case basis as it depends on the particular circumstances of the commodity in question, its markets, and the degree to which such an agreement would reduce competition. (IC, 1991a, p.107)

The Queensland Fruit and Vegetable Growers (QVFG) agreed with such a case-by-case assessment (Sub.D130 p.3). The Trade Practice Commission itself said it supported the repeal of the requirement that there be at least 50 parties to a recommended price agreement (Sub.D159 p.2).

3.2.2 Contractual arrangements

The Commission understands that the majority of horticultural products, particularly vegetable products which are not covered by statutory marketing arrangements and marketing orders, are sold by growers to processors under contractual arrangements. These contracts can cover conditions of supply by growers and conditions of acceptance by buyers (eg, quality and delivery times), pricing and unforeseen circumstances. There are arbitration Acts in each State which are often referenced in a contract as a means of resolving disputes.

Several participants said that processors use the threat of import competition in bargaining on prices with growers when establishing contracts. For example, the United Farmers and Stockowners of SA said that:

> The threat of imports is used by domestic processors as a bargaining tool in price negotiations with suppliers of processing fruit and vegetables. (Sub.57, p.2)

However, when negotiating prices processors need to assess their competitive position against imports. This is highlighted in some statements made by participants in this inquiry. Edgell-Birds Eye, an operator of up to eight processing plants and processing approximately 20 per cent of Australia's vegetable production, said that:

> In recent years Edgell-Birds Eye and the rest of the Australian vegetable processing industry have faced increasing competition from imported products. These imports have posed a threat due to the current 'high cost producer status' of the Australian industry. Major changes are required by all facets of the industry to respond to the threat but also to build the industry into an internationally competitive position. (Sub.57, p.2)

They said one reason for their lack of competitiveness against imports has been the lack of competitiveness of growers of the inputs they use.

Contracts lower risks faced by growers and processors. For growers, the greater certainty that production will be sold at predetermined prices lowers risk, and for processors there is greater certainty of supply and greater control over prices and quality of products delivered. One difficulty imposed on some processors is that they are locked into input costs some time before processing takes place and final processed products are sold.

3.3 Co-operatives and vertical integration

Although there are some large operators, Australian horticultural production is generally characterised as small growers competing with one another in order to secure sales. The limited number of buyers could result in unequal bargaining power. However, in some regions the formation of growers' co-operatives provides some balance to the market power of these organisations.

Co-operatives also offer benefits such as economies in grading, packing, transporting and marketing. Some of the more successful exporters are regionally based co-operatives. Co-operatives are used extensively in the United States.

The Commission understands that State statutory limitations can restrict the operation of co-operatives across State borders (ie, where potential members of a co-operative are located in different States). However, these limitations can be overcome by the provision of exemptions by State authorities.

At a meeting in August 1992 of the Agricultural Council of Australia and New Zealand, the Commonwealth, State and Territory Ministers responsible for agriculture recognised the lack of uniformity in State and Territory legislation covering agricultural co-operatives. The Ministers believe this lack of uniformity is impeding co-operatives from acting as national bodies and is reducing their potential contribution to the national economy. The Ministers called for State and Territory Attorneys-General to urgently move towards uniform legislation Australia-wide for co-operatives.

Arrangements between growers and processors - or between growers, packers and supermarkets- in relation to quantity, price and quality can reduce marketing risks for the parties concerned. Subject to growing conditions, such arrangements guarantee growers an outlet and buyers a supply. These can be achieved either by common ownership (vertical integration or co-operatives) or by contractual agreement. The existence of statutory marketing arrangements in an industry can impede the emergence of such arrangements between growers and other parties.

There are degrees of vertical integration of operations, so that processors may participate in growing and exporters in packing. Conversely, grower co-operatives are frequently involved in packing, and sometimes extend to wholesaling and exporting. Vertical integration has the potential to reduce costs and to enable the assembly of large quantities of produce of uniform size and quality. For growers, participation in vertically integrated arrangements means exchanging some of their independence for a degree of security.

Processors and supermarkets are making increasing use of contracts in order to guarantee supplies. The contractual relationship between buyers and growers can be quite detailed. For example, some vegetable processors not only agree on a price prior to planting, but supply seed and fertiliser, nominate the time of planting and chemical treatment, and arrange the harvesting.

Vertical integration and contracting also have a place in exports, especially where large quantities of produce are to be supplied over a considerable period of time. They also provide means of planning ahead and achieving orderly marketing without the use of regulations.

In the United States vertical integration and contracting have been seen to be successful in many instances. They are used to some extent in Australia, but not as widely. Given that exporting is undertaken by enterprises ranging in size from small family businesses (eg, cut flowers) to multi-million dollar enterprises, it would appear that vertical integration either does not matter or else is of quite different importance for different industries.

The dried fruits industry is an influences marketing arrangements and an exemption under the Trade Practices Act has enabled it to recommend wholesale prices and terms and conditions of supply. This exemption expired at the end of October 1992 and the Commission has been informed that the ADFA did not be apply for its renewal.

ADFA has established packing and sales agency arrangements which are followed by nearly all of the industry. ADFA packers handle around 90 per cent of dried vine fruit packing. Packers require licences from State marketing boards to operate and this gives them the potential to prevent competitors from entering the industry. A voluntary price averaging scheme is in effect, with local sales subsidising overseas sales.

3.4 Domestic demand

The amount of any product consumed domestically can be expected to depend on relative prices, incomes, preference patterns and population. In the case of horticultural products, very little empirical work has been done on quantifying the importance of these factors. Most consumers, however, are likely to substitute between different fruits or vegetables to some extent in satisfying their wants, and they may substitute between fresh and processed products. What is less certain is the extent to which other food categories substitute with horticultural products in satisfying demand.

For Australian households as a whole, fruits, vegetables and nuts account for about 13 per cent of total food expenditure (including food prepared away from home) but the percentage is higher the lower the income bracket (16 per cent for the lowest 20 per cent of household incomes and 12 per cent for the highest 20 per cent of household incomes). Expenditure shares for most other food groups also decline with income but the share spent on meals eaten out and take-away foods increases with income level.

The Australian Bureau of Agricultural and Resource Economics (ABARE) (1992a) reports that per capita consumption of fruit showed no significant trend during the 1980s but there was an upward trend in per capita vegetable consumption. Per capita consumption of both fruits and vegetables fluctuated over that period. Data on per capita consumption reflect both supply and demand movements so any emerging trends in them do not necessarily reflect trends in demand. Population growth is a source of increased total consumption of horticultural products but this is small (the annual population growth rate for Australia is only about 1.6 per cent).

Domestic promotion of horticultural products might be a source of growth in total and per capita consumption. Many participants argued that such promotion mostly changes the mix of horticultural products consumed rather than increasing total demand for them, but that changing consumption mix may reflect demand for better quality products, in which case expenditure could increase without an increase in the quantity of product consumed. The issue of promotion is discussed later.

According to MacAulay, Niksic and Wright (1990) the major determinants of food consumption in Australia are fairly clear:

> As family sizes contract, and family affluence and time pressure increase, consumers will increasingly pursue convenience and variety in meals. As concerns to adopt a healthy lifestyle grow, so will interest in food quality. (p.282)

But it is not clear what this would mean for horticultural products. They generally have a healthy image and so would benefit from increasing health consciousness. However, save for perhaps potatoes, horticultural products would not be particularly advantaged over other food groups as a result of increased demand for convenience and variety.

ABARE is of the view that, for major fruits, domestic demand is likely to increase more slowly than supply over the next five years. They project that the growth in total consumption of fruit and fruit products is unlikely to grow by more than the projected population growth of eight per cent during that five year period. The Commission received no evidence which would run counter to this judgement.

Only minor increases of imports of most horticultural products can be expected to occur as a result of tariff levels continuing to be reduced, since most horticultural tariffs are low. Exceptions could be concentrated orange juice and dried vine fruit (see Section 3.7.2 later in this chapter). Demand for variety may result in greater import volumes if domestic suppliers cannot satisfy this aspect of demand adequately. Although increased quantities of imports would reflect reduced international competitiveness, the Commission advises against imposing barriers to such imports because that would decrease national economic efficiency.

3.5 Promotion

Various horticultural products are promoted as a means of increasing industry profits and maintaining market share from both the domestic and export markets. This is frequently undertaken on a collective basis involving statutory powers and agencies. Appendix K details current horticultural promotion activities and discusses the economics of primary product promotion.

Because many agricultural products cannot be readily differentiated between producers, and are produced by a large number of growers, it would be difficult for individuals to promote their own product. This may cause industry's products to be under promoted because the benefits of any promotion carried out by one producer would be shared by other producers. Governments could help to rectify this 'market failure' by providing public monies and/or statutory powers for industry levies to fund collective promotion.

In practice, problems arise when assessing the justification for government assistance, or for that matter, assessing the profitability to a particular horticultural industry of promotional expenditure, because it is extremely difficult to quantify the effects of promotional changes. Even qualitative assessments are difficult if one allows for substitution possibilities between horticultural products in demand and supply, and for the fact that many horticultural products are traded internationally. For example, promotion of apples on the domestic market may cause consumers to substitute apples for oranges or pears. In the case of domestic promotion of a product Which is also sold on export markets, any increase in domestic sales from product promotion might be met by product that would otherwise have been exported; industry would be worse-off by the cost of the promotion (see Appendix K).

The effects of generic promotion are also hard to assess. They may be different for different fruits, giving rise to questions of equity in the funding of such promotions.

Horticultural industries which compel all producers to participate in promotion should be concerned by the lack of published information on the benefits and costs of promotion. Industry funds may be more efficiently targeted at activities for which the returns are known with greater certainty or for which greater returns are likely. As stated by the Australian Joint Citrus Exporters:

> ... the effectiveness of national and/or generic promotion programs are often impossible to assess, which makes this type of promotion highly questionable in terms of providing value to those providing revenue for them.

The Western Australian Fruit Growers' Association proposed that funds spent on promotion would be better used in other activities:

With the current promotional activities the AM have been funding, a higher levy would not achieve increased net returns. There is little faith in their previous campaigns and although award winning in presentation, they did little to sell fruit. The monies spent on the national promotion campaigns to date should be redirected to consumer information, product knowledge both at retail and consumer level and user friendly quality manuals for retailers and packers. (Sub.43, p.3)

The Commonwealth Government supports horticultural promotion through the AM. The Corporation allocates approximately three quarters of levy collections to direct promotion of its participating industries' products. In 1990, the AHC spent $1.8 million on domestic promotion and $0.3 million on export promotion. (See Section 4.4 and Appendix K for information on export promotion.) In the same year State-based organisations spent a further $5 million on the domestic promotion of horticultural products.

If gains are to be made from domestic promotion of a product which cannot be readily differentiated between its suppliers, then a promotion levy paid by all members of an industry will enable that industry to capture the gains. In this way those who benefit from promotion also cover the costs of the campaign. Industry representatives are therefore responsible to their members for ensuring that domestic promotion is a worthwhile activity.

Industry attitudes about the effectiveness of domestic promotion differ. Some organisations advocate the use of industry and government funds for both generic and brand advertising, while others believe that domestic promotion does not increase industry profits. For example, the United Farmers and Stockowners of SA supports the domestic promotion of horticultural products:

> Internationally, Australian horticultural products are recognised as clean and fresh. This provides an advantage in international markets as well as the domestic market when Australian products compete with imports. The opportunity exists for generic promotion of this comparative advantage and to create branded products capitalising on these advantages. (Sub.57, p.27)

The Victorian Government said:

> The AHC could take a greater role in domestic promotion which is now undertaken by a plethora of bodies, many with inadequate funding. Various bodies, such as the Fresh Centre and Australian United Fresh, are involved in the generic promotion of fresh fruit and vegetables. The overall effort would be enhanced by closer collaboration between all bodies, with AM concentrating on generic promotion to support promotion of regional brands by State and regional bodies. (Sub.69, p.11)

The Australian Apple and Pear Growers' Association said that its membership with the AHC is threatened because some of its members are sceptical of the benefits of promotion:

> Until this year the industry had been loathe to commit additional funds because of this lack of proof but for 1992 the industry has approved the expenditure of reserve funds held by the Corporation to mount a more extensive advertising and promotion campaign. The Sydney component of the campaign has been selected to test the benefits of advertising. Twice the amount spent last year is being spent in the Sydney metropolitan area and this is considered by the marketers as a realistic level at which a favourable result can be achieved. The Al-IC has established a system of monitoring sales at wholesale and retail level and is confident this will indicate increased sales and thus convince growers of the value of an effective campaign. (Sub.25, p.5)

The apple campaign cost $2.2 million of which half was spent on television advertising with the other half used for in-store sampling, public relations, point-of-sale material and recipe leaflets. The AHC attempted to examine the effects of the campaign by commissioning surveys in February/March of 1992 and again in May 1992. As reported in the *Australian Apple and Pear News* (September, 1992), the proportion of people who had bought apples increased from 62 to 69 per cent in Sydney between the two surveys, and from 69 to 79 per cent in Melbourne.

Whereas the apple survey found increased consumption between the two periods this may have been caused by a number of factors, including promotion. For example, apple consumption will increase when the majority of 'new season' apples are placed on the market - typically around March/April - because apple prices tend to fall. Apple consumption is also affected by the quality of apples and the price and quality of substitute products. The consumption of pears fell during the apple campaign even though pears were being promoted in magazines and with in-store sampling at the same time.

To determine the profitability of a promotion campaign requires more than a survey of consumer awareness or sales. Firstly, the objective of the campaign must be specified and the relationship between promotion and prices and/or sales that will benefit the industry should be determined. To then prove causality requires an analyst with a practical knowledge of the product and market concerned, an understanding of the relevant economic theory, skills in statistical inference and adequate data (see Appendix K).

Australian governments have allocated public monies to domestic horticultural promotion (see Appendix K). For example, in November 1992, the Minister for Primary Industries and Energy launched the Australian Orange Juice Label. The AHC has organised a promotion campaign for the label using funds from a $2 million grant from the Commonwealth Government. The aim of the campaign is to increase sales of fresh orange juice made from Australian grown oranges.

The use of government funds to subsidise horticultural promotion can distort resource use within the agricultural sector. This is because Australian consumers are unlikely to increase their aggregate consumption of foodstuffs as a result of promotion. Thus, government assistance for promotion in one horticultural industry is likely to result in less consumption in another agricultural or horticultural industry.

The Commission recognises that the domestic promotion of horticultural products can have an important informational role - particularly for new varieties and new uses of products - as well as balancing the effect of promotion by competing product groups. Whether it is effective is a matter for the industry concerned to judge. However, the Commission considers that the use of Government funds to subsidise such campaigns is generally not in the interests of Australian industry or the welfare of the community. An exception could be promotional campaigns aimed at such issues as raising the general level of community nutrition, in which fruit and vegetables might form a part.

3.6 Food and quality standards and labelling requirements

There is a panoply of regulations on food standards, quality standards and labelling requirements, both at the State and Commonwealth level, which apply to horticultural products. Details of the food standards are provided in Appendix I, Section L3. State government regulations in particular relate to food standards, health and hygiene, weights and measures, labelling and consumer protection. Most apply to processed products rather than fresh products. These have objectives other than international competitiveness. However, they influence competitiveness both domestically and internationally.

Many of the regulations which applied to processed horticultural products were reviewed in the IAC's 1989 report on Food Processing (IAC 1989b). Since then, many regulations have been standardised between States and many regulations have been reformed as they apply to imports and exports.

In October 1990 reforms were agreed to by the heads of all governments at the special Premiers' Conference on Commonwealth-State relations (see Appendix L, Section L3).

3.6.1 Standards for imported foods

The Government announced on 19 July 1992 a range of food measures, one of which was that it would be taking steps to achieve 'improvements in the system for setting and enforcing Australian food standards' (see Section L4.2) (Button and Crean 1992). On 30 July 1992 the government further announced that the Imported Food Inspection Program would be extended under new legislation to

ensure tighter inspection of imported foods at the point of entry. Food products which do not meet all national standards will not be allowed entry. These included truth in labelling, additives, product composition, residue levels and cleanliness. However, the primary emphasis of the Imported Food Inspection Program will continue to be on foods risk-listed because of public health concerns. Discussions were being held with State and Territory Authorities to ensure that their public health inspection programs dovetail with the new arrangements (Griffiths and Staples 1992).

Box 3.1: **The peel extract story**

The Australian Food Standards Committee considered the issue of diffusion extracted juice (DEJ). DEJ is obtained by removing juice from the whole orange, including peel, by extracting the soluble components with water. It has been industry practice to use DEJ in orange drinks as it is less costly. The Committee's view was that to allow DEJ to be used in place of orange juice would be misleading to consumers.

Subsequently, amendments to the Food Standards Code were gazetted in February 1992 which revised the standards for cordials from February 1992 and the standards for fruit drinks and soft drinks to apply from February 1993. These make it clear that fruit juices, cordials and soft drinks are allowed to contain ‚orange peel extract'. However, it must be described as additional to and separate from fruit juice and must be shown as including orange peel extract on the ingredients list on the label. The introduction of this distinction is opposed by local industry.

The issue also has implications for sales tax. DIEM has been accepted for some years as part of the fruit juice content of beverages under sales tax regulations. This has made it easier for juice growers to reach the 25 per cent local content requirement. It has been proposed that orange juice be defined in line with the Food Standards Code which would have resulted in DFJ from oranges no longer qualifying for the sales tax concession.

A review has been undertaken by an Inter-Departmental Committee into whether the sales tax requirement should be altered to conform with the food regulations, with the effect that the local content rule would only apply to fruit juice (not including peel extract). The matter is now being considered by the Government. The local juice producing industry has opposed altering the sales tax arrangements, on the grounds that products of fruit juice from Australian juice would be more expensive if the exemption were eliminated and overseas producers may be able to circumvent the regulations because of the difficulty in detecting peel in imported juices.

The enhanced inspection program for imported foods, developed jointly by AQIS and the National Food Authority (NFA), was implementated on 1 February 1993. AQIS will also be enforcing the Government's improved imported food labelling requirements, especially as they relate to the correct labelling of the place of origin of the original product in processed food.

The adoption of uniform standards creates the potential for equality of opportunity between domestic growers. However, some of the regulations applying to horticultural products and processed products could inhibit competition and act as non-tariff barriers to imports. Some prescriptive regulations limit competition between substitutable products and result in different sales tax treatment of similar products (see Box 3.1). Common food standards and labelling requirements apply to domestically produced and imported products. These could have the effect of eliminating imports of particular foods which do not compete with Australian produced products, in particular those foods which satisfy the requirements of particular ethnic and cultural groups. Several participants strongly supported the labelling of imported foods at the same standard as Australian food. The Mid-Murray Citrus Growers said: "We do not seek labelling laws to exclude overseas competition, but merely to give the Australian Public an informed choice" (Sub.D134, p.4). The Victorian Government said food standards should be based primarily on the need to protect consumer health and safety. "These must then be applied equally to imported as well as local products in the interests of both consumers and producers" (Sub.D156, p.2).

3.6.2 Food quality

The Food Policy Alliance claimed that there is a need for a food quality campaign, which would be based on Australia adopting the highest achievable food quality standards for both locally produced and imported food (Sub.42, p.1). The Alliance anticipates advantages in terms of guaranteed local food supplies, export enhancement, displacement of imports and consequential increased local employment.

The Commission has strong doubts about guaranteed local food supplies as a justifiable objective, and does not consider mandatory minimum food standards to be the appropriate means of achieving the other objectives.

3.6.3 Country-of-origin labelling

In 1992 the NFA considered several applications for amendments to the Food Standards Code to increase the print size requirements for country of origin or to modify the provisions relating to country of origin statements on packaged and unpackaged foods. The QFVG made an application that for fruit and vegetable products the print size required for country of origin be increased. Similar applications to modify labelling were received from the Australian Dried Fruits Association for imported dried fruit, from the Canned Fruits Council of Australia, the Citrus Board of South Australia and Murray Citrus Growers' Co-operative Association for packaged fruit and vegetables. The applicants contended that the current print sizes required give insufficient prominence to the country of origin, thus failing to draw attention to the origin of food in an adequate way. They claimed that this places locally produced foods at a disadvantage in comparison with imported foods. The NSW Farmers' Association suggested that the country of origin should appear with product description on the front labelling (Sub.106, p.30).

The NFA refused the requests to increase print size for the country of origin. The QFVG and NSW Free Growers Horticultural Council both said they disagreed with the NFA's decision. They said the purpose of the request was to enable consumers to make better informed decisions, though the QFVG acknowleged it would also 'improve the competitiveness of local product compared with imports' (Sub.D130, p.4). The NFA, however, is currently considering a draft variation (doubling the print size) for imported, unpackaged fruit, vegetables, nuts and fish.

The Government announced in October 1992 the establishment of two working groups to study the legislative and other developments needed to make country-of-origin labelling more 'comprehensive, accurate and informative'.

The Commission recognises that many consumers wish to buy produce which uses only Australian raw materials and is also packaged in Australia. Terms such as 'product of Australia' or 'made in Australia' are vague. Distributors could introduce other terms to indicate some Australian content, such as Australian raw materials, or some Australian raw materials, or packaged in Australia.

3.7 Import barriers for horticultural products

While food standards and labelling requirements can restrict imports of processed horticultural products, a number of other measures do so more directly.

3.7.1 Quarantine regulations

Quarantine regulations limit the importation of fresh fruit and vegetables, live plants and flowers. The regulatory functions are performed by AQIS (see Section 7.3). According to the Bureau of Rural Resources these restrictions, along with tariffs, have contributed to horticulture being shielded from overseas competitors (BRR 1992, p.8). The NSW Farmers' Association disagreed saying that quarantine measures had prevented 'debilitating diseases' entering Australia, enabling production costs to be kept low and yields high. They claimed that this had kept consumer prices lower (Sub.D154, p.5).

Quarantine is an issue in the General Agreement on Tariffs and Trade (GATT) negotiations, especially in relation to phytosanitary measures to protect human, animal and plant life. Sanitary and phytosanitary regulations, initially proposed by the United States of America, would require countries:

- not to use such measures in a way which would create arbitrary, disguised or unjustified barriers to trade;

- to harmonise, wherever possible, national standards with those developed by relevant international scientific and technical bodies (in the case of food, the Codex Alimentarius Commission); and

- where measures stricter than the relevant international standards are adopted, to provide on request scientific justification in support of such measures.

The existence of a quarantine system creates incentives for industry to press for quarantine regulations when threatened by imports. The Commission considers that while quarantine regulations should be applied when there is a significant risk of introducing or spreading disease, they should be the outcome of risk assessment based on scientific evidence and not be simply a result of lobbying.

The Bureau of Rural Resources also said that the citrus industry is seen to be disadvantaged by not having had access to new clonal material for more than thirty years. The Bureau stated such problems are attributed to a:

> ... quarantine policy that once restricted access to patented varieties, to policies that slowed the release of introduced varieties and, in the case of citrus, by concern that the risk of introducing exotic pests and diseases outweigh the need for new varieties. Many consider that the evident emphasis on the protection of our plant crops from pests and diseases has been a significant impediment to the introduction of new varieties. (Sub.7, p.6)

The ban (for quarantine reasons) on imports on citrus nursery stock was rescinded in 1986. AQIS pointed out that most other species have been permitted entry with appropriate post entry quarantine procedures.

AQIS argued, however, that while quarantine procedures do delay access to new varieties, critics of the delay are not challenging the need for quarantine (Sub.D112, p.2). The need to evaluate and multiply new varieties causes a greater delay in achieving commercial production. The Pink Lady apple is an example of how even varieties developed in Australia take many years to bring into commercial production.

3.7.2 Tariffs

Most fresh vegetables, fruit and nuts are free of duty. Minor exceptions are mushrooms, truffles and almonds which are currently dutiable at 10 per cent. Fresh grapes are currently dutiable at 15 per cent.

Fruit and vegetables which have been processed by freezing, drying or juicing have a range of tariff rates but are mainly dutiable at 10 per cent. A few items are dutiable at per cent while others such as orange juice, dried grapes and grape must are dutiable at the relatively high rate of 15 per cent. Certain processed potato and tomato products are dutiable at 20 per cent.

A Government program of phased tariff reductions began in 1988 and resulted in general tariff ceilings of 10 or 15 per cent by July 1992. In the March 1991 Economic Statement the Government announced that the reductions would continue beyond 1992 and ad valorem tariffs would be phased down to a maximum of 5 per cent by July 1996 in four annual steps. Specific and composite rates are being reduced accordingly and where possible converted to ad valorem equivalents.

Tariffs on nearly all fresh and processed horticultural products are being phased down to 5 per cent by July 1996 in accordance with the March 1991 Economic Statement. The only horticultural products for which exceptions were made in the program were dried and dehydrated potatoes, flour, meal and flakes of potatoes and tomato products, for which tariffs were already being phased down to 5 per cent by 1 January 1998.

Overall assistance to horticulture is discussed in Section 1.4. Tariffs and associated domestic marketing arrangements account for most of the measured assistance provided to horticulture. Because of the highly competitive nature of the horticultural industries and the limited ability of organised marketing to make use of such tariff assistance as has been available (through SMAs with compulsory acquisition and sole selling arrangements), tariffs do not have a great influence on domestic prices for most fresh produce. Transport costs and perishability afford significant natural protection to fresh products. Imports of fresh fruit and vegetables generally occur when there are domestic supply shortfalls as a result of variations in seasonal conditions, or out-of-season products are available from the Northern Hemisphere.

Tariffs are more relevant for processed horticultural products than for fresh products as competition from imported processed horticultural products is more prevalent. This is because processed products are not as perishable as fresh products so that the time between production and consumption is less critical, and they can also be transported relatively more cheaply than fresh products.

Little comment was received on tariffs during the inquiry. The Murray Valley Citrus Marketing Board said that it accepted the reality of the phased reduction of the tariff and that the ad valorem tariff had not served the citrus industry well. When overseas prices were low and the need for assistance to Australian growers greatest, the tariff had the least effect (Sub.63, p.12). However, the Banana Industry Committee said that it did not consider that Australia could lead the world in lowering tariffs on agricultural products and opposed the broad brush approach to reducing tariffs (Sub.77, p.9).

3.7.3 Anti-dumping measures

Australia's anti-dumping and countervailing duty legislation is based on the GATT Anti-Dumping Code. If imported goods are sold on the Australian market below their ,normal value' in the country of export, they can be assessed as being dumped.[2] However, anti-dumping action may be taken only if dumping is found to cause or threaten 'material injury' to an Australian industry. If exports to Australia have been subsidised and these subsidised exports have caused 'material injury', countervailing action in the form of duties can be applied. Although the GATT Code sets out the criteria which must be met before action can be taken, there is nothing in the GATT rules which requires action to be taken.

The Australian Customs Service investigates initial applications or complaints on dumping and if it considers a *prima facie* case has been established it imposes provisional measures and refers the matter to the Anti-Dumping Authority. The Australian Customs Service has received 10 applications relating to the horticultural industries since the establishment of the Authority in 1988, and the Australian Customs Service has referred three of these to the Anti-Dumping Authority upon determining a *prima facie* case has been established. The three cases investigated by the Anti-Dumping Authority included: canned peaches from Spain, Greece and China and canned pears from Spain (199l): pears from China (1991); and canned tomatoes from Italy, Spain, Thailand and China. The Anti-Dumping Authority found that dumping was occurring in each of these cases.

Many participants referred to anti-dumping measures in the context of protecting Australian growers from imports of processed horticultural products at so called 'dumped prices'. Also, some expressed concern about the complexity of Australia's arrangements, the procedural delays before dumping duties or securities can be imposed, and the difficulty in proving 'material injury'.

The concerns of most participants are summarised in the Western Australian Department of Agriculture's submission.

> There is widespread concern within the industry at the impact of low-priced imports on rural growers, processors and communities. While the Commonwealth Government appears to have adopted a heightened awareness of the difficulties caused to Australian industries by low-priced imports, concern still exists among many in the industry at the lack of urgency in its approach.
>
> There would appear to be scope for a simpler, fast-track mechanism than currently available to ensure industries are not subject to unfair competition. The measures announced by the Commonwealth in December 1991 should improve aspects of anti-dumping policy, but there are still concerns that major damage can be done to a processor and its suppliers before the anti-dumping mechanisms take effect.

[2] The 'normal value' is generally defined as the price of like goods on the exporter's borne mark

> Processors submit that Australia needs a policy shift to take timely action against subsidised food imports, and to encourage food exports to enable the sector to reach its full potential. (Sub.100, pp. 28,29)

There have been various changes to the dumping provisions of the Customs Act 1901 during 1991 and 1992. In particular, suppliers of inputs to a product competing with a dumped product can now initiate dumping action. In recent actions the injury to tomato growers, peanut growers and cherry growers was considered when investigating injury to their downstream markets. However the legality of Australia introducing such measures under GATT is currently in dispute. The EC has challenged the legislation and a GATT dispute settlement panel will begin hearing the case in March 1993.

Further, the time allowed for processing anti-dumping applications has been reduced. Under the *Customs Legislation (Tariff Anti-Dumping) Amendment Act 1992* a maximum of 125 days is allowed to reach a preliminary finding, or 145 days for complex cases. This compares favourably with other countries. The United States of America takes between 160 and 210 days, Canada between 141 and 186 days, and the European Community around 270 days.

However, several participants argued that even if the existing anti-dumping measures have been activated, dumped imported horticultural products could enter the Australian market and damage the viability of domestic producers. They claimed that special antidumping measures should be introduced for the horticultural industries where the produce is highly perishable. The Australian Horticultural Growers Council said:

> Whilst there have been significant improvements in anti-dumping measures, the system continues to be deficient in addressing the specific problems of highly perishable fresh horticultural produce that moves through the marketing system in a matter of hours or days. Until this issue is addressed, antidumping and countervailing legislation will continue to be inappropriate and unsuccessful in addressing the particular problems of the horticultural industry. (Sub.D142, p.2)

The Potato Growers Association of NSW said:

> Horticultural products are perishable and require special treatment. A crop may be completely lost before any worthwhile result may be achieved. (Sub.13124, pp.131,132)

The Tasmanian Government said that a new system of anti-dumping procedures should be introduced for all industries which produce fresh products. The particulars of the 1 special measures' advocated are not spelt out but presumably could involve delaying the

imported fresh produce from reaching the market while anti-dumping investigations are carried out. Or, more likely, countervailing duties, or a sizeable bond, could be imposed on the produce while under investigation, which would be reimbursed if the antidumping allegations were found to be incorrect.

Special anti-dumping measures for fresh produce could prevent the industries involved from being exposed to legitimate import competition. It takes time to conduct an antidumping investigation, yet imported fresh produce is highly perishable. Delaying its entry on to the market could destroy its

quality and hence the demand for it. Imposing countervailing duties or a bond, even if temporary, will adversely affect its price and market. The mere existence of such measures could also discourage imports, legitimate or dumped. Such measures could be invoked by producers to discourage imports.

Any industry which produces products with a short life might argue along similar lines for special measures. Differentiated anti-dumping measures would, in effect, become a means of assisting one sector at the cost to the rest of the economy.

The Commission is unable see any grounds for the introduction of special anti-dumping arrangements for processed horticultural products which are not available to other industries. For fresh horticultural products, the problem appears not to be significant and cannot be handled in any practicable way within the spirit of the existing GATT framework.

3.7.4 Differential sales tax

Fruit and vegetable juices are subject to relatively complex sales tax arrangements. When beverages contain less than 25 per cent fruit or vegetable juice supplied from Australia, sales tax is 20 per cent regardless of source. If they contain 25 per cent or more fruit or vegetable juice supplied from Australia, New Zealand, Fiji or Paptia-New Guinea, they are subject to a sales tax rate of 10 per cent. Juice imported from countries other than New Zealand, Fiji or Papua-New Guinea does not qualify for the concessional sales tax rate, unless mixed with at least 25 per cent juice from eligible sources.

The definition of 'fruit juice' under the Food Standards code affects the level of assistance the sales tax provides (see Box 3.1 in Section 3.6).

The citrus industry strongly supports continuation of these concessional sales tax arrangements. 71e Australian Citrus Growers' Federation, for example, stressed the value of the concessional sales tax arrangements to the industry, and said they had brought a great deal of stability.

The different sales tax treatments of beverages, based on country of origin and amount of fruit juice, assist the local industry and result in more resources being used in local production of juice than if sales tax arrangements were neutral (see Appendix N).

This tax differential can encourage the mixing of a minimum proportion of locally produced juices in imported products and thereby encourages the use of a minimum quantity of locally produced juices. However, it is only likely to result in a significant premium for locally produced juices when there is insufficient local juice to meet requirements of juice products. The maintenance of such discriminatory

arrangements, which give a degree of preferment to horticultural producers, runs contrary to the general program of tariff reductions. The IAC recommended in its report on Fruit and Fruit Products Industries (IAC 1988a) that the distinction between local and imported fruit juices in sales tax arrangements be removed and that the partial sales tax exemption on fruit based drinks containing not less than 25 per cent of fruit juice be discontinued (IAC 1988a). The Government announced in 1990 that the local content rule component of the arrangements would cease on 1 July 1991. Implementation was subsequently deferred pending the outcome of a review by the Commonwealth-State Citrus Advisory Group. The Group reported in September 1991 with split recommendations. The Government has still not decided what course of action to take.

> The Commission recommends that the present distinction between Australian and imported fruit juices in the sales tax arrangements be removed, and that partial sales tax exemption on fruit based drinks containing not less than 25 per cent of fruit juice be discontinued.

3.8 Summary

About 90 per cent of domestic production of horticultural products is sold on domestic markets, a significant proportion of which is for further processing.

- About 65 per cent of sales of fresh fruit and vegetables to final consumers in major capital cities are through supermarket chains, which purchase more than half their requirements direct from growing regions.

- Domestic prices are generally determined competitively in fresh markets.

- There are various government regulations of domestic marketing, some of which may impede market flexibility, but their impact is not particularly onerous.

- The Commission considers that the feasibility of developing a comprehensive grading system should be investigated and suggests that the Horticultural Research and Development Corporation fund research into this topic.

- There may be a role for domestic promotion of horticultural products, but this is a matter for industries to judge.

- The use of government funds to subsidise domestic promotion campaigns is not in the general interests of Australian industry or consumer welfare, unless the campaigns relate to issues such as community health and nutrition.

- The Commission supports the continuation of efforts to introduce uniformity in measures adopted for assessing pest/disease risks and for subsequent interstate quarantine regulations.

- Many objectives of statutory marketing arrangements are sound from the viewpoint of both growers and the wider community; however, they are generally not sound from a community wide viewpoint if they are based on powers which compel growers to participate, exclude entry to markets, or impose price increases on Australian user industries or consumers.

- Adoption of uniform food and quality standards and labelling requirements creates potential for equality of opportunity between domestic producers, but some of the regulations applying to horticultural products could inhibit competition and act as non-tariff barriers to imports.

- Action should be taken to discontinue discriminatory sales tax arrangements.

4 EXPORT MARKETING

This chapter examines existing export markets, the major players in these markets and their operation. It also examines the role of promotion market research, quality control and various marketing strategies in increasing prices and returns. Other important factors in export marketing are the actions of overseas governments in facilitating their own exports and impeding imports.

4.1 Current exports

Australia exports a diverse range of fresh and processed horticultural products to a wide range of countries. Exports of horticultural products totalled $515 million in 1990-91. Details of Australia's recent exports, by product and destination, are provided in Chapter 1 and Appendix E.

Fruit accounts for two thirds of horticultural exports, with nearly two thirds of this being in processed form. Dried grapes, which for this purpose are classified as processed, are the largest individual export item. Vegetables, mostly in fresh form, account for 20 per cent of exports.

Referring to Table 1.5, the value of Australia's exports of fruit and vegetables is less than those of its Southern Hemisphere competitors, New Zealand, South Africa, Chile and Brazil. Thailand, Indonesia and Malaysia also have significant exports to South East Asian markets. Their proximity gives them some advantage in competition with Australia.

As indicated in Table 1.6, Australia's exports of horticultural products are predominantly to South East Asia (especially Singapore and Malaysia), Europe (especially Germany), Japan, New Zealand, and Hong Kong, with lesser amounts to North America. Exports of processed products are mainly to developed countries.

Although international markets for horticultural products can be regarded as 'thin' in the sense that only a small proportion of world production is traded, and although some countries impose significant import barriers (see Section 4.6 and Appendix M), there is considerable trade in horticultural products in our region and it has been increasing rapidly. In the Asian and Western Pacific regions, many countries import horticultural products to supplement domestic production. In some (eg, Singapore) there is negligible production and virtually all domestic requirements need to be imported. Where import barriers exist, they are usually applied equally to all countries. However, there are bilateral arrangements between some countries (eg, closer economic relations between Australia and New Zealand).

Imports of horticultural products by some Western Pacific countries, together with Australia's share of those imports, are presented in Table 4.1.

Table 4.1: **Imports of fruit and vegetables by selected Western Pacific countries, $ million**

Country	*Imports 1990*	*Imports from Australia 1990-91*	*Imports from Australia 1990-91*	*Australia's import share 1990-91* [a]
	$US	$A	$US[b]	per cent
Singapore	616.2	69.7	54.7	9
Japan	3 712.8	51.9	40.7	1
Korea	256.3	1.4	1.1	0
Phillipines	58.2	3.5	2.7	5
Indonesia	59.7	3.6	2.8	5
Malaysia	227.9	36.6	28.7	13
New Zealand	136.5	49.2	38.6	28
Thailand	66.8	1.1	0.8	1
China	na	0.2	0.2	na
Hong Kong	1 133.1	37.2	29.2	3

na not available

a Estimates based on total imports which are nominally for a calendar year (but this is not necessarily the case) and imports from Australia which are for a July to June year.

b Calculated using an exchange rate of $USO.78 for an Australian dollar.

Source: ABS 1991b (Cat. No. 5436.0); FAO 1991b; ABARE 1991, p.13.

The Australian Horticultural Corporation believes that trade in horticultural produce will continue to expand throughout the next 10 years:

> The Asia - Pacific economies are developing a very large affluent middle class which is generating a demand for a diverse range of fresh fruit and vegetables. Additionally Western (and Eastern) Europe and Japan provides a large and rapidly growing market for 'off-season' Southern Hemisphere suppliers. In total, the AHC considers that the potential internationally traded market for horticultural products is likely to increase by at least 10 per cent per year - a rate which would challenge the capacity of even Australia's natural competitors to meet. (Sub.D122, p.9)

4.2 Trading organisations

4.2.1 World trading organisations

World trade in horticultural products is characterised by a large number of exporters operating independently in many horticultural producing countries. In some countries, such as the US, exports by individual companies have been co-ordinated on a co-operative basis. For example, Sunkist, which is a

major exporter of citrus from the United States, is a co-operative organisation owned by citrus growers, whose main function is the marketing of its members' fruit.

In addition to the above, a number of large companies operate internationally, producing and/or trading in a number of countries and having connections in the countries they supply. Some of these companies traded initially in single products (eg, Chiquita in bananas grown in Central America) but are now multi-product companies operating world-wide. Other large companies include Del Monte, Dole, Geest, and Castle and Cooke.

They have extensive international networks with established production and marketing links, often having offices both where the products are sourced and where they are sold. Many have offices in major South East Asian markets. The annual value of sales by some of these organisations far exceeds Australian total exports of all horticultural products. For example, the turnover by Chiquita in 1989 was about US$1700 million, about four times Australian exports of horticultural products in the same year. Chiquita has an office in Adelaide, but its Australian operations are currently confined to growing, transport and wholesaling within Australia, with an emphasis on bananas. It has exported limited quantities of bananas to New Zealand and has on occasions imported mangoes from Mexico.

These organisations monitor market prices, engage in promotion, establish connections with major purchasers, ensure quality from point of production to final purchasers and co-ordinate supply and shipping. Often exports of horticultural products by these organisations are of sufficient volume to charter whole ships which may visit several markets. Chiquita owns ships and operates aircargo services.

Apart from these organisations, a number of statutory marketing authorities (SMAs) in overseas horticultural producing countries have 'sole seller' or 'single desk' status for exports of one or more horticultural products. They include:

- New Zealand Apple and Pear Marketing Board;
- New Zealand Kiwifruit Marketing Board;
- Outspan (South Africa);
- Cape (South Africa); and
- Citrus Marketing Board of Israel (Agrexco).

Outspan of South Africa acquires all domestic production of some horticultural products, and is the sole seller on both the export and domestic markets. The Citrus Marketing Board of Israel (Agrexco) was previously a single-desk seller but has recently allowed producers to negotiate their own export arrangements. Agrexco is still able to operate as a marketing agent on behalf of producers, using its established market links, particularly in Europe.

These organisations have adopted some of the marketing strategies used by the large multinational organisations and co-operatives. They are able to co-ordinate supplies and shipping and undertake promotion in overseas markets. One feature common to these SMAs is that they operate in countries where production is regionally concentrated, allowing them to operate like a 'compulsory' co-operative. Generally, they were established by a petition of the majority of growers to their governments.

Within the United States there are a number of State SMAs, for example, the Washington Apple Commission, the California Tablegrape Commission and the California Avocado Commission. These organisations, funded by industry, are active in both the domestic and export markets in supporting the activities of private traders.

4.2.2 Australian trading organisations

In Australia a large number of independent marketers export in an opportunistic manner, taking advantage of high prices in export markets when they exist. However, the majority of horticultural exports are undertaken by about 15 organisations. These have established a continuing presence in the markets they serve. The turnovers of these organisations are in the range of $5 to $30 million per annum which is low by comparison with the large international traders. Some, such as Antico International, are trading companies; others, such as Rivsam, Victor, Kangara and Batlow Fruit Cooperative, are large grower co-operatives. In addition to these, Central Burnett Exporters (a co-operative in Queensland) and the Griffith Producers' Co-operative (Murrumbidgee Irrigation Area, New South Wales), both exporters of citrus, also operate as a joint venture (Australian Joint Citrus Exporters) in exporting citrus to Japan. In Tasmania, individual apple and pear exporters operate in a co-operative manner to arrange and finance charter shipping to Europe.

Exports of dried vine fruit are dominated by Australian Dried Fruit Sales, which is wholly owned by four packers, and usually handles between 80 and 85 per cent of the Australian dried vine fruit crop. However, exports are controlled by the Australian Dried Fruits Board (see Section 4.5.4).

The AHC has trading powers, but these can be exercised only with the permission of the Minister, who has indicated that the agreement of the industry concerned would also be required. The trading powers have not been exercised to date. The export operations of the AHC are discussed in Chapters 5 and 6.

4.3 Export marketing arrangements

4.3.1 Selling arrangements

Some of the factors which determine selling arrangements for horticultural products are risk avoidance, costs incurred, and exploitation of market power. Of these, risk avoidance appears to be the prime determinant in Australia, resulting in a preference for entering into contractual sales agreements before produce leaves Australia, and sometimes before planting. Cost reductions and market power lead to consideration of large marketing organisations, whether by single-desk selling (Section 4.3.2) or vertical integration (Section 4.3.4).

As with domestic sales, there is always a risk of making a loss on export sales because of uncertainty about quantities supplied and demanded on overseas markets, and hence prices received. This applies particularly in volatile markets such as for horticultural products. While every effort may be made to obtain market information, conditions can change while the produce is in transit. The risks are borne by the owner of the product at the time it reaches the overseas market. Depending on the selling arrangements, this may be the grower, packer, exporter or importer. Exporting is often undertaken by an agent acting on behalf of the grower, taking a commission but none of the risk (as is the case for most citrus exports). Strategies such as contracts and forward selling can be used to minimise risks to the grower.

Story Horticultural Services Ply Ltd referred to risk as one of the factors which discourages exports:

> Many vegetable producers with good quality product are simply not interested in export because it's just not viable due to the higher production and preparation for market costs, the greater risks and the more complicated distribution pathway. The bottom line is that they can't make money on export due to our high cost structure. Their product stays domestic which contributes to the over-supply problem on the domestic market. (Sub.92, p.8)

Forward sales

Traditionally, most Australian exporters have traded on the basis of forward sales, in which the price is agreed between the exporter (or grower) and the importer before the goods leave Australia. Under forward sale the importer bears the risk that prices achieved in the market might be lower than anticipated. For those products for which export licences are issued by the AHC, exports from Australia to most markets are required to be on a forward sale basis (see Chapter 5).

Sale on consignment

Australia's overseas competitors generally trade on a consignment, or 'at risk', basis in which the exporter or grower owns the product until sold in the destination country.

Under consignment sale the exporter bears the risk that prices may turn out to be less than expected, possibly resulting in a loss after transport costs are paid. Alternatively, prices and, hence, profits might be higher than expected.

The AHC has used its export licensing powers to prohibit consignment selling in certain markets for particular products. For example, consignment selling is prohibited for pears, nashi and citrus exports to many countries (see Chapter 5).

The ban on consignment selling reflects the desire of some growers to avoid the risk of making a loss, particularly as additional high costs of transport are involved. Forcing all sales from Australia to be on a forward basis eliminates competition for those averse to consignment selling from exporters who are prepared to export at risk. It may also reflect growers' concerns that their interests are not consistent with those of commission agents. An increase in the overseas selling price from $500 to $510 per tonne has little effect on a commission, but for a grower this could constitute the difference between loss and profit. Under forward selling, growers are better able to assess in advance the profitability of exporting. However, enforced forward selling can result in lost opportunities for higher prices, and can also result in lost sales. Buyers in a fluctuating market may be unwilling to accept the risk of a forward sale, especially where consignments are available from other sources.

The South Australian Government saw a degree of selling at risk as an appropriate element of an export development strategy:

> A common Australian approach of selling forward on fixed prices (fob or cif) in Australian dollars does not generally foster export growth. Balanced risk sharing and commitment between exporters and importers is required. (Sub.94, p.8)

Adopting a general rule of no consignment selling implies that the value of the lost opportunities is small relative to the benefits of a stable overseas market. It also assumes that the method of selling into those markets is determined by Australia, rather than exporters from other countries.

The Commission does not accept the view that export sales on consignment should be prohibited. These controls impede the efficient marketing of Australian produce. The quality of traded produce and the terms and conditions under which it is traded are best left to the transacting parties. Indeed, to constrain the ability of growers and exporters on how they sell their product could lead to missed opportunities and deny profitable export sales.

Contract buying

Another type of arrangement is 'contract buying' which tends to be practised by large overseas importers, wholesalers and chain-stores. These larger buyers visit growing areas to specify the products they require, timing of supply, grade and quality characteristics and packaging. A contract price is agreed between seller (producer/exporter) and overseas buyer, although this price may be subject to a 'rise and fall' provision under which price risk is shared. The overseas buyers may sell in central markets, to retailers or other merchants, or may have marketing arrangements with chain-stores not unlike those for supermarkets operating in Australia. Chain-stores have regular shipments arriving by both air and sea, and put particular emphasis on reliability of supply and quality - for which they are prepared to pay a premium.

4.3.2 Single-desk selling

Selling all of a country's exports of a product through a single government agency (or a single firm nominated by the government), otherwise known as single-desk selling, is usually justified in terms of maximising returns to growers and the nation through economics of size in transport and promotion, and by exploiting perceived market power. It is used for some horticultural products in New Zealand and South Africa (see Section 4.2.1).

A potential benefit from single-desk selling is that, by arranging the export marketing of an industry within one large organisation, economies of size can be realised in packing operations and in negotiating lower freight rates, controlling inventory in the importing country, supplying information and undertaking promotion. However, if single desk selling were imposed on a widely dispersed industry, as is mostly the case in Australia, there could be diseconomies of scale in packing and freight. There is also the danger that the advantages of regional differences (eg, earlier crops) might be dissipated by the requirement to conform to a national norm set by the 'lowest common denominator'.

An argument often put forward in favour of single-desk selling is that, by controlling and restricting supply into certain markets, a price premium may be obtained. This generally requires some statutory arrangement to prevent individual sellers attempting to increase sales by undercutting the desired 'monopoly' price. However, while competition among suppliers from the single-desk country may be preventable, competition from other countries would still generally be present. Where there are numerous countries supplying a product, individual countries will usually be price takers unless they can promote the image of quality or service.

Apart possibly from dried vine fruit, the Commission is not aware of any horticultural product in which Australia, acting alone or in concert with suppliers from other countries, has market power which it could exercise internationally. Further, single-desk selling is not the only means of exercising that power were it to exist. Quantity control could also be exerted through export licensing, as is done by the Australian Dried Fruits Board.

Another argument sometimes advanced for single-desk selling is that some countries prefer to deal at government to government level when arranging trade. However, the Commission is unaware of any situation in respect to horticultural products where the lack of a single seller has impeded trade. Further, single-desk selling is not a necessary requirement for a Government enterprise to trade.

Selling produce through a single-desk scheme can involve additional costs arising as a result of a lack of competitive discipline. An added difficulty in coming to such an arrangement in the case of Australia is the geographic dispersion and differing interests within Australian horticultural industries compared with the more concentrated and less diverse nature of, for example, New Zealand's horticultural industries.

The Australian Citrus Growers' Federation commented:

> 'Pure' single desk selling probably wouldn't work for citrus in Australia. For at least some export markets, co-ordinated selling arrangements supported by growers/packers/exporters and backed by necessary/agreed regulation may have a place ... . Product acquisition or trading is not seen as a function of such arrangements. SMAs should not have power to acquire (by compulsion or otherwise) or trade in citrus. (Sub.65, p.18)

The Queensland Government said:

> Industry has not historically supported single desk selling or statutory marketing and favours grower marketing groups to target specific overseas markets. These groups need to further develop product quality and distribution systems. (Sub.91, p.22)

The Queensland Citrus Sectional Group Committee (part of Queensland Fruit and Vegetable Growers) said:

> Such a mode of marketing is clearly inappropriate for the citrus industry in Queensland. The citrus industry, over the past decades, through sheer hard work and perseverance, has forged its way into markets in South East Asia, Canada, Middle East, Japan, Europe and Scandinavia.... (Sub.22, p.1)

The Commission does not see single-desk selling as a panacea for the perceived marketing problems of any Australian horticultural product.

4.3.3 Integrated marketing

Many participants, including the AHC, State Departments of Agriculture, SMAs, co-operatives and some grower organisations, expressed the view that many parts of the Australian horticultural industry have not adjusted to the requirements of the fresh horticulture export trade. It has been suggested that the present organisational structure, with its often long and tenuous links between the grower and the foreign marketplace, is not conducive to the distribution and export of highly perishable commodities. These participants suggested that many growers and exporters often see themselves as competitors rather than allies and that a co-ordinated approach needs to be made for development of exports of horticultural products.

The Western Australian Department of Agriculture commented on the desirability of direct communication between growers and overseas buyers:

> An emerging feature of export horticulture in Western Australia is the development of direct communication between growers or their specialist industry organisations and importers/wholesalers in other countries. They have conducted consumer surveys in Singapore and Hong Kong; exporters in some cases are invited to bid for the right to arrange transport and necessary documentation, rather than relied upon to carry out other marketing functions. (Sub.100, p.13)

Story Horticultural Services said that growers and exporters tend to operate individually, which reduces their ability to benefit from volume sales:

> There are, however, some successful grower/exporter enterprises typified by a reliable production and distribution chain and having a continuing presence in overseas markets. Growers and exporters tend to operate individually which reduces the ability of Australia to offer long lines of product or capitalise on savings due to volume. There are distinct advantages re cost, routing reliability, scheduling sailing and docking times and the provision of an optimum storage/transport environment in bulk shipments. Australia just does not have the volumes, co-ordination or cooperation at this point in time to utilise economies of scale in horticultural export. (Sub.92, p.6)

Some participants suggested that there are shortcomings in the Australian industry structure and the distribution network for exports. These include:

- the distribution chain is too long and often established on an ad hoe basis;
- there is no link between the people responsible for quality and the ultimate price signal from the market place, possibly because of the many intermediaries; and

the responsibility for the maintenance of quality is not sufficiently matched to incentives; this is particularly obvious in forward sales where the overseas importer bears all the risk from the moment the produce leaves Australia.

Professor John Considine (Professor of Horticulture, University of Western Australia) attributed some of the fragmented and individualistic approach to export marketing to Government programs:

> The major impediments to export development are post farm gate; the long and expensive marketing chain, the many levels of agencies (commercial and government), political and economic barriers and fragmentation of marketing effort. Failure of marketing programmes to develop a cohesive policy (in fact the direct promotion by some government agencies of individualistic marketing programmes), ensures that Australian industries will remain at the bottom of the 'price-taker' heap. (Sub.38, p.4)

Dr Chris Yuen, from the Department of Food Science and Technology, University of New South Wales, identified a range of factors which make exporting more complicated than selling on the domestic market:

> There can be greater transportation charges, tariffs and non-tariff barriers, and special documentation requirements. There are greater risks in terms of collection problems and exchange rate fluctuations. Language and business practices and customs may be very different and difficult to comprehend and master. Fruit and vegetable prices and supplies available for foreign trade may fluctuate widely from one season to the next due to weather and other unpredictable, unplanned factors. There is also a great postharvest technological requirement to ensure commodities arrive in export markets in prime condition. (Sub.3, p.4)

Mr David Minnis (of Antico International) said that small size and limited financial resources were restricting growth:

> By international standards, most Australian exporters are small. There are probably only 2 or 3 companies writing more than $20 million in business (fob values). None can buy product and send on consignment. There are insufficient financial resources to do this. In any event, exporters work on low margins (6-8%) and interest rates prevent large borrowings. In essence, all Australian exporters are underfinanced and there is little left over to do the innovative things, to properly promote, and to develop new markets. (Sub.62, p.1)

In determining export marketing arrangements it is necessary to be aware of marketing arrangements in destination countries. Marketing options in many of these countries are similar to those within Australia. For example, in most major importing countries central markets exist in which importers, foreign agents, exporters, domestic agents, merchants and domestic producers operate. Competition is generally unfettered, but licensing may be required and regulations may cover codes of practice which can differ from country to country.

In some countries (eg, Japan) a large proportion of trade is pre-arranged by major trading houses and overseas exporters. Japanese traders and importers guard their reputation and goodwill with their customers; the identity of the importer is generally considered more important than the country of origin. A further consideration within Japan is the importance of product packaging.

Several participants identified the recent shipment of South Australian citrus to the United States as an example of the benefits of co-ordinated marketing. Some of the larger growers, packers and exporters in the Riverland region decided to form the Riversun company to take advantage of the removal of quarantine restrictions on Australian oranges imposed by the United States. (Access to the United States market is at present confined to growers in the Riverland region, as they are the only growers able to meet United States quarantine requirements.) By marketing through the one company, Riversun claimed that it was able to organise charter shipping for $5 a carton compared with $11 a carton using conference shipping, as well as ensuring a consistent quality product. The AHC used its export licensing powers to specify that all export sales be made through the one United States import agent:

> Based on this season's achievement the industry has agreed to maintain the same marketing structure for 1993 and has set a target of 300 000 cartons. By co-ordinating the distribution and export at this end, and utilising one importer in the US, the industry believes that it achieved a premium of $7.00 per carton over having a free market development of the US market. (Sub.13122, p.44)

The Mid-Murray Citrus Growers supported the AHC's use of its export licensing powers to "foster the grouping in a co-operative manner of existing exporters for their mutual benefit". The use of export licensing powers is discussed in Chapters 5 and 6.

4.3.4 Vertical Integration

Co-operatives, vertical integration and contracts were discussed in relation to domestic marketing in Section 3.3 together with some remarks about their application to exports.

The large multinational trading companies are vertically integrated in that they are involved in all stages of production and distribution from growing through to selling in other countries. There is not complete vertical integration through total ownership, but the companies own some of the farms and have contracts with others. Vertical integration has advantages in improving information flows. In terms of increasing company profits, the marketing section of the company has a genuine interest in farm production and the entire distribution and marketing chain and ensures that an appropriate information system exists. Further, the costs of obtaining information are independent of sales so that the ratio of unit costs to turnover will be less for a larger organisation than a smaller one.

Vertical integration is also usually associated with larger size. Some overseas buyers, such as supermarket chains, want to buy in large amounts with supplies arriving at regular intervals. By combining supplies from many growers and from different growing regions it is possible to satisfy large orders which are spread over time. Ibis avoids the problem of the grower who arranges to export his entire crop only to find that the overseas buyer wants the same amount every two weeks.

The Commission was told that some of the largest South Australian apple growers were working together to supply large quantities for export. Some of the largest growers in Western Australia were doing the same for vegetables. The successful onion exports from Tasmania are centred on large firms which have links with growers. Large size can also be attained through grower co-operatives. In California, where co-operatives are used more than in Australia, the exporting entity is often a co-operative of co-operatives.

The large throughput associated with vertical integration can reduce costs through economies of size in off-farm operations, including the use of negotiating powers to lower freight rates or to overcome problems with organising shipping space on charter vessels at short notice (see Section 2.4.2). It also makes it easier to assemble large quantities of produce with uniform size and quality. A large organisation is also in a better position to ensure that perishable horticultural products are handled with care throughout the entire distribution chain so as to guarantee quality and marketability when delivered overseas.

4.4 Export marketing strategies

4.4.1 Market intelligence

Even when it is profitable to export, it is not clear that the information about prices available on export markets and the opportunities available in those markets are being transmitted to growers, or whether growers or potential exporters are seeking such information.

Numerous submissions claimed that inadequate market intelligence has inhibited the growth of the horticultural sector. They referred to lack of knowledge about the special requirements of potential markets and of up to date information about prices, quantities, quality and competing supplies, on both yearly and daily/weekly bases.

Market research is used to determine the potential for expansion into markets, taking account of existing supplies and the possibility of supplying new varieties, different qualities, at different prices or at different times of the year. The All States Group of Companies said, primarily in relation to domestic markets (although the comments have wider application) that:

> Apart from the efforts of the Australian Horticultural Corporation in market research which, naturally, have been limited to a few markets, very little market research has been done. ... The cost of good market research is enormous and individual companies and growers find it too expensive. A body such as the AM is needed to carry out such projects with funding that allows general and specific market research. (Sub.37, p.9)

The South Australian Government commented:

> There is often a lack of awareness by various industries of international marketing developments and opportunities. This is related to market research, information and the effectiveness of various organisations. There have been many missed opportunities with world trade burgeoning but Australia not participating. (Sub.94, p.9)

Industry requests for a government agency to supply market intelligence probably reflect the relatively small size of many producers and exporters. Commenting on this issue the Horticultural Research and Development Corporation (HRDC) said:

> Whether this impediment is more perceived than real, suffice it to note that it is within the charter of the HRDC to financially support generic market research projects. This has been done in the past in conjunction with the AM in respect to the domestic market and recently limited funds were provided to allow a better interface to be established between Australian producers and importers of stone fruit in South East Asia. Providing proposals are well targeted, the HRDC would give favourable consideration to similar applications for financial assistance. (Sub.47, p.12)

Market research for a variety of products in a range of countries is clearly desirable, but it is not costless. A large multinational trading company would undertake its own market research, but small exporters do not have these resources. If smaller units are to participate in market research, it must either be very specific or undertaken co-operatively. This could be achieved by levying an industry for

this purpose, without involving any government expenditure. However, many growers are interested in only domestic markets and would be opposed to funding market research for exports. To the extent that the HRDC participates in market research, the government is providing funds for this purpose (on a dollar for dollar basis) (see Chapter 7). The HRDC effort is directed at identifying opportunities rather than providing details for particular commercial applications.

During its visits the Commission met a number of growers and exporters who were successfully developing and servicing export markets. These exporters have achieved a good knowledge of buyer requirements and market development prospects. However many others believe that there is a lack of knowledge by growers of the product needed for each export market (eg, colour, packaging, pesticide residues, cool storage requirements) and a lack of information on 'niche' opportunities for various segments of the market (eg, specialised packaging for the hotel trade, special times of the year such as the Chinese New Year).

According to some growers, these marketing deficiencies result from a lack of feedback to them from export agents and traders. For most growers, the primary sources of information about prices in overseas markets are their agents. Although some agents provide growers with detailed price, quantity and market information for export orders achieved, it appears that most growers receive little information about product out-turn in export markets or the prices achieved for various grades of product. Where growers are unaware of prices achieved for individual consignments, or why higher or lower prices were obtained, there is little basis for changing on-farm or post-harvest practices to meet market requirements.

Many participants commented that a greater commitment to export will depend on the provision of better market information (such as demand conditions and prices achieved) together with improved efficiency in the marketing chain, and returns which make the increased risk of exporting worthwhile. The United Farmers and Stockowners of SA said:

> For too long, Australia has traded bulk commodities against a minimum standard rather than marketing a product to the end consumer. Horticulturalists, in particular, have tended to grow something and have then tried to find a market for it. (Sub.57, p.20)

Markets for horticultural products within some overseas countries are highly competitive, having agencies from which price information at various locations is readily available. Information particular to a market is generally available from potential importers in those countries or from organisations such as Austrade and Government agencies in those countries. Austrade distributes, on subscription, periodic market intelligence reports about market opportunities and provides details of potential importers. The Australian Horticultural Exporters' Association has recently introduced, on a subscription basis, a price information service for some export markets.

In Singapore, for example, there are ten major traders in horticultural products which share information on prices. Many multinational suppliers have an office located in Singapore to ensure that the needs of customers are continually monitored. Many of these multinationals jealously guard their markets, often selling into them at a loss in order to maintain goodwill. In some other markets (eg, Hong Kong) electronic price information systems exist, with access on a subscription basis.

4.4.2 Export promotion

In recent years the Commonwealth Government has supported the export promotion of Australian horticultural products mainly through the Australian Horticultural Corporation, and in 1992-93 it will also be supported through the Australian Agri-Food Industries program (see Appendix L). Government support is provided through the allocation of public funds to the industry and by the provision of statutory powers for industry levies. (Section 3.5 discusses the rationale for public support of promotion activities.)

The benefits to Australia of export promotion of particular horticultural products depend on two factors: the ability of promotion methods to increase or support demand for the product in consuming countries; and the ability of Australian producers to appropriate a sufficient part of the resulting benefits to cover their promotion costs.

For an overseas promotion to improve the returns to an Australian horticultural industry the Australian product must be distinguishable from that supplied from other sources. A high or consistent quality, together with a reliable supply, may make the produce of a particular country promotable. A perception of having low chemical residues (eg, a 'clean and green' image) may also be promotable.

Within the horticultural sector there is a wide range of opinion about the usefulness of export promotion. This is caused in part by the difficulties associated with measuring the effects of an export promotion campaign (see Appendix K). Even though the majority of promotion funds are spent on domestic promotion, some grower groups favour some funds being allocated to overseas promotion campaigns. For example, the Australian Horticultural Growers' Council supported export promotions that raise the profile of Australian horticultural produce:

> Australia is recognised as a 'clean country', capable of providing fresh produce free of contamination. This image needs to be reinforced and promoted as a positive selling advantage, especially in countries where pollution and chemical contamination is an increasing problem. (Sub.67, p.8)

Mr C Stafford, of the Australian Apple and Pear Growers' Association, doubted the usefulness of export promotion unless it is aimed at promoting new varieties:

> ... as far as export promotion goes, where it falls down is that there's only so much money and there are so many overseas markets that anything we can put into it has to be pretty substantial to make any impression and we don't have that sort of funding available. (Transcript, p.607)

> I have no doubt at all that the growers are becoming much more aware that we do need to promote both at home and abroad these new varieties which probably will give Australia an advantage. (Transcript, p.608)

The Australian Horticultural Exporters' Association doubted the profitability of export promotion:

> Australian citrus in Singapore/Malaysia and Australian pears in Singapore/Malaysia/Hong Kong all make a seasonal impact on these markets, so that some benefit can be expected to occur from well timed promotion of these products in the markets concerned, but in markets where our share is minimal, why spend money in advertising unless we have the production to take care of sales increase or the product to compete price-wise?
>
> We believe the majority of producers would not agree to spending more on general promotion advertising. The Australian percentage share of most overseas markets is so small large scale promotional cost is frequently not justified. (Sub.13, p.5)

The AHC argued that there is a role for both domestic and export promotion:

> The future of horticultural marketing both domestically and particularly internationally requires a sustainable production of quality certified goods, packaged and identified with internationally standardised descriptions and promoted and delivered to the relevant markets at those times which secure the greatest competitive advantage for the Australian crop cycle. (Transcript, p.910)

During 1990-91 the AHC spent 85 per cent of its promotion funds on domestic promotion activities. Some participants suggested that the AHC should be favouring export promotion rather than domestic promotion as this would encourage increased horticultural production rather than the substitution on the domestic market of one horticultural product for another. For example the Horticultural Policy Council commented:

> ... the Council is of the view that the AHC should concentrate its activities on export promotion; the provision of assistance to the horticultural sector to maximise export potential was the impetus for establishing the AHC and should be the principal, over-riding focus of its activities. (Sub.96, p.10)

The Australian Joint Citrus Exporters argued that export promotion funds are best spent by the exporters of the produce:

> This is the only way to ensure promotion is integrated into the actual sales and supply of the produce, and that maximum advantage can be extracted for the provision of this kind of sales support. We believe the concept of a separate party implementing promotional activity for Australian produce overseas independently of the exporters would be contrary to sensible marketing. (Sub.D158, p.2)

A successful promotion of a product in an export market is more likely to be unequivocally in the Australian community's interest than is a successful promotion in a domestic market. This is because the former creates additional sales and income for Australia whereas there is a strong likelihood that

the latter will shift consumption away from other domestic products, and income away from one group of domestic producers to another domestic group. But to be successful, the benefits of any increased sales would have to accrue largely to Australian exporters. In such circumstances a compulsory levy on industry participants would be needed to raise the. necessary funds. Ibis would require all who benefit to share the costs of the promotion and overcome the possibility of inadequate promotion because some individuals would 'free-ride' on others if the promotion were funded on a voluntary basis (see Section 3.5). However, each industry should be responsible for the decision to introduce a levy, and for determining the size of the levy and how the money is spent.

4.4.3 Quality assurance

A theme which has been emphasised throughout this inquiry is the need for producers to establish a reputation as reliable suppliers of a consistent quality product for both the domestic and export markets. The Commission encountered many producers whose success in export markets stems from the establishment of such a reputation. They have customers in foreign markets who they regularly supply with a product readily identified by a distinctive logo or brand name. For example, Mr Pring, of the Australian Horticultural Exporters' Association, spoke of the benefits of supplying a consistently good product:

> Quality is number one. If the market is over-supplied with a perishable product you can always sell a product that has got a good reliable quality reputation. There are too many operators packing for export that have not the proper facilities to do the job properly and to give a good reliable end product. (Transcript, p.1211)

Notwithstanding the export success of many individuals, there appears to be a general consensus within horticulture that a national scheme for standards or quality would be of assistance in overcoming initial barriers to acceptance of new products and exporters. However, there is no agreement on what type of scheme would be appropriate. Three different approaches were suggested. One would describe products according to grades and standards, another would certify that a particular level of quality was achieved, and a third would certify that an agreed quality management process or system had been used.

The establishment of grades and standards for products had some support but there was no consensus on whether this would be a feasible or desirable way to gain acceptance in foreign markets. Some participants strongly opposed this approach on the basis that it would suppress the incentive to use quality as a means of product differentiation, suggesting that instead it would tend to bring standards down to the lowest common denominator.

An alternative approach is to establish an authority which inspects the quality of produce destined for export, with the power to reject product considered to be sub-standard. A limited form of such a system was, until recently, operated by the Australian Quarantine and Inspection Service (AQIS) (see Chapter 7). A major disadvantage of this approach is that it fails to recognise that international markets may exist for produce of all qualities (ie, there may be markets for lower quality products, at lower prices).

An example of the third approach is the Australian Horticulture Quality Certification Scheme (AHQCS) which was developed and implemented by the AHC. The objective of AHQCS is to provide formal recognition of businesses with quality management systems conforming to an internationally accepted standard (ISO 9002) - see Chapter 5. The AHQCS does not mandate specific product quality standards - although an associated product description system is being developed by the AHC - but focuses on assuring buyers of the operation of a credible quality control system which can ensure adherence to contract specifications.

AHQCS is one of a number of similar schemes in use or being introduced in response to the perceived need to provide a better description and greater assurance to buyers about the quality of produce supplied. None of the schemes is compulsory. Each entitles the user to display a logo indicating that it conforms to the particular scheme. The schemes differ in their rigour and cost, with AHQCS being a comprehensive and, according to some, an expensive scheme. It remains to be seen which schemes best satisfy the requirements of overseas markets.

Some participants argued that quality details are best solved through direct negotiation between seller and buyer. For example, the Australian Joint Citrus Exporters said:

> ... the responsibility to meet quality specifications for export sales of horticultural products rests solely between the seller and the buyer. Regardless of the existence or not of an Australian quality assurance mark, if the product does not meet the specifications the buyer will seek redress from the selling party. (Sub.D158, p.2)

Mr Calvert, of the Tasmanian Apple and Pear Growers Association, commented:

> The packing sheds are very quality conscious and there's a close relationship between the exporters and the packing shed. The exporters and the packing shed would be talking every day on the quality requirements of the various markets, eagerly awaiting the out-turn reports of each consignment that goes, each shipment that goes, because we all realise that we have to be better than everybody else. (Transcript, p.1159)

The South Australian Government supported the use of voluntary quality assurance arrangements:

> An inability to reliably and consistently supply the quality of produce demanded by particular markets has been an ongoing concern over a range of crops and markets. The development and implementation of Quality Assurance Schemes will help to address this problem. (Sub.94, p.7)

The Queensland Fruit and Vegetable Growers said:

> The adoption of quality programs is seen by QVFG as a means of supporting the marketing focus of a fruit or vegetable enterprise. Schemes such as the AHQCS available on fee-for-service basis allow growers/groups to implement quality assurance for satisfying the requirements of overseas markets. (Sub.D130, p.5)

The Commission sees benefit in the adoption of systems such as AHQCS which conform to internationally recognised standards.

Previous Industries Assistance Commission and Industry Commission reports have recognised the need for quality controls where they are required by governments of importing countries, but have questioned whether the Commonwealth should impose uniform minimum quality standards for exports. The Commission has generally argued that individual exporters are better able to judge market requirements and that responsibility for quality must rest with industry. It follows that participation in any quality assurance scheme should be voluntary. While it is often argued that Australia's reputation for quality could be damaged by the delivery of poor quality produce, overseas buyers would soon discover that risks were minimised by dealing with exporters who used quality assurance procedures.

4.5 Commonwealth Government involvement

The Commonwealth Government intervenes in several ways to encourage and facilitate exports, including horticultural exports. Many of the activities of the AI-IC, a Commonwealth horticultural statutory authority, are directed at export marketing. The Government also operates various programs designed to encourage exports generally (for example, by means of concessional loans and by grants for promotion and establishing new markets) and many of these are available to horticulture. The export responsibilities of AQIS are primarily to satisfy the requirements of overseas governments rather than to actively pursue exports.

4.5.1 Australian Quarantine and Inspection Service

AQIS is concerned with phytosanitary (plant diseases and infestations), public health and trade description issues relating to exports and imports (see Section 3.7.1), together with any specific requirements of overseas government authorities. Its expertise is also used in negotiations directed at obtaining access to markets which are currently unavailable because of quarantine restrictions. AQIS has operated under a policy of full cost recovery for user attributable services since August 1990, but has not yet achieved this target. AQIS is responsible for inspections required by other governments (including human health and plant health issues) but all other matters, including quality, are left to industry. In addition, while AQIS has ultimate responsibility for approving the human health and plant health of exports, the inspection process can be performed by others who are in turn approved by AQIS. A full discussion of the activities and recent changes to AQIS is given in Chapter 7.

4.5.2 Export assistance

Numerous Commonwealth Government programs are designed to encourage exports and improve the international competitiveness of industries. Horticulture is eligible under many of these programs, some of which apply to exports in general and some only to agriculture. In addition to direct export incentives, several marketing and business training programs emphasise export activity. The Government has also recently announced a separate series of measures to assist food exports. Programs which have relevance to horticulture are summarised in Table 4.2. The programs mentioned most by participants were the Export Market Development Grants scheme (EMDG), Marketing Skills Program (MSP) and Innovative Agricultural Marketing Program (IAMP). Further details are presented in Appendix I, Section L4.

Table 4.2: **Export assistance programs of relevance to horticulture** [a]

Program	*Manager*	*Description*	*Annual payment to horticulture* [b]
			$ million
EFIC	DFAT	Concessional loans	na
Austrade	DFAT	Market intelligence	na
ENIDG	Austrade	Grants for promotion and market development	6.9
MSP	DPIE	Training in marketing skills	0.5
LAMP	Austrade/ DPIE	Loans for research and innovation, repayable when successful	1.5
RIBES	DPIE	Access to professional services	0.3
Food export measures	DITAC/ DPIE	Encourage efficiency, co-operation, interest	1.0

na not available.

a All the schemes extend beyond horticulture, and some beyond agriculture.

b Estimates and averages for various recent years and ranges of years (see Appendix L, Section L4.2).

Export Finance Insurance Corporation

EFIC, Australia's official export credit agency, provides finance and insurance services to exporters, often at lower rates of interest than they would pay commercially (eg, insurance cover for exporting to markets which, due to various commercial, economic or political factors, are high risk). No comment was received about EFIC during the inquiry and EFIC could provide no estimate of the extent of assistance it provides to horticulture.

Austrade (Australian Trade Commission)

Austrade provides assistance through trade displays and missions, market intelligence, co-ordination of project opportunities and the provision of feasibility plans. Austrade activity in horticulture was upgraded in 1986, following development of an export strategy for horticulture, but downgraded in 1991 as part of a re-organisation and following the establishment of the AHC to assist the horticultural industries to achieve their potential in overseas markets.

Export Market Development Grants scheme

Under the EMDG scheme, which provides the largest amount of Government budget assistance to horticultural exports, taxable cash grants are paid on the basis of eligible expenditure on export promotion and market development. EMDG grants to all industries totalled $162 million in 1989-90, of which horticulture accounted for $6.9 million. In addition, annual assistance of up to $250 000 is available to statutory marketing authorities, without any limit on the number of years in which such assistance can be received (see IC 1992a, pp.25,26).

Criticism of the EMDG scheme was directed at the expenditure threshold of $30 000 which discriminates against small growers, and the way in which the assistance enables new exporters to undercut existing exporters, thus disrupting markets which have already been developed. The Australian Horticultural Exporters' Association suggested that the EMDG scheme either be revamped so that it is available to all exporters or be totally withdrawn (Sub. 13, p. 10).

Participants also criticised the phasing out of benefits to exporters over eight years. They said that, rather than opening up new markets for horticulture, the EMDG scheme was disrupting those markets which had been developed. This was said to occur where new exporters who, by receiving EMDG assistance, were able to undercut established Australian exporters. Requests were made that the eight year limit be removed. The Australian Horticultural Exporters' Association suggested that the EMDG scheme be either revamped so that it is available to all exporters or be totally withdrawn (Sub.13, p. 10). In the 1992 Budget, the eight year limit was extended to 11 years where firms were seeking to enter new markets, and additional funding was provided.

The Tasmanian Government said that the EMDG scheme discriminates against small growers (Sub.79, p.13). The Canned Fruits Industry Council made a similar claim. The Tasmanian Government cited as excessive the minimum amount of $30 000 that has to be spent on promotion in order to qualify for assistance and pointed out that the operation of the formula for the Scheme results in the grant for a $60 000 promotion program being three times as much as the grant for a $30 000 promotion program.

While certain provisions of the EMDG Scheme were criticised, there was also some in principle support for it. Australian Joint Citrus Exporters Pty Ltd said:

> Whatever faults we may see in them, assistance schemes such as the Austrade EMDG system are in our view the most equitable forms of government assistance in that they provide assistance based on evidence of commitments made and results achieved by members of an industry themselves (Sub.88, p-8).

Marketing Skills Program

The MSP funds programs by tertiary education institutions and consultants for company representatives, growers and students to develop skills in export marketing. Funding of $5 million was provided over four years to 1991-92. The 1992 Budget approved funding of $6.2 million over the next four years.

Horticulture has been a major beneficiary of the scheme, receiving 40 per cent of funds so far. The emphasis within horticulture has been on "developing quality assurance schemes and organisational structures to bring growers together into export groups to facilitate continuity of supply and sufficient financial resources to undertake promotional activities" (Department of Primary Industries and Energy background paper on MSP).

The Horticultural Policy Council criticised the scheme on the grounds that it does not take account of similar activities carried out by the AHC:

> The HPC is concerned that MSP has been run without there being any clearly identifiable benefits in international markets. HPC has recently advised the MSP review panel and DPIE, as well as Minister Crean, that in order for there to be a greater co-ordination of horticultural export efforts, the AHC and exporters should have a role in the MSP planning process. (Sub.D132, p.5)

The Australian Horticultural Corporation believes that the benefits from the MSP are small:

> The concept of MSP funds being distributed to tertiary institutions to establish 'centres of excellence' and teach small-holding horticultural producers how to market internationally is fundamentally flawed. While this may be an administratively 'neat' method of distributing the funds allocated to horticulture, the effectiveness of such adult education is quite limited. In the extensive liaison by the AHCwith the various horticultural sectors ... it could detect little material flow-on of the MSP scheme into practical export marketing initiatives. (Sub.122, p.27)

Innovative Agricultural Marketing Program

IAMP aims to increase export sales of rural-based products, particularly in processed or manufactured forms, by encouraging innovative developments. The IAMP provides 50 per cent of project costs up to a total limit of $900 000 over a 3 year period. The program has a total annual budget of $5 million, although $750 000 of this is being diverted to the Australian Agri-Food Industries Measure in 1992-93 and 1993-94.

Approximately one third of total IAMP funds have gone to horticulture, with the largest amounts going to fruit, flowers and nursery products.

The program has operated in two stages. Approximately $20 million was allocated to the program during its first stage; July 1986 to December 1991. In 1989, a royalty system was incorporated into the program which required participants to refund a negotiated proportion of the assistance if projects achieved sales success. The level of repayment can vary between one and five per cent of sales turnover for a maximum of five years. As at 12 February 1993, the program had recovered $112 000 in royalty payments from participants.

The reaction of participants to the IAMP was mixed. The Department of Foreign Affairs and Trade stated that the IAMP could be of particular use to horticultural exporters (Sub.71) and Queensland Fruit and Vegetable Growers said that such schemes have the potential to kick start export activity (Sub.48, p.16). Presqualm Pty Ltd said that under the IAMP money has been wasted on some activities with no future (Sub.10, p.3) and Antico International said that more information should be made available on the projects which are funded, particularly as this may help others in the industry concerned (Transcript, p.306). The Tasmanian Government said it is not convinced that schemes such as the IAMP are as effective as they could be and considered that smaller potential exporters are discriminated against. The Tasmanian Government also said that the schemes have a relatively low level of funding, which further limits their effectiveness (Sub.D127, p.4).

Rural Industry Business Extension Service

RIBES, which commenced in 1992-93, aims to advance the international competitiveness of agriculture and related industries by improving their access to professional business and marketing support services, particularly for businesses and industry groups which have an export or value-adding orientation. The scheme funds up to 50 per cent of the cost of facilitators and experts for the development, improvement or differentiation of products.

Food Export Measures

A joint statement on Australian Agri-Food Industries released on 19 July 1992 announced a range of measures to increase exports of fresh and processed foods, particularly to Asia (Button and Crean 1992). The Government is to spend $12.7 million over four years to encourage greater efficiencies in food production, more co-operation between food producers, processors and marketers, and greater interest in international markets.

Box 4.1: **Export assistance provided to the Australian mango industry**

Marketers and exporters in the horticultural sector have the potential to obtain Commonwealth Government assistance from a number of export assistance schemes (see Appendix L). The mango industry provides an example. One program which has been used by the mango industry is the Marketing Skills Program. Funding of $202 000 was allocated to Australian International Business Centre (AIBC) (an organisation within Queensland University) and the Australian Mango Exporters Limited (AME). AIBC said the main objective of the marketing skills program was to "each agricultural producers the best management practices found in successful businesses around the world."

Funds obtained through the marketing skills program were used to set up the commercial entity and board structure of the AME and to develop an export logo and brand name. A quality assurance scheme for those participating in AME was also implemented.

The establishment of AME has drawn criticism from other mango exporters. Presqualm Pty Ltd described the MSP work with mangoes as "an absolute waste of money' and criticised it for undermining established exporters (Sub.10). The Australian Horticultural Exporters' Association criticised the MSP work as resulting in "exporters' prices undercut in traditional markets over two seasons. New buyers were not found and new markets were not opened by the growers with their MSP hand-out. Exporters lost the business at taxpayers expense" (Sub.13). Mr Lovett, of the Australian Horticultural Exporters' Association, said:

> ... where David Minnis's company in Sydney and my company in Melbourne developed the Middle-East about 15 years ago and during that time we definitely got access to EMDG which helped us develop that market. But now that it has been developed other people are coming in and using the different schemes to take it away from us. (Transcript, p.383)

The Queensland Fruit and Vegetable Growers were impressed with the results that AME achieved through the program: 1he AME model of grower co-operation and quality assurance development is now one that other fruit and vegetable industries are examining to see if they can produce such results" (Sub.13130, p.8).

On 1 January 1991, AME obtained additional funding of $294 000 through the Innovative Agricultural Marketing Program. AME has used the majority of these funds to develop further its quality assurance program as well as to cover some of the operating costs incurred in establishing overseas markets.

The Commission has been unable to ascertain the full extent of export assistance to the mango industry (eg, EMDG) due to a lack of published information on the allocation and level of assistance provided.

Overall assessment of export assistance programs

Seven export incentive programs have been described. Although they are related in their objective of increasing export performance, the Commission is unaware of any overall co-ordination within horticulture. Some firms are almost certainly receiving assistance from several programs (see Box 4.1). The incidence of the assistance is not uniform within each industry or across industries, but varies widely from firm to firm.

The Sumich Group Ltd said that:

> The dollars directed to horticulture by government are more than sufficient but are not directed at the overall co-ordinated development of industries. One would have to question the activities of some State Governments and schemes like ENDG, MSP and IAMP. (Sub.95, p.2)

Similarly, the AHC said that funds currently allocated through the various export development schemes, including the EMDG, would be better handled through a single, central agency:

> There is a need for greater co-ordination of policy interest and practical application of these schemes. The AHC is strongly of the view that there is little point in simply disbursing funds into export market 'developments' without there being effective co-ordination/liasion within each horticultural industry sector, at a national level, on overall marketing strategy, country-by-country. (Sub.D122, p.32)

The IAC and the IC have expressed reservations about export assistance programs. In 1989, for example, the Commission was critical of the selective nature of the EMDG, and of the bias it can cause in the investment decisions of exporting firms. Export market development activity can be favoured over other investments which, in the absence of export incentives, would be more profitable (IAC 1989a, p. 14). The evidence received in this inquiry supports the conclusions made by the IAC in 1989; recent changes to the EMDG, such as the extension of assistance from eight to eleven years, have not altered the fundamental effects of the program.

Similar problems could be caused by each of the seven export assistance programs available to horticulture. For example, the programs may principally alter the market shares held by Australian exporters rather than increase the total level of exports, while at the same time creating a subsidy-dependent culture within the industry. However, the analysis of the effects of each program is impeded by their multiplicity and the lack of public information about the nature, extent and frequency of support provided.

The Commission recommends that the Horticultural Policy Council establish an information base about all export assistance provided to horticulture. The information should include the amount of assistance provided to particular industries, the nature of firms receiving assistance from each program over the past five years, and activities covered by the assistance.

The establishment of a public record on the allocation of assistance is an important first step to improving the co-ordination of export assistance programs and will reduce the risk of comparatively small sections of Australian industry obtaining relatively high effective rates of assistance. In addition, any adequate review of these programs cannot be undertaken in the absence of such information.

4.5.3 The Australian Horticultural Corporation

Statutory marketing arrangements applying to horticultural exports are exercised through the AHC whose principal statutory objective is to assist Australian horticultural industries to achieve their full potential in overseas markets. Participation in the AHC is decided by each industry on a national basis. Industries presently participating in the AHC are the pome fruits, citrus, nashi, nursery, macadamia, avocado, chestnut and honey industries. Also under the umbrella of the AHC is the Australian Dried Fruits Board (ADFB) - an autonomous Product Board with responsibility for exported dried vine fruits. Export related activities undertaken by the AHC on behalf of participating industries include export promotions, export licensing, market intelligence and co-ordination of the negotiation of shipping freight rates. A comprehensive examination of the AHC is provided in Chapters 5 and 6.

4.5.4 Dried vine fruits

A number of statutory marketing arrangements affect exports of dried vine fruits. For example, until October 1992 the Australian Dried Fruits Association had an exemption from the Trade Practices Act which allowed it to conduct a scheme of voluntary domestic-export price averaging. The effects of the discontinuation of the exemption are uncertain (see Section 1.4).

The ADFB exercises export licences which allows it to set minimum prices, terms and conditions of sale, and the maximum quantity to be sold by each exporter to each country. It also specifies which overseas agents are to be used, and in many cases those agents are subsidiaries of Australian agents.

The ADFB operates a statutory equalisation mechanism for export returns. Under this scheme the sales returns of each exporter for all export markets are equalised for each variety. Hence, if an exporter supplies to a lower priced market, for example China, where returns are reportedly lower regardless of the quality of fruit, the growers connected to this exporter are not disadvantaged relative to growers connected to another exporter who may sell to a higher priced market such as the United States.

This scheme clearly has distortionary effects. Because equalised returns do not reflect the quality of the fruits sold in the different markets, there is no incentive to produce and supply fruit of a higher standard. Similarly, the scheme discourages entrepreneurial exporters from seeking higher return export markets. If there were an incentive to pursue higher return markets and produce higher quality fruit, total returns from exports may be increased.

The ADFB believes that dried vine fruits should have been excluded from the Commission's considerations on the basis of paragraph 5 of the terms of reference which refers to avoiding duplication of recent substantive references. The IAC reported on the industry directly in 1989 (IAC 1989b) and there were changes to legislation effective 1 July 1991. However, the Commission finds that assistance to the industry continues to be very high.

4.6 Interventions of overseas governments

Just as the Australian Government intervenes to assist its horticultural industries in world trade, so do governments in other countries intervene to assist their industries. Support by overseas governments for their horticultural industries can be considered in two general forms; subsidies and facilitation of production and exports, and impediments to imports.

The information on overseas government interventions presented in this chapter and in Appendix M is the best the Commission could compile given its time and resource constraints. The information was obtained primarily from Austrade, but was supplemented by information from other sources.

4.6.1 Arrangements which facilitate exports

Some of the mechanisms used by other countries assist exports in general, while others are targeted at assisting particular export activities. Direct assistance may be provided by export grants or incentive programs anywhere along the production and distribution chain. Direct assistance to non-export activities (eg, growing) may, in effect, be used by exporters to subsidise their activities. Indirect assistance includes promotion, tax relief and the provision of general market intelligence.

Export sales can be subsidised by domestic sales through price pooling arrangements which average export and (higher) domestic returns, as is the case in Australia for dried vine fruits. These arrangements depend on domestic prices being enhanced as a result of protection in the home market. However, such arrangements are vulnerable to antidumping actions in export markets which also have local production.

Details are provided in Appendix M of programs available to exporters in selected countries with which Australian exporters of horticultural products compete. Governments support export industries in many countries by providing tax relief and assistance for export promotion. On the other hand the Argentine and Turkish Governments impose taxes on some horticultural exports.

Some countries (eg, Chile) use exchange rate controls to assist export industries. In the European Community and the United States, there are complex assistance arrangements for agricultural industries, including horticulture, some of which enhance their ability to export.

Inquiry participants provided little in the way of information on the nature and size of overseas subsidies, though many stressed the importance of the issue. The South Australian Government said:

> It is well known that many overseas horticultural producers receive subsidies of one form or another, either directly to them in the form of a production subsidy or indirectly through subsidies to exporters. The main reason subsidies are offered relates to the political pressure that can be brought to bear on a Government by a particular lobby. (Sub.94, p.2)

The arrangements adopted in other countries to assist their exporters of horticultural products have principally been put in place to achieve domestic goals such as industry support, disposal of domestic surpluses and for generating hard currency earnings. The implementation of these programs has not been without costs.

The NSW Farmers' Association said that:

> Australian Horticulture is the major loser from the various international trade restrictions and protection policies which are put in place by foreign governments. There is hope that there may be a change in these policies as a result of the current Uruguay Round of discussions of GATT. Such change however should not be anticipated by Australia but monitored, and trade policy structured accordingly. (Sub.106, p. 52)

The Sumich Group gave the example of the goods and service tax (GST) used by the New Zealand Government as a factor which assists New Zealand producers to compete against Australian exporters:

> There is no doubt that Australian horticulture is at a disadvantage compared with those countries whose Governments recognise that to genuinely encourage exports they should exempt them from the imposts of internal taxes. Like other countries, New Zealand has done this through a GST regime. It is significant to note that GATT recognises that exports may be free of Government taxes and accepts zero rating of GST for exports. (Sub.151, p.3)

The AHC also highlighted the tax system as an impediment to the growth of horticultural exports:

> The current indirect taxation system is a definite disadvantage to Australian horticultural producers in their attempts to develop export markets. In particular, the New Zealand horticultural industry obtains the benefits of a GST system which ensures that it does not incur indirect taxes on its exports which are in direct competition with Australian product in third markets. The New Zealand industry is also in direct competition with many sectors of the Australian industry, in the Australian market, yet the Australian industry is burdened with various wholesale and excise taxes. (Sub.D122, p.43)

The argument is that rather than Australia's exporters being disadvantaged by overseas interventions, they are disadvantaged by Australia not having taxation arrangements similar to most other countries - that is, a value-added tax on domestic consumption. However, the differences in taxation arrangements

lie not only with taxation exemptions for exports, but with the whole structure of the taxation system including: whether exemptions are made for domestic sales; changes to other taxes which may affect horticulture; and the effect of the tax on other activities which use similar resources to horticulture.

Export assistance by other countries can depress prices on world markets and disadvantage Australian growers. However, Australia exports insufficient quantities of most products to affect world prices, and must therefore operate with the prices currently available and adapt to these prices. Australia should continue to be vigorous in attempting to dismantle subsidies in international trade. Australia has been pursuing these goals through the present Uruguay negotiating round of the General Agreement on Tariffs and Trade (GATT).

4.6.2 Arrangements which impede trade

A number of countries which are existing or potential export markets for Australian horticultural products have mechanisms which restrict, limit or prevent imports from Australia and other countries. These restrictions are imposed for a number of reasons, including protection of domestic industries, preferential treatment to trading partners, prevention of the entry of pests and diseases, consumer protection and conservation of foreign exchange.

These restrictions take various forms. They include: barrier protection in the form of tariffs (some of which change over time), dumping and countervailing duties, quotas, import licensing, import prohibition, and regulatory constraints in the form of phytosanitary regulations and marketing/packaging/labelling regulations. These measures are not uniform across horticultural products. Australia has some similar restrictions (see Section 3.7) but no import licensing or quotas.

Tariffs

Tariff barriers vary considerably from country to country (see Appendix M). Tariffs advantage domestic producers by increasing the cost of importing products. Further, imports from developing countries often benefit from preferential tariff rates which give them an advantage over imports from other sources.

Tariffs applying to horticultural imports are high in some countries, particularly those wishing to preserve their markets for domestic producers. In the Philippines, Korea, Thailand, Malaysia and Taiwan, tariffs for some products are as high as 50 per cent. In the European Community, tariffs range up to 26 per cent and in the United States up to 35 per cent. No tariffs apply to imports of horticultural products into Singapore or Hong Kong. Australia has tariff-free access to New Zealand.

Anti-dumping and countervailing duties

In a number of instances, anti-dumping and countervailing duties are applied under GATT principles. If imported goods are sold on the importing country's market below their 'normal value' in the country of export, they can be assessed as being dumped. If dumping is found to cause or threaten 'material injury', anti-dumping action may be taken. During 1992, exports of macadamia nuts from Australia to the United States were examined by United States authorities following complaints by United States producers that they had been dumped. The United States investigation was terminated in November 1992 on the basis of inconclusive evidence to justify further action.

The GATT Code sets out the criteria which must be met before anti-dumping action can be taken. However, there is nothing in the Code which requires that action be taken. Almost all major producing and exporting countries export at prices which are less than domestic prices. In many cases there is no intervention by government which reduces export prices; however, domestic prices are sometimes supported by import barriers (eg, tariffs, quotas, quarantine restrictions). Where exporting takes place at prices which are related to marginal costs, while domestic sales are made at prices related to average costs, in a technical sense the traded products are being sold at 'dumped' prices. Much world trade in horticultural products falls into this category.

Quarantine regulations

Most countries impose quarantine regulations to protect local industries from the introduction of pests and diseases. In most cases, they adopt a 'no risk' policy. In seeking to export, Australia, along with other countries, faces these quarantine barriers. Australia is host to a number of pests and diseases and, although some South East Asian nations do not impose phytosanitary certification requirements upon Australian horticulture, quarantine barriers have been identified as a major impediment to improved export performance.

In the case of Japan and the United States, many participants claimed that progress in negotiations to further the expansion of horticultural exports has been slow. Concern in those countries about disinfestation treatment could lead to further restraints on Australian horticultural products. For example, quarantine regulations remain an obstacle to increased exports to Japan, with codling moth and fruit fly being the main fear of the Japanese. AQIS identified a lack of data on the results of disinfestation treatments as a factor impeding access negotiations with the Japanese authorities.

Because Australia is large, a particular pest or disease may not be present in all producing regions. However, restrictions are often applied to all Australian produce even though some regions may be free of the pest or disease. The impact of these factors varies between growers, exporters and products. Newer products tend to face greater problems than more established ones.

Although Japan has endorsed GATT negotiations on the harmonisation of phytosanitary measures based on scientifically justifiable risk assessment principles and guidelines, its requirements are more consistent with a 'no risk' approach to quarantine. Negotiations with Japan continue and there has been some success in that Tasmania has been recognised as an area free of fruit flies, enabling exports of berry fruits and cucurbits (includes pumpkin and squash) from there to be made to Japan. In 1992, agreement was reached on the export of Australian lemons, washington navel oranges and valencia oranges to Japan. Australia is permitted to supply immature bananas, pineapples and vegetables that do not contain seeds as these products are not considered to be fruit fly hosts.

Many participants were of the view that quarantine regulations are used as indefensible non-tariff barriers and suggested that greater effort should be placed on having some of these regulations relaxed. Some participants claimed that too much emphasis has been placed on general trade negotiations and suggested that bilateral trade negotiations would be preferable.

The indirect costs imposed on horticultural exporters of ensuring that products comply with protocol agreements are substantially larger than the direct inspection costs. One area for reducing the cost of compliance may be where produce is re-inspected in the receiving country. It appears that there is scope for negotiations between governments aimed at rationalising the double inspection process. However, there are obstacles created by international agreements which allow for such double inspections and problems where a product's phytosanitary status can change during transit. Nevertheless, AQIS is pursuing the adoption of measures, such as preclearance programs, to remove the burden of inspection in the importing country where it may not be warranted and hinder trade.

Restricted access to markets clearly impedes growth in horticultural exports. Gaining access to overseas markets is subject to agreement on the plant health, pest and disease protocols of the country of importation. Where restrictions on access appear to provide assistance rather than quarantine protection, the Australian Government is seeking to address such restrictions through GATT negotiations.

4.6.3 Summary of overseas government support

Table 4.3 is an attempt to summarise the major forms of government support to horticulture in selected countries. The assessments in individual cases as to whether support is significant are necessarily subjective. They are also based on incomplete information. Other countries might judge that Australia impedes imports of some horticultural products by means of anti-dumping actions and prevents imports of others by quarantine restrictions; however, its import duties for most products are low.

The support measures outlined in the first five columns refer to import restrictions which often vary from product to product. The entries are thus subjective generalisations assessed over many products. The entries in the remaining columns relate to support for producers and exporters. These, for the most part, apply equally to all products.

The entries in Table 4.3 relate to those support measures which the Commission has been able to identify and considers to be significant; they may not be complete, and it can be a matter of opinion as to what is significant. The entries do not have equal weighting, nor does the number of entries for a country indicate its overall level of support or protection. For example, Japan has only one entry but is generally considered to be strongly protective.

Table 4.3: **Indications of major forms of overseas government support to horticulture**

	Impediments to imports					Export facilitation				
	High Tariff	Anti-Dumping Action	Import Quotas	Quarantine/ Access Difficulties	Currency Controls	Export Subsidies or Rebates	Tax Rebates/ Exemptions	Subsidised Credit	Price Stabilisation or Support	Production Subsidy
Argentina	X					X	X			
Brazil	X						X	X		
Canada				X					X	
Chile						X	X			
EC	X	X				X			X	X
Hong Kong										
India	X				X					
Indonesia	X			X						
Japan				X						
Malaysia	X						X	X		
New Zealand					X					
Phillippines	X			X						
Rep of Korea	X			X						
Sth Africa			X					X	X	
Singapore										
Taiwan	X		X	X						
Thailand	X						X	X		
Turkey						X	X	X		
USA		X		X		X				

Note: Argentina and Turkey also tax some horticultural exports.
Source: Austrade and submissions.

4.7 Summary

- Australia's small share in most export markets, except perhaps dried vine fruit, means that it is a 'price taker' for horticultural products, and any expansion of Australian exports to these markets is unlikely to have any impact on world prices in the long term.

- Many participants expressed the view that there is insufficient feedback to Australian growers about prices, quantities sold and buyer requirements in other countries.

- Many participants expressed views that co-ordinated and co-operative approaches to exports would be preferable to the current fragmented methods. More integrated marketing has been achieved in some cases through co-operatives and vertical integration.

- Although Australia's horticultural exporters are small relative to some world trading organisations, the Commission has not identified any institutional or regulatory impediments which limit the flexibility of size or integration of business organisations in Australian horticulture. Some exporting operations have recognised that large size may have advantages in gaining market intelligence, providing quality assurance, negotiating freight rates, supplying produce in quantities demanded by overseas buyers, and ensuring that product is adequately cared for throughout the distribution process.

- Single-desk exporting is inappropriate for most Australian horticultural exports because of the geographic dispersion of perishable production and the lack of demonstrable market power.

- The Commission sees benefits in the adoption of voluntary quality assurance schemes such as AHQCS which conform to internationally recognised standards.

- Once quality assurance is developed the case for export licensing is diminished.

- Industry should pay for the costs of market research, promotion and information. The involvement of government should be minimal although it may have a short term role in the commencement of programs (eg, quality assurance). Such assistance should be industry wide, rather than directed at selected firms.

- Governments in other countries support their horticultural industries to varying degrees by impeding imports (eg, 'quarantine' restrictions, tariffs, anti-dumping actions) and assisting exports (eg, export and production subsidies, taxation concessions, promotional assistance, concessional loans). Australia should continue its efforts to dismantle all forms of assistance in international trade.

5 THE ACE: STRUCTURE, OPERATIONS AND EFFECTIVENESS IN INCREASING INTERNATIONAL COMPETITIVENESS

Although small in dollar terms, the AHC has been an important Government initiative in horticulture, reflecting perceptions about the need to improve horticultural marketing and expand exporting. This chapter outlines the structure and operations of the AHC as instituted and perceived by Parliament, and as interpreted and applied by the AHC in conjunction with participating industries. The chapter also reproduces the Commission's findings in its report of 30 June 1992 on the effectiveness of the AHC in increasing international competitiveness.

The Australian Horticultural Corporation (AHC) is a Commonwealth Government statutory authority responsible to the Minister for Primary Industries and Energy. It was established in August 1988 under the *Australian Horticultural Act 1987*. The principal statutory objective of the Corporation is to assist Australian horticultural industries to achieve their full potential in overseas markets. Assisting the development of Australian horticultural industries is an important secondary objective.

The AHC was established as part of a package of measures Introduced primarily to enhance the capacity of the horticultural industries to expand exports" (Jones 1987, p.318). The other components of the package were the establishment of the Horticultural Research and Development Corporation (HRDC) and the Horticultural Policy Council (HPC) (see Chapter 7).

The organisations were established in response to perceptions about the sector's potential (see Chapter 3 in Part A), and the ability of existing structures to exploit them:

> While the horticultural sector has achieved significant increases in exports in recent years, opportunities exist for further substantial increases. For the sector's full export potential to be realised, however, there needs to be a more co-ordinated and sustained activity both in horticultural products marketing and research. (Jones 1987, p.318)

In accordance with the fourth paragraph in the terms of reference, the Commission reported on 30 June 1992 on the effectiveness of the AHC in increasing international competitiveness (IC 1992a). This chapter summarises the Commission's presentation and findings made in that report. Readers already familiar with this material may wish to proceed directly to Chapter 6 which evaluates the AHC arrangements in a broader context and presents the Commission's proposals for reform.

5.1 Structure and operations

5.1.1 Functions

The AHC's functions under the Act are directed at fostering improvements for Australian horticulture in:

- exports;
- domestic sales;
- efficiency and competitiveness;
- quality;
- production (growing, harvesting and processing); and
- interstate marketing.

5.1.2 Powers

The Act gives the AHC powers in relation to negotiating freight and insurance contracts, and obtaining and disseminating information, as well as general corporate powers. 'me AHC is permitted to charge for services.

Regulations can be made which would empower the AHC to control or prohibit exports. Conditions may be applied to particular products or destinations, including licensing and conditions pertaining to price, quality or characteristics, presentation, documentation, exporters' fees and commissions, and freight. Specific export trading powers exercisable with the permission of the Minister - permit the AHC itself to trade in produce for export.

5.1.3 Participation

The Act defines horticultural products to be: fruits, vegetables, nuts, nursery products, and cut flowers and foliage; plus or minus those prescribed by regulations. This makes the AHC's coverage quite open ended, allowing it to incorporate, for example, honey.

The AHC Act and related levy Acts make no explicit reference to industries 'joining' the AHC, or being 'members'. The Acts refer only to the Governor-General making regulations allowing levies to be collected with respect to particular products (in effect, those of the member industries) and naming industry bodies to be consulted on those levies (in effect, the recognised peak bodies). But the terms are in common use to describe industries which participate by paying a levy.

The AHC on its formation became responsible for the activities of the Australian Apple and Pear Corporation. The citrus industry also participated from the commencement of the AHC. The nashi and nursery industries joined in 1989-90; the dried vine fruits industry in 1991 (with a special, more

autonomous, arrangement); the chestnut, macadamia and avocado industries in 1992; and the honey industry on 1 January 1993. The canned fruits industry, which declined to join the AHC, had its statutory marketing arrangements terminated.

The dried vine fruits industry participates in the AHC as a Product Board - the Australian Dried Fruits Board - which is constituted as a separate corporation. The Product Board institution was created to give greater autonomy, under the oversight of the AHC, than is generally enjoyed by participating industries. The Australian Dried Fruits Board continues a range of export controls previously exercised by the Australian Dried Fruits Corporation (see Section 5.2). It receives levy money directly, rather than having it paid to the AHC on its behalf.

The honey industry participates under an informal structure known as a Product Desk. The Honey Industry Desk is an integrated part of the AHC, funded by the industry's levies. It continues many of the functions of the previous Australian Honey Board. AHC general management conducts external communications on behalf of the industry.

The AHC has had discussions with a number of other industries in relation to possible participation. These include kiwifruit, cut flowers, tablegrapes, stonefruit and potatoes. Discussions are also being held with the Australian Horticultural Exporters Association, in relation to horticultural exporting participating as an industry in its own right. No vegetable industries participate at present.

The AHC Board consists of a Chairperson, a Department of Primary Industries and Energy representative, Managing Director, and six other members. With the exception of the Managing Director who is appointed by the AHC, members are appointed by the Minister on the nomination of the AHC Selection Committee. The Selection Committee itself is appointed by the Minister after calling for nominations from participating industry bodies. Nominations to the AHC Board must have experience in the horticultural industry, business management, finance, marketing, or product promotion, and knowledge of public administration. Members of the executives of participating industry bodies are not permitted to be members of the AHC Board.

5.1.4 The joining process

When considering industries for membership, the AHC takes into account factors such as:

- likely support and commitment to marketing programs through the AHC
- structure and development of the industry and whether the AHC can effectively contribute to that industry;
- industry organisational structure, particularly the existence of a national peak body; and

- export contribution or potential.

A requirement of participation is that the relevant industry undertakes the development of a strategic plan. The costs of this are met by the AHC on the understanding that they will be recouped from levies should the industry subsequently join. The strategic planning process is used to identify the benefits of participation in the AHC. If the industry subsequently decides to join, the strategic plan would provide the basis for determining industry priorities.

The amount of funds an industry contributes to the AHC is a decision for the industry concerned. In 1990-91,[1] industry levies ranged from the equivalent of 0.13 to 1.21 per cent of the gross value of production for the participating industries. The AHC would prefer to see a minimum contribution equal to 1 per cent of gross value of production for each industry (Sub.24, pp.34-5).

At the industry level, participation in the AHC is voluntary, but there is no other Commonwealth mechanism for a horticultural industry to have a compulsory statutory levy collected to finance activities (other than research and development). An individual industry is unable to raise a compulsory national levy and spend it in its own right - it must have the AHC spend it on its behalf.

A decision to join the AHC is effected by the signing of a Memorandum of Understanding. This document provides the basis for the business relationship between the industry and the AHC, including the responsibilities of the two parties and the financial arrangements to be observed.

5.1.5 Finance

Industry funding of the AHC is primarily by producer levies and export licence charges, amounting to $2.8 million and $0.5 million, respectively, in 1991-92 ($2.9 million and $0.4 million, respectively, in 1990-91). A small amount of fee-for-service domestic promotion work has also been undertaken. The Corporation is to receive a total of $5.85 million from the Commonwealth Government over its first five years. That funding will terminate at 30 June 1993, although the Commission, in it report of 30 June 1992, proposed that it be continued with certain restrictions to 30 June 1994. The Government's contribution in 1991-92 was $1335 000, leaving $1 452 788 available for 1992-93.

[1] In most cases, figures reported in this chapter are those used in the Commission's report of 30 June 1992. Figures for program budgets were supplied by the AHC from its management accounts, which, because of differences in the accounting procedures used, may not appear to be consistent with some figures used (under statutory requirements) for Annual Report purposes.

In view of the AHC's short life, no single year's spending pattern could be defined as typical. The most significant changes from 1990-91 to 1991-92 were increases in expenditure in the order of $190 000 (100 per cent) for corporate communications and $900 000 (50 per cent) for domestic marketing.

Levy collection is undertaken by the Commonwealth Department of Primary Industries and Energy. The Department estimated that 85 to 90 per cent of potential levy payments from industry participants are collected. Collection costs, which totalled $160 000 in 1991-92 (approximately 5 per cent of levies), are deducted from levy contributions.

5.1.6 Administration

Corporate costs were put by the AHC at $1.1 million for 1990-91. Participating industries contributed to this cost through the 'corporate cost recovery charge'.[2] These charges totalled $357 000 for 1990-91 - the difference was paid for by the AHC using Commonwealth Government funds.

5.1.7 The planning process

The AHC Act allows the AHC considerable discretion in how it carries out its functions. However, because participation by industry is voluntary, what the AHC can do is constrained to a large degree by the decisions of individual horticultural industries whether or not to join, how much to contribute, and what priorities to adopt. Participating industries have preferred to devote most levy monies to domestic promotion.

The broad strategy adopted by the AHC has been to focus efforts on the domestic scene, reflecting a belief that the domestic production and market structure must be put right before serious exporting efforts can be considered:

> The structure of the horticultural industry, across virtually all of its sectors, coupled with distributional systems that reflect the geographical isolation and historical origins of the industry rather than contemporary marketing procedures, is central to the industry's competitive disabilities. The resolution of these disabilities requires a long term, dedicated, and planned program of structural change and marketing reorientation if an internationally competitive industry is to develop. (AHC, Sub.24, p.3)

The planning process plays a pivotal role in the AHC's approach, and has generally been well received by industry bodies. The Australian Avocado Growers' Federation had said:

> Benefits for the industry have included the fact that we are now beginning to focus beyond the farm gate. It has also provided the Federation with direction so that we are in a position to focus on the; industry as a business. (Sub.44, p.1)

However, the Federation subsequently stated:

> ... the moment we joined the AHC our ideas were COMPLETELY DISREGARDED. (Sub.D163, p.3; emphasis in original)

[2] The charge is 12 per cent of collections for the first million dollars, 10 per cent for the second and 8 per cent for the third.

5.1.8 AHC activities

To date, the dominant employment of funds has been domestic promotion. Other uses have included: strategic planning; market research; market information; quality assurance; education programs for consumers, retailers and transporters of produce; overseas market access; and export promotion.

Total expenses for participating industry activities in 1990-91 amounted to $2.4 million, for which the major items are presented in Table 5. 1.

Table 5.1: **Cost of participating industry activities, 1990-91, $'000**

Domestic marketing	1 677
Export marketing	288
Corporate communications[a]	175
Market research	nill
Other	149
Total	2 400

a Includes Apple and Pear News, industry meetings and conventions.
Source: AHC Annual Report 19n91.

Table 5.2: **AHC sector-wide marketing programs, 1990-91, $'000**

Quality	174
Domestic marketing	99
Export marketing	40
Market research	31
Market access	20
Food safety	15
Marketing salaries and on costs	274
Total	653

Source: AHC correspondence

Although the Act places all horticulture within the AHC's domain, the requirement for a co-operative, industry-driven approach and the need for finance have limited most activities to those sponsored by levy paying industries. Nevertheless, the AHC has some capacity to act on its own initiative in ways it considers beneficial to all horticultural industries by undertaking sector-wide programs. The AHC gave the cost of implementing sector-wide programs in 1990-91 as $653 000 (see Table 5.2).

The programs outlined in Table 5.2 were funded from the Commonwealth Government's contribution - $1.03 million for 1990-91. (The remainder of that money went to fund corporate costs, see Section 5.1.6) Consequently, the future of those programs is dependent on continued Government funding or the contribution of industry funds.

Domestic promotion

Whilst the Commission recognises the right of firms and industries to undertake domestic promotion, it is concerned by the extent to which the AHC is involved in domestic promotion on behalf of participating industries. This activity is funded partly by Government.

In 1990-91, expenditure on domestic promotion using industry funds totalled $1.7 million, or 71 per cent of all industry funds spent by the AHC. The AM used its 'For Goodness Sake' advertising campaign in conjunction with public relations, point-of sale advertising, magazine and television advertising, and advertorials (editorial-based advertising) to market its participating products.

In 1991-92, the pome fruits industry increased its domestic marketing expenditure by $740 000 (60 per cent), the increase being funded from prior years' retained surpluses. The citrus industry increased its domestic marketing expenditure by $330 000 (100 per cent), $200 000 of which came from the Commonwealth Citrus Grant for the promotion of Australian fresh juice.

The AHC's expenditure of $99 000 on sector-wide domestic marketing in 1990-91 was for: public relations, travel, and representation, $77 800; promotions, $17 600; and corporate communications, $3 600.

Whether increasing spending on promotion is profitable depends on several underlying characteristics of market supply and demand (see Section 3.5). These issues received little comment from participants. However, the potential of domestic promotion programs to displace consumption of one horticultural (or other food) product by another, rather than improve the international competitiveness of horticulture as a whole was raised. One grower, FJ Siviter, commented:

> Sales promotion or advertising is largely wasted. If the consumer buys more apples it is usually at the expense of oranges or bananas. The best sales promotion - and unpaid - is the present push toward more fruit and vegetables in the diet; towards less junk food, and better health. (Sub.6, p.2)

In opposition to this view, the AHC submitted:

> Market research has shown that fruits are perceived by consumers as being convenience or snack products and that this is the market they are competing with. For vegetables, they are competing with other foods. For example, potatoes are competing with pasta and rice and promotion programmes need to be developed with these factors taken into consideration. (Sub.24, p.27)

The Commission has examined the rationale for government involvement in domestic promotion and some issues to be considered when assessing its likely profitability in Section 3.5 and Appendix K.

Export promotion

Notwithstanding its principal statutory objective, the AHC has not emphasised export promotion in its activities. In 1990-91 costs of export marketing activities accounted for only 6 per cent of sector-wide marketing plans and 12 per cent of industry specific programs.

In 1990-91, the AHC spent $288 000 of industry funds on export marketing activities. Product specific promotions included the provision of point-of-sale material and other promotional aids at markets in Hong Kong, Singapore and Malaysia. Taxi roof top signs were used to promote apples, pears and citrus in Singapore.

Sector-wide export marketing expenditure of $40 000 in 1990-91 included the cost of international travel and representation associated with the promotion of Australian horticulture (eg, participation in international trade fairs). It also included $11400 for the production of a fruit and vegetable buyers' guide in conjunction with Austrade.

The Western Australian Fruit Growers' Association commented that Western Australia was heavily dependent on exports, and it was disappointed with the AHC's efforts in this area:

> There is an ignorance or lack of interest by the Al-IC as to the specific needs of the various States, especially to their priorities in the area of export. This State is heavily dependent on export and the WAFGA has funded and undertaken many exercises in evaluating overseas markets, in an effort to improve that competitiveness, be it apples, pears or stone fruit. ... There seems to be a lack of interest in overseas promotion and evaluations and these activities don't appear to be readily supported. (Sub.43, p.4)

The Australian Horticultural Exporters' Association stated that if assisting horticultural industries to achieve their full potential in overseas markets is "the AHCs prime objective, then it has failed to have any great impact." In response to this view, the AHC said that:

> The Corporation does not accept the criticism that it has been ineffective on export markets and has outlined in considerable detail to this inquiry that sustainable export competitiveness can only be achieved by a sustainable change in the horticultural industry's approach to the totality of growing, harvesting, grading/quality certification and marketing' of its production. The AHC does not see itself as simply an export promotion agency - along the lines of some hybrid organisation between various existing export groups and Austrade. (Sub.102, p.18)

See Appendix K and Section 4.4 for a more detailed discussion of the benefits and costs of export promotion.

Market intelligence and research

A national trade and consumer study commissioned by the AHC for the nursery industry will be used to develop marketing strategies. 'Re AHC also co-ordinated a national survey on fresh fruit and vegetables which was funded by the apple, pear and citrus industries.

The AHC has developed and funded a statistical database for all of horticulture at an initial cost in 1990-91 of $31000. (This project was not related to the work of the Horticultural Industry Statistics Working Group for which the Corporation is now responsible - see below.) The AHC has also commissioned a market research project, in conjunction with the HRDC, to gauge opportunities for Australian horticultural exports to South East Asia at a cost to the AHC of $5 000.

The HPC considered the AHC to have been active in 'obtaining and disseminating market intelligence' for both participating and other horticultural industries (Sub.96, p.5). The Murray Valley Citrus Marketing Board cautioned:

> Market intelligence comes from a variety of sources in Australia and overseas. Without additional resources it may be unrealistic to expect the AHC to be the major point of information. The specific parameters of "who does what" do, however, need to be more clearly defined to avoid duplication of effort and expense. (Sub.63, p.4)

Market research and intelligence are examined at Sections 3.1.5 and 4.4.

Horticultural Industry Statistics Working Group

In early 1992 the AHC took responsibility for co-ordinating the activities of the HPC's Horticultural Industry Statistics Working Group; the HPC remains responsible for ensuring the Group's recommendations are acted upon. The HPC's terms of reference for the Group require it to determine current data resources within the industry, establish future data requirements for the industry and to detail funding options for the statistical collection. An initiative of the Group, in conjunction with the Australian Bureau of Statistics, has been to study the feasibility of a horticultural census. Other participants in the Group include the Australian Bureau of Agricultural and Resource Economics, the Australian Quarantine and Inspection Service, the Australian Customs Service, State Departments of Agriculture, and industry groups.

Food safely

The AHC incurred costs of $15 000 during 1990-91 in assisting the establishment of the Fresh Product Foundation to monitor developments pertinent to food safety issues on both domestic and export markets. The AHC s on the executive management committee of the Foundation.

Shipping rates

The AHC has helped co-ordinate the negotiation of shipping freight rates to South East Asia, Europe, and North America. The AHC claimed that the apple and pear shipping negotiation committee, for which the AHC provided the chair and secretariat, has been able to achieve savings of over $686 000 for its industry. The AHC also stated that shipping rates for pome fruits from Western Australia to South East Asia for the first time are now lower than those for vegetables.

The HPC said:

> ... the Council believes that the AHC has played an important role in negotiating competitive freight rates for Australian horticultural exports. Unlike some of Australia's larger commodity exports, such as wheat and wool, the average consignment size of horticultural exports has generally been relatively small and, as a result, securing competitive freight rates has been more difficult for individual exporters. The Al-IC, as the single representative of the horticultural sector, has been able to present a more unified sector wide approach to freight negotiations than individual exporters were previously able to do. (Sub.96, p.5)

The Australian Citrus Growers' Federation advised the Commission that, at an earlier time, growers had wanted AHC involved in shipping negotiations, but exporters had not (Sub.33, p.3). However, the Australian Horticultural Exporters' Association told the Commission it accepted the idea of participation by some statutory body in shipping negotiations in conjunction and co-operation with the industry concerned. But they attributed reductions in some freight rates to the experience and contribution of exporters to the negotiations (Sub. 13, pp.4,9).

Market access

The Market Access Committee was established in 1989 by the AHC on behalf of the HPC. It comprises key industry and some government representatives. The function of the Committee is to prioritise efforts for market access. As a member of the Committee, the Australian Quarantine and Inspection Service has taken the recommended priorities as a guide to its expenditure of resources on negotiating with quarantine authorities in other countries. Costs to the Market Access Committee of monitoring and pursuing market access amounted to $20 000 in 1990-91 and were paid out of the AHC's sector-wide budget.

Participants generally considered that government negotiation for improved access to overseas markets is important for increasing exports. The Australian Apple and Pear Growers Association commented that the Committee could have a beneficial role, but the potential for improved market access is limited:

> Whilst to date there may have been few successes, Taiwan is one, there is hope for the future if Government is also prepared to play its role. Most of these types of problems can only be finally resolved on a Government to Government basis. A lobby group, if it can be called that, can only hasten the process and assist. (Sub.25, p.7)

The Queensland Government advised that the Committee could favour particular interests over others:

> There is a view that the influence of the AHC at a national level is detrimental to the interests of other industries and hence some states. An example of this is the Market Access Committee formed with the support of DPIE, HPC and HRDC to advise on the priorities of quarantine issues. The Queensland industry generally considers that this group does not have adequate representation for such a role or a procedure in place to allow it to give unbiased representation to interests of all industries. (Sub.91, p.21)

Australian Horticulture Quality Certification Scheme (AHQCS)

The AHC is developing the AHQCS, which became operational on 1 July 1991. The scheme provides formal recognition to businesses with quality management systems conforming to the requirements of an internationally accepted quality systems standard (ISO 9002). Guidelines for specific horticultural industries to meet the standard have been published by the AH*C,* and are being used by industry.

The AHQCS is not involved in mandating specific quality standards, although an associated product description system is being developed by the AH*C.* Rather, it focuses on assuring buyers that a quality control system of sufficient credibility is in operation to ensure the product specifications agreed to in a particular contract can be adhered to consistently. How the AHQCS is applied to a business can vary with circumstances, but involves the firm's quality management system being inspected and certified by AHQCS.

AHQCS expenses for 1990-91 consisted of $174 000 in establishment costs which were paid out of the Corporation's budget for sector-wide programs.[3]

Export licensing

Export licensing presently applies to pears, citrus, nashi, honey and dried vine fruits (licensing for apples ceased, on the decision of the industry, at the end of 1992). The AHC also administers all of the licences - except for the dried vine fruits licences which are controlled by the Australian Dried Fruits Board. Fees are charged for export licences. AHC export controls include:

- the quality which may be traded;
- terms of sale (eg, consignment, forward, guaranteed advance);
- Terms of payment (eg, timing, letters of credit);
- allowable commissions;
- financial standing of exporters; and
- a sole importer for citrus into the USA.

An important aspect of export licensing is the prevention of sales on consignment to most markets (see Section 4.3). A number of participants complained that export licensing controls were not being adequately policed.

[3] Being establishment costs, this amount declines in subsequent years.

Export trading powers

Specific export trading powers - exercisable with the permission of the Minister would permit the AHC itself to export produce. However, the Minister said the Government was firmly of the view that export trading powers would only be applied in circumstances where there is general support from the relevant industry (Jones 1987, p.318).

5.2 Australian Dried Fruits Board

The Australian Dried Fruits Board (ADFB) operates under the umbrella of the AHC. It's statutory coverage is exported dried vine fruits (sultanas, currents and raisins); approximately two-thirds of Australian dried vine fruits production is exported. An active domestic marketing program for dried vine fruits is undertaken by private firms, largely through voluntary participation in the Australian Dried Fruits Association.

The ADFB does not trade. Nor, unlike its predecessor the Australian Dried Fruits Corporation, does it average domestic and export returns. However, it does average returns for each exporter from all export markets. Further, the ADFB operates an export licensing scheme with controls more extensive than those exercised by the AHC. The ADFB sets prices and quantities for exports into specific markets, and approves sole agents in a number of markets.

The ADFB promotes Australian dried vine fruits using the Australian quality logo as a common theme on all products. In addition, the ADFB promotes in Germany the 'Sunberry' retail brand, which was established by the ADFB on behalf of growers.

The ADFB stated, in March 1992, that the Australian industry was enjoying a 20 per cent price premium over competitors due to a differentiated quality product, promotion campaigns and 'orderly' export marketing (Sub. 11, p.2).

5.3 Effectiveness of the AHC in increasing international competitiveness

In its report of 30 June 1992, the Commission arrived at the following assessment of the effectiveness of AHC in increasing the international competitiveness of the Australian horticultural sector. A summary of the Commission's findings on the AHC is provided in Appendix D.

The Commission found that there was little *conclusive* evidence to show that the AHC has been effective in increasing the international competitiveness of Australian horticulture. However, many of the activities in which the AHC is engaged have the *potential* to be beneficial to Australian horticulture and are *consistent* with improving its international competitiveness.

Assessing effectiveness of the AHC in this context was not straight forward. One way of approaching the task would have been to examine statistical data in an attempt to determine (a) whether Australian horticultural industries have been able to profitably expand their share of export markets and replace imports into Australia and, if that is so, (b) whether this could be attributed to the activities of the AHC. But available data were insufficient to support this approach.

Even if the data had been sufficient to allow an assessment of profitable changes of export and import market shares, attributing causality to the AHC would have been hazardous. A multitude of factors other than the activities of the AHC determine market outcomes. Also, the AHC had existed, in an operational sense, only for the preceding two years, for which no production or trade data had as yet been published. Most of the AHC's activities aimed at increasing international competitiveness, such as building customer confidence in Australia's ability to supply product meeting tight specifications, were unlikely to have had time to achieve their objectives.

Another way to assess the AHC's effectiveness would have been to examine the willingness of industries to participate as members. However, some industries might choose to join the AHC for reasons other than their belief that it can increase international competitiveness. For example, joining the AHC provides a means by which industries can raise levies, the majority of which are spent on domestic promotion which is not directly focussed on increasing international competitiveness. Hence, preparedness to participate in the AHC's levy based activities is not a satisfactory indicator of its effectiveness in increasing international competitiveness. Indeed, industries may strongly support a national levy, but may be only lukewarm about the AHC being the body which spends the levy funds.

Alternatively, the effectiveness of the AHC could have been assessed by examining the willingness of groups within industries to participate voluntarily through fee-for-service activities. Although it was initially intended by the Parliament that the AHC would operate largely on the basis of fee-for-service, the AHC has received very little support for these activities. But this may not indicate the ineffectiveness of such activities since they are probably subsumed within the services the AHC provides under its levy financed activities.

Because the Commission was not able to use these relatively strong criteria to test the AHC's effectiveness in increasing international competitiveness it adopted a series of weaker tests. These involved determining whether the activities undertaken by the AHC are consistent with increasing international competitiveness. Given the short time period the AHC has been operating and lack of data, this seemed to be a reasonable compromise approach.

The Commission was of the view that several activities undertaken by the AHC principally strategic planning, quality assurance certification, export promotion, market research, communications amongst participants, and freight rate negotiations - have the potential to increase the international competitiveness of particular industries. The Commission considered that some other activities or approaches of the AHC are more equivocal in their effects on international competitiveness - namely, the focus on industries through a single national peak grower body, export licensing and domestic promotion.

Of course, it should not be assumed that activities of the AHC which have the potential to increase the international competitiveness of horticulture would not be undertaken in the absence of the AHC.

The AHC's ability to be effective for horticulture as a whole is limited by the fact that as yet more than half of the production of the sector is outside its sphere of influence. The Commission was also mindful of the diversity of Australian horticulture and the parochial interests separating particular industries and producers within industries. This makes the role of the AHC in increasing international competitiveness a very difficult one.

6 THE AHC: PROPOSALS FOR REFORM

The Commission's report of 30 June 1992 evaluated the effectiveness of the AHC in increasing the international competitiveness of Australian horticulture. A summary of that report is presented in Chapter 5. This chapter assesses the role of the AHC in the broader context of horticultural levy and export licensing arrangements, and recommends changes to those arrangements.

The AHC was established by the Government to help the horticultural sector develop in line with market needs and achieve its full potential in overseas markets. In its submission to this inquiry, the AHC strongly supported its continuance as a 'change agent' helping to re-orient the industry. It maintained that Australian horticulture does have structural characteristics and a 'culture' which prevent it from participating as fully as it could in export markets; that the industry cannot adequately resolve these difficulties by itself, and that the AHC has a legitimate role to play in rectifying these structural and attitudinal problems.

In earlier chapters of this report the Commission has identified some structural characteristics of Australian horticulture which suggest that the sector does not enjoy the same comparative advantages in world markets as some of Australia's broad-area agricultural industries. Horticulture is characteristically more labour intensive than our cereals and livestock industries and incurs greater transport and handling costs into world markets relative to ex-farm values of production. Also, reflecting the dispersion of Australia's population and its diverse growing conditions, much of Australia's horticulture has developed to serve regional domestic markets. This has not been as conducive to developing national export marketing firms and institutions as have been characteristic of cereal grains, wool and meats.

In this sense, the Commission has concluded that Australian horticulture has structural characteristics which limit its export orientation. But this does not imply that Australian horticulture cannot succeed in world markets. Rather it means that, to succeed, special attention has to be given to offsetting the disadvantages of labour intensity, high transport and handling costs and to changing attitudes. Ibis would require special attention being paid to quality and timeliness, establishing access to markets and commercial linkages to them, and developing a differentiated image for Australian horticultural products.

The Commission has found few structural, regulatory or institutional factors subject to the influence of governments in Australia which are impeding these changes from occurring. Indeed, it was informed of several moves driven by commercial interest, both by individual enterprises and on a wider co-operative front, which are developing new export marketing structures and encouraging export oriented attitudes among producers. Nevertheless, as the AHC claimed, these moves are far from being characteristic of Australian horticulture as a whole. This may be because the costs of change outweigh the benefits for many individuals.

The AHC could play a strategic role in removing those barriers which are beyond the direct control of Australian governments, such as foreign market access and shipping rates, and in attempting to speed the pace of attitudinal change, provided that this would be to the longer term advantage of both the individuals concerned and the wider community. The latter could result from facilitating strategic planning by industry groups, providing information on successful models for overcoming structural problems, identifying impediments to market development, and providing a framework for implementing collective market development initiatives. Each of these activities would need to be performed cost-effectively.

In its 30 June 1992 report, the Commission examined a range of AHC activities to assess their effectiveness in increasing the international competitiveness of Australian horticulture. It found that many of the activities which the AHC undertakes are *consistent* with increasing international competitiveness, but it was unable to go further in its assessment. In part this was because of the relatively short time during which the AHC had operated. But principally it was due to the absence of a market test for the activities which the AHC undertakes on behalf of its member industries, and because only limited separate funding is available to allow the AHC to pursue its change-agency priorities independently of the priorities of industries which finance it.

The Commission has not sought in this report to specify the role of the AHC as a change-agent in each specific horticultural industry. In establishing the AHC, the Government has entrusted that role to an independent Board chosen for its expertise, accountable to Parliament through the Minister. Nor has the Commission attempted to postulate an appropriate level of industry and Government funding for the AHC. That would depend on the priorities which the various industries place on their collective objectives and the Government's priorities on the AHC's change-agency role.

The Commission's proposals for reform developed in this chapter seek to introduce a market test for that component of the AHC's services funded from levies which the horticultural industries contribute for their collective objectives. For the remainder of the AHC's activities - those undertaken to benefit the community more widely - the Commission's proposals seek to allow the AHC to act independently of the willingness of industries to contribute.

6.1 The AHC approach

The AHC is designed to be the Commonwealth statutory marketing authority for any horticultural industries which choose to have it so. Industries participate in the AHC by paying a levy which is spent through the AHC. This section discusses how the AHC approach addresses issues relating to the raising and spending of levies.

6.1.1 Compulsory levies: free rides v. forced rides

Central to the operation of the AHC is the collection of a compulsory statutory levy from the individual firms within participating industries. The Government makes these levies compulsory to ensure that all beneficiaries in those industries contribute to the cost of activities which have a collective purpose.

Collective purposes arise for three key reasons. First, it may be more efficient for the industry as a whole to purchase a service than for each firm to do it individually. Second, combining individual contributions can allow a critical mass of money to be spent on projects such as marketing and research. Third, some activities are inherently collective, such as generic promotion of an industry's product.

The free-riding problem

Overlaying all of those collective purposes is the problem of 'free-riding'. Although it may be necessary or efficient to provide a service collectively, this can only take place if individuals contribute. However, if others contribute an amount sufficient for the service to take place, an individual can free-ride by enjoying the service without contributing to its cost.

Free riding is as much an efficiency problem as it is an equity problem, since it can compromise the provision of the collective service. If too many in an industry seek to free-ride, the service will not be financially viable, or will only be viable in a diminished form. This problem will be compounded by industry members who, although prepared to meet what they see as their fair share, are unwilling to contribute in the face of free-riding.

By legislating for a compulsory levy, governments can help industries overcome free riding. Although levy funds are ultimately directed to industry purposes, they are initially collected by, or on behalf of, Government and have the status of taxes. Penalties can be imposed for non-compliance.

The forced-riding problem

Compulsory levies can, however, result in 'forced-riding'. Although levies are collected to provide services which benefit the industry as a whole, it is unlikely that all members of the industry would support the levy. However, all would still be compelled to contribute levies to provide those services.

There are several reasons (apart from free-riding) why some producers might not want to participate in a levy:

- they may not believe that the levy is justified by benefits;
- they may have to forgo superior investment opportunities in order to pay the levy;
- benefits from levy financed services are unlikely to be uniformly enjoyed, effectively forcing some producers to subsidise others;
- producers may be unwilling to incur the financial outlays or partial loss of independence which may be necessary for them to appropriate the benefits of levy funded activities; and
- producers may have an inadequate appreciation of the benefits the levy will bring.

Forced-riding has both economic and social consequences from the way it overrides the spending plans of individual producers. As a result of the levy, the pattern of production, distribution and marketing can be changed from what some producers would have preferred. Any Government policies which override the choices of individuals have important implications for how society operates and these must be considered in conjunction with the economic implications.

Towards a better trade-off

In deciding to legislate for a compulsory levy, Government must judge how bad the free-riding problem is likely to be relative to the forced-riding problem. Whilst a trade-off cannot be avoided, it may be possible to reduce the severity of forced-riding without causing a significant increase in free-riding. The issue can be addressed at the industry, sub-industry and inter-industry levels.

- **Industry level**

It was Parliament's intention that no industry should have a forced-ride in the AHC but that each should be free to make a choice to participate based on the support of a majority of producers and a majority of production. Using a simple majority as a threshold for industry support could allow a sizeable minority to be forced into the levy arrangements.

The existence of the required majority support for participation is not tested by a plebiscite. Rather, the decision predominantly reflects decisions made by producer organisations. Those producers who do not belong to those organisations may not be adequately consulted. Further, many who do belong may have little input into the views espoused by the organisation.

Ministerial discretion provides some scope to control forced-riding. Although the AHC and the peak body designated to represent the industry advise on setting levies, the final say rests with the Minister. Should the Minister feel that a proposed levy arrangement is unfair or inefficient, it can be rejected, notwithstanding the view of a majority of the industry.

- **Sub-industry level**

Horticultural industries are generally composed of many sub-industry groups, reflecting the various regions, products, varieties, production stages or market orientations within each industry. Where the interests and attitudes of these subgroupings vary it is unlikely that all will support a compulsory levy.

The AHC Acts provide some scope to fine-tune levies through the way industries are defined. Nashi producers (Asian pears) were not covered by the original AHC levy for pome fruits; they later joined the AHC in their own right. Further, although not separate levies in their own right, the rates of levy for pome fruits differ for the fresh, juicing, and processing markets respectively. In contrast, the citrus levy does not distinguish between oranges - which make up over 80 per cent of citrus - and mandarins, grapefruit, lemons and limes.

Where, for climatic reasons, production of a particular variety is geographically concentrated, excluding such a variety from a levy or levying it in its own right would separate that region from the larger industry. However, exempting sub-industries from paying levies (where it is possible to do so) may create an intra-industry free-riding problem.

Where it is not possible to exempt sub-industries from paying levies, measures which broaden satisfaction with how the levy is used hold out the best prospect for easing the tension between free-riding and forced-riding. The alternative - if the adverse effects of free-riding are believed to be significant - would be to make a straight choice between the option of imposing a forced-ride on sub-industries and the option of allowing collective industry benefits to be forgone.

- **Inter-industry level**

Some of the AHC's corporate activities are designed to benefit the horticultural sector as a whole. These include advice on the general direction horticulture needs to take, activities which create points of contact for potential overseas buyers and activities designed to enhance the image of Australian produce. The potential for industries to free-ride makes it doubtful that such activities would be requested and funded by specific industries.

Whilst the AHC can instigate such activities, no clear funding rule can be prescribed. Charging the cost to industries which participate in the levy mechanism would impose on them a cost which was out of proportion to their share of the sectoral benefits, whilst other industries could free-ride on those benefits. However, charging the cost wholly to Government would extend free-riding to levy paying industries. Applying levies to all horticulture (were it practical to do so) could result in a forced-ride for entire industries.

At present, these programs are financed from the AHC's corporate funds - which in turn come from a combination of corporate cost recovery charges on industry levies and the Government's contribution. Consequently, the extent to which levy paying industries are made to contribute to sectoral activities - as distinct from AM overheads -cannot be distinguished. Whilst some contribution from levy paying industries to the costs of sectoral activities would seem appropriate, that contribution should be consistent with their share of the benefits from such programs. The remainder would, of necessity, come from Government funding.

6.1.2 Controls over the spending of levy funds

In providing a mechanism for horticultural industries to collect a compulsory levy, the Government, through the AHC, has also instituted controls over the spending of those funds. Discussed here is the degree of influence the AHC should have over how industries' compulsory levy funds are used.

Circumscribing the use of levy funds

The forced-riding problem makes it difficult to justify giving industries an automatic, uncontrolled right to collect a statutory levy. For this reason, the Government circumscribes the purposes for which the levy may be used. Establishing statutory purposes for which a levy may be collected provides some degree of protection to minorities against the workings of industry politics.

The Government also circumscribes the use of levy funds to ensure they are spent on activities which are consistent with the national interest. Indeed, a recent DPIE review of primary industry levy collection and disbursement arrangements cited as a reason for Government involvement in levy collection: "to facilitate the achievement of national interest policy objectives" (DPIE 1992, p.21). Appropriating levy funds to the AHC makes it relatively easy to ensure it is spent only on statutory purposes.

Directing the use of levy funds

The AHC is an independent body which pursues statutory objectives; it does not 1 represent' industry. The AHC has expressed to the Commission and in its Annual Report a vision for the kind of horticultural sector it would like to see develop in the coming period. Central to its vision is a picture of industries which are co-ordinated nationally, and which focus on export and quality.

Spending levy funds through the AHC interposes a Board between an industry and its levy funds. Although the AHC is required to work in co-operation with industry, this does not nullify the AHC's statutory charter:

> We [the AHC] seek to patiently negotiate with all groups within a participating industry - but in the final analysis the AM will not resile from its mission and objectives. Either an industry sector embraces its vision, objectives and priorities and accepts the changes required of their industry - or they voluntarily decide to leave the AHC, or not join the AHC, It is a partnership with the common goal of improving the profitability and reliability of horticulture. (Sub.D145, p.2)

Implicit in the use of an independent Board is a belief that Australian horticulture will be more prosperous, to the benefit of the Australian economy, if its development is ordered in association with a national, Government instituted authority. Industries may feel they could produce greater benefits if they were free to spend their levy funds as they chose. Instead, they must be satisfied with programs negotiated with the AHC Board. Whilst participation by an industry in AHC programs is described as 'voluntary', it is also a condition for having a statutory levy. The AHC stated:

> If an industry sector feels that it does not wish to adopt the planning, quality, marketing and structural change programs which are inherent in AM membership, then it is perfectly free to withdrawn AHC from the AHC, terminate the levy collection arrangements and instead conduct its own programs on a financial basis it agrees with its constituents. (Sub.D145, p.5)

Warburton & Wright of the University of New England questioned the appropriateness of creating a government-sponsored organisation which extends across an industry (such as the AHC):

> The dangers in a policy which creates a body which can assume an industry perspective are:
> - the invisibility of socialised costs;
> - the distinct possibility of institutionalising and perpetuating the existing structure and fundamental problem;
> - resolution of the conundrum whereby the benefit to specific sectors, in terms of greater marketed volumes, may not flow to individual producers within those sectors due to supply response elasticities;
> - the stifling of the emergence of private solutions;
> - the redistribution of gains already made by private organisations which are successfully implementing pro-active strategies; and
> - the danger of major industry disruption if the strategies of the one, industry-wide body are not successful.

Whilst accepting that the AHC could be the appropriate institution to implement Government policy in the horticultural sector, they submitted:

> ... the AHC must see its primary role as being that of aiding industry re-structuring such that the industry becomes one composed of manifold organisations which each develop their own strategic behaviour. That role would not be one of industry marketing strategist, single desk seller or domestic market promoter of horticultural products.

Essentially, the programs and policies of such an AHC would be confined to those designed to help the industry to help itself. It would be inappropriate for AHC to sponsor particular organisations, disrupt existing successful organisations or stifle the development of private solutions. (Sub.D146, pp.8-9)

The Commission considers it inappropriate for the AHC to control the content and direction of programs purchased by industries from their levy funds. Whilst the AHC likes to consider itself as acting in 'partnership' with industries, that partnership must, by its nature, be paternalistic and forced. In effect, an industry is faced with the option to raise a levy to engage a monopoly consultant and service provider or not have a compulsory levy.

In principle, strengths of the AHC in its control over levy funds are its independence and its concentration of expertise, which arise from the selection procedures for its Board, its multi-industry nature and its status as a Government instituted body. These allow it to take a broader perspective than small producers or a body drawn from within a particular industry. Further, expertise is concentrated in a single sectoral board rather than dispersed among a number of smaller industry boards.

6.1.3 Funding for AHC programs

AHC programs arise from two sources. First, industries request programs (possibly at the suggestion of the AHC on the basis that they will be funded from their levies. Second, programs are initiated by the AHC on the basis that, although industries are not prepared to fund them of their own volition, those programs are of national interest. Such programs include the sectoral activities discussed in Section 6.1.1 and programs the AHC requires levy paying industries to participate in on the principle that they are inherent in AHC membership (see p.225, second quote).

Ibis is not to say that programs requested by industry are not in the national interest, or that programs instigated by the AHC will not benefit participating industries; individual, industry, sectoral and national interests overlap considerably. However, there may be programs which the AHC believes would be in the national interest *and* of considerable benefit to a participating industry, but which the industry is not presently motivated to undertake. Indeed, the perception that such cases arise was an important rationale for the creation of the AHC.

In principle, AHC activities should be financed by whoever asks for them. Programs requested by industry should be paid for fully from levies, including an appropriate charge for AM overheads. Under the Commission's decoupling proposal (see Section 6.2.1) this would take the form of industries using levy funds to engage the AM on a fee-for-service basis in a competitive market.

This raises the further question of how national interest activities instigated by the AHC should be financed. One approach would be for the Government to fully fund these activities from general revenues. Given the relatively small amounts involved, the Commission considers this to be an

appropriate solution. However, in so far as the AHC judges these programs to be in the interests of participating industries, a case could be made for a contribution from those industries. If this approach were to be adopted, the Commission considers that such contributions should be based on the size of the respective industries rather than the size of their respective levies.

Special considerations apply to industry strategic planning (eg, as presently undertaken as a condition of AHC membership). Whilst industry peak bodies may not voluntarily undertake such an exercise, because compulsory levies are involved it is appropriate that some discipline be applied. A strategic planning process, perhaps under the supervision of the AHC, could provide a suitable forum for the airing of differing views, as well as enhancing the transparency of decision-making and ensuring that levy funds would be used efficiently. On this basis, strategic planning could continue to be a precondition for an industry to enter the levy arrangements.

A further consideration is that development of an industry will not necessarily benefit the existing levy payers. Levies are not paid by 'the industry' but by individual producers. Improvements in the structure and operations of an industry may result in expanded output and increased exports. But the extra production may come from new producers who did not provide the initial levy funds to finance the improvements. Where improvements result in higher returns, this may attract new producers and force returns back down to present levels.

Government, rather than industry, funding for AHC initiated programs would enhance and clarify the AHC's objective of changing industry culture. Blending industry and AHC purposes into levy-financed programs is a non-transparent and imprecise approach to influencing the direction of industry. Although the AHC Board is designed to be able to pursue an independent line, its dependence on levies for programs related to specific industries - and indeed for its survival - undermines this independence. Independent funding would allow the AHC to pursue clearly defined programs which were under its control.

However, Government funding for AHC instigated activities should not be allowed to 'crowd out' voluntary spending by an industry on programs which, although in the interests of the industry, are clearly in the national interest. In this respect, the AHC's role should be confined to an educative one of explaining the benefits of a program it suggests the industry undertake and finance from its levy funds. If an industry rejected a program which was clearly in its interests to take up and finance then there would remain little reason for the AHC to continue with it at its own expense.

6.1.4 A national approach?

The AHC has, by its nature, a focus which is national. In its vision statement, the *AHC* wishes each industry to view itself as one national industry with clear goals and objectives, developing an industry marketing plan and operating in a national market. The AHC also wishes the horticultural sector to speak with one voice in the political arena.

This national focus is reflected in how levy funds are spent. For example, the *AHC* currently allows only up to 10 per cent of a participating industry's domestic promotion budget to be devolved to State or regional bodies. The horticultural Acts provide for the recognition of a peak national body for each industry to be consulted on the raising and spending of levies.

The AHC stated:

> The AHC is a national organisation which seeks to serve the national interest. While it makes every attempt to negotiate with and persuade all regional groups on the merits of its objectives and programs, ultimately decisions are made with the relevant national peak industry body on the expenditure of levy funds and the implementation of programs which are in the national benefit. (Sub.D145, p.3)

However, for much of horticulture it is questionable whether a national approach is appropriate. Geographic dispersion and climatic diversity give rise to legitimate regional foci based on product variety, harvest times, transport facilities and market outlets. Queensland citrus, for example, has earlier seasons and hence different promotional needs. Tasmanian apples, facing a transport disability to mainland markets, have a greater export orientation. Quite appropriately, many producers are more concerned with their sub-industry than in any concept of their industry as a national whole.

Too much of a national focus can smother valuable diversity in approaches within the industry. Newer and more innovative producers can differ considerably from traditional producers in how they operate. Further, the marketing requirements of newer products and varieties may not be adequately reflected by national peak bodies.

Accommodating the diverse priorities of sub-industry groups may inhibit the AHC's efforts where national programs would produce benefits. However, it cannot be assumed that returns from national programs would be greater than those from more regional programs. For example, although all regions may benefit to some extent from a national promotion campaign, for many their share of a nationally collected levy could yield a greater benefit financing the promotion of their own specific varieties. The appropriateness of coercing industries to conform to the AHC's preferred strategy is discussed in Section 6.1.2.

Addressing diversity

One approach to the sub-industry problem would be for the AHC to conduct a wide range of specific programs (eg, promoting the products of each region). However, this may give rise to perceptions among groups of levy payers that they are paying for programs which only benefit another group. Moreover, national industry collective action which does little more than replicate what sub-industries would have preferred to do individually will not produce extra benefits.

Another approach could be to conduct most activities at the sub-industry level, supplemented by those national programs for which a clear consensus emerged. Subindustry programs would be most feasible on a State basis, funded by State levies and conducted through State legislated SMAs, marketing orders etc. National programs could continue to be financed through a national levy - but only to the extent supported by all States - or through agreed contributions financed from State levies. The latter approach would allow programs to take place where a consensus could only be achieved in a few States.

Because it lies beyond the scope of Commonwealth control, the Commission has not investigated this approach closely. Further, there are doubts about the Constitutional validity of State levies. Nevertheless, the Commission drawn attention to it as a possible alternative to the approach outlined below.

The approach proposed by the Commission in Section 6.2 is to continue to collect levies nationally but to allow them to be devolved to sub-industries, particularly States. A disadvantage of this approach is that it would preclude the option of a particular State's producers not paying a levy at all. It would, however, allow diversities among States to be accommodated more effectively than at present.

6.2 The Commission's recommendations about AHC levy and funding arrangements

6.2.1 Decoupling and devolution

In the draft report, the Commission proposed that the right of a horticultural industry to have a compulsory statutory levy collected for the general purposes currently encompassed in the AHC Act be decoupled from any obligation to spend the levy funds through the AHC. The Commission also sought comment on the relative merits of alternative structures for effecting that proposal.

Participants' views

The Commission's proposal for decoupling was supported by a variety of industry groups, mainly because of the increased flexibility it was seen to offer. Decoupling was primarily conceived of in terms of devolution of funds to State bodies.[1]

- **Decoupling**

Apart from the potential for devolution (see below), decoupling was supported as a means of industries controlling their own levy funds. The Federal Council of Australian Apiarists' Associations (FCAAA), which commenced participation in the AHC on 1 January 1992, did not consider industry control to be an issue:

> The FCAAA submits it does not see any conflict with the common good being served through the AHC spending levy funds according to budgets properly agreed beforehand by AHC member industries. (Sub.157, p.3)

However, although initially satisfied with the strategic planning phase prior to joining the AHC in 1992, the Australian Avocado Growers' Federation stated:

> ... the moment we joined the AHC our ideas were COMPLETELY DISREGARDED. ... Prior to joining it is reasonable to say that growers felt they could influence the budget in a significant way. As time has gone by our growers have felt we should have more and more influence over the budget. The reverse is the case! (Sub.D163, p.3; emphasis in original)

The Australian Banana Growers Council, whilst desirous of a compulsory national levy, stated:

> The Council does not wish to join the AHC and become enmeshed in the politics that goes with it. We would much rather be the masters of our own (and complete) destinies. (Sub.13131, p.2)

For the banana and potato industries, neither of which participates in the AHC at present, it was suggested that decoupling would lead to the introduction of new statutory levies.

Some participants, whilst not explicitly commenting on decoupling, were, nevertheless, opposed to the degree of control the AHC has under existing arrangements. The NSW Free Growers Horticultural Council (NSWFGHC stated that its primary aim was "to have the minimum amount of regulation and government involvement in the growing and marketing of horticultural produce" (Sub.D 117, pp. 1,4).

[1] Devolution, in a more restricted form, could take place without decoupling where the AHC determined spending priorities in conjunction with sub-industry groups rather than with national peak bodies.

- **Devolution**

QFVG submitted:

> ... sectors of industries located in northern Australia have very different characteristics, production systems and financial performance from those in southern states, which need to be reflected in the services and activities utilised. ... Decoupling would allow parts of industry which have different needs to buy services either from AHC or another body so that funds can be spent most appropriately and flexibly, on the basis of meeting the needs of that part of industry. (Sub.D130, p.9)

QFVG gave as an example of such flexibility the possibility of branding quality assured products on a regional level, using decoupled funds on a project basis. (However, they also made it clear that, in Queensland, actual devolution would not go beyond the State level).

The Queensland Citrus Sectional Group Committee (QCSGC) reiterated its preference for an option for parts of an industry to opt out of AHC membership, but accepted that the decoupling proposal went part of the way towards this.

The Tasmanian Department of Primary Industry and Fisheries (DPIF) reported that "the lack of local industry control is seen as a major psychological barrie?' (Sub.13127, p.3). It submitted:

> Basically the AHC needs to recognise that there are regional differences within the horticultural industries and they must appreciate that larger industries will wish to devolve some of their activities as they gain strength as part of an industry's natural evolution. (Sub.D127, p.3)

Australian Joint Citrus Exporters (AJCE) submitted that all levy funds should be devolved to the constituent body covering the region where they were collected, with national programs requiring explicit consultation and co-operation. The AHC, however, contended:

> If levies ... were to be allocated back to the various grower organisations the AHC would then be placed in a position of having to negotiate between the inevitably conflicting views of grower groups all over Australia in order to implement any program that it proposed. The AHC would then have time for little else. (Sub.D122, pp.35-6)

- **Opposition to decoupling and devolution**

Opposition to decoupling centred on the concern that it would almost certainly lead to devolution, which was viewed as fragmentary and likely to destroy the AHC.

However, several participants submitted that, by reducing friction between State and national industry bodies, national unity would be enhanced. QFVG submitted that, because under decoupling the AHC would be doing what industry groups wanted it to do, support for the AHC would increase, possibly with some wanting to increase their levy (Sub.D130, p.10). But the AHC emphasised that it does not seek the support of industries *per se*, but on the understanding that it will seek to "drive the horticultural industry towards substantial changes in its production, distribution and marketing practices" (Sub.13145, pp.4-5).

The AHC opposed decoupling as it would effectively remove the Corporation's power to direct change in horticultural industries:

> The discomfort of cultural change will not occur and we believe the participating industries will sink back into the inconsequential 'promotional' exercises in the domestic market which have characterised the past 20 to 30 years. (Sub.D145, p.2)

The AHC also submitted that concentrating levy funds in the AHC was essential for it to obtain and co-ordinate the professional excellence in services used to research, advise, change and promote industries.

The Sumich Group supported the submission of the AM (Sub.13151).

Within the Australian Apple and Pear Growers Association (AAPGA) there was majority support for decoupling but not for devolution. However, the Apple and Pear Growers Association of South Australia (APGASA) submitted that making the AAPGA responsible for levy funds:

> ... would undoubtedly lead to dissatisfaction by State member bodies many of whom are quite parochial and ultimately to the destruction of a peak industry body that currently is operating reasonably well. (Sub.D147, p.1)

The Victorian Apple and Pear Growers Council (VAPGC) submitted that decoupling:

> ... would lead to the eventual demise of the AHC. The council has always supported the concept of one major statutory body for horticulture. (Sub.D136, p.5)

The (new) Victorian Government submitted that decoupling would:

> ... place in jeopardy the critical mass of resources needed to effectively service all participating industries and destabilise the industry peak bodies. (Sub.D156, p.3)

The FCAAA submitted.

> ... the decoupling proposal has the potential to destabilise the functional effectiveness of the AM in its efforts to improve the international competitiveness of all product member groups and, therefore, in its ability to incidentally confer benefit to the wider Australian community through improvements in quality food supply, and likely modest increases in employment opportunities across the range of horticultural industries the AHC serves, as growth occurs in these industries. (Sub.D157, p.4)

The Australian Horticultural Export Council (AHEC) stated:

> The AHC's national approach is supported. From individual Council member's experience of working with the AHC on a range of projects, there is sufficient flexibility for regional projects to have consideration if they fit in with a broad national strategy. (Sub.D161, p.13)

- **Who should get the money?**

Decoupling was almost unanimously conceived of in terms of funds going to industry bodies. QFVG also considered that industry boards within the AHC would be a satisfactory alternative. The Victorian Government, however, submitted that industry boards, either within the AHC or under the more decentralised arrangement proposed by Davis (1990), would:

> ... result in inefficient duplication of scarce resources and jeopardise the effective delivery of services such as quality assurance schemes which benefit all horticultural industries. (Sub.D156, p.3)

The Victorian Government proposed increased use of the product desk approach as a means of addressing what it saw as a lack of a sense of 'ownership' of AHC programs by industry members and perceptions of inadequate specialised knowledge of industries by AHC staff. As a refinement, regional funding and selection of specific staff positions for product desks were suggested (Sub.D156, p.3).

Views differed on the ability of industry bodies to cope with the responsibility for spending levy funds. Some industry bodies, such as the Chestnut Growers of Australia, felt that they could spend their levy funds more cost-effectively than the AHC. The AAPGA. submitted:

> ... we accept that [peak industry bodies] will have to become better organised and more proficient in areas in which they have previously had little experience. With some forethought this can be achieved and we have no doubt that many of the activities could be done on a more cost effective basis than is presently the case. Most of these organisations have much lower overheads than the Government and the AHC. (Sub.D135, p.2)

However, APGASA stated:

> Peak industry bodies such as the AAPGA are not structured either staff-wise or facility-wise to accept the task such as that currently being carried out by the AHC. (Sub.DA7, p.1)

The NSWFGC contended that peak bodes could not be taken to speak for their industries:

> [We] have extremely great concern over who determines and what constitutes a 'peak body'. Some organisations claiming this status have very limited contact with the majority of grass roots growers. (Sub.D117 p.4).

The FCAAA submitted that paying levy funds to an industry body to spend as it thought fit appeared to be "a fundamental departure from established Commonwealth levy raising policy", would pose a precedent with "possible serious consequences for all other SMAs" and could constitute "an abuse of the Commonwealth's taxing powers" (Sub.13157, p.4).

Commission view

The Commission considers that a clear distinction should be drawn between activities the AHC engages in at the request of industries and those it instigates itself on the basis of national interest. Decoupling would allow industry requested activities to be subjected to a market test, leading to possible efficiency improvements. Devolution would enhance the flexibility with which levy funds could be used and facilitate the undertaking of collective action at the sub-industry level.

Decoupling and devolution could be considered to undermine the AHC's national approach. However, given the legitimate diversity within horticulture, the Commission questions the appropriateness of a national approach for all industries. Decoupling would also remove the AHC's power to control the content of industry requested programs. However, the Commission considers that the AHC should address the problem of industry culture through an educative rather than coercive approach.

The Commission does not accept that decoupling would mean the demise of the AHC. Sources of AHC funding under the Commission's proposals are discussed in Sections 6.2.3 and 6.2.4.

The Commission recommends that:

- where a compulsory statutory levy is paid by a horticultural industry, levy funds for programs requested by that industry be paid directly to the industry;
- there be no obligation for industries to use levy funds paid to them to engage the services of the AHC;
- industry levy funds be devolvable to sub-industry bodies; and
- purposes for which levy funds can be spent be defined by statute.

Detail of proposal

To appropriate levy funds directly to industry bodies would require new legislation. The Commission envisages a new Act which would provide for recognising the bodies which are eligible to receive funds, specify the purposes for which the funds could be used and provide for appropriate monitoring. Although levy funds would not be paid to the AHC in the first instance, the existing AHC-centred arrangements could largely be replicated (see Section 6.2.3).

- **Who would receive the money?**

Industry bodies eligible to receive money could be identified through regulations subject to the scrutiny of Parliament. Parliament would then appropriate to those bodies amounts totalling the levies their industry had paid, less collection costs and contributions (if any) to the AHC's national interest programs (see Section 6.2.4). Levy funds would be paid directly to those bodies, in the manner outlined below, rather than being held in trust for them by the AHC.

Within an industry, a number of bodies could be eligible to receive levy funds, rather than just a peak national body. The Commission anticipates that most eligible bodies would be national or State industry bodies. However, it is conceivable that eligible bodies could be based on regional interests, activities such as exporting or processing, or even specific firms.

Devolution would provide a means for a sub-industry group which had little common interest with other levy payers to have their levies returned for more relevant purposes. In other cases, informal devolution may occur, with peak bodies conducting activities on behalf of sub-industries. Devolution would also provide a means for smaller producers, in an industry such as asparagus, to overcome objections to a levy made by dominant producer who has no interest in industry programs.

- **Statutory purposes**

The existing AHC Acts do not explicitly list the purposes for which levy funds may be used. Rather, levy funds are paid to the AHC which then must spend them in accordance with its statutory objectives and functions. Anything which the AHC does in accordance with those objectives and functions is a legal use of levy funds. However, because industry organisations have different agenda to the AHC the new Act would need to explicitly specify the purposes for which levy funds may, and may not, be used.

The following statutory purposes for the spending of levy funds are implicit in the present AHC Act:

- export development:
  - encouragement,
  - assistance,
  - facilitation,
  - promotion, and
  - co-ordination of exports;
- industry development- improvements in:
  - production efficiency,
  - industry competitiveness,
  - quality,
  - growing,
  - harvesting,
  - handling,
  - storing,
  - transporting,
  - processing, and
  - marketing.

The Commission recommends that research and development - whether through the HRDC or another agency or firm - also be a statutory purpose (see Section 6.2.2). Otherwise, the Commission is satisfied with the coverage of that list as a specification of which activities industry bodies could finance from levies. Levy funding would also be appropriate for the industry body's costs of administering the spending of levy funds, but not for lobbying activities. Subsidising domestic or export sales should not be allowed.

- **Monitoring**

Industry bodies receiving funds would be free to spend them how they saw fit, provided they were used for those purposes allowed for in the legislation. However, within those constraints, the priorities the industry body adopted would not be subject to approval by DPIE or any umbrella body such as the AHC. Judgement on the wisdom of how levy funds are spent would be made by the industry.

An audit would be made to ensure funds were used only for those statutory purposes, and that a proper accounting was made. The costs of this audit, along with any other necessary monitoring, would be charged to the industry body receiving the levy money.

- **Cost of arrangements**

Clearly, decoupling and, in particular, devolution are likely to increase the cost of administering the expenditure of levies. Many functions would be duplicated relative to a more centralised approach. Further, auditing and monitoring costs would be increased by the need to ensure compliance by the industry with the statutory purposes for which levy funds are appropriated.

However, that cost would be something industries must take into account when deciding how much devolution is appropriate, and how much work is done in-house. The Commission's proposals provide a means for increased flexibility for those industry groups which consider the benefits to outweigh the costs. An industry would be able to avoid most of the potential new costs by choosing to replicate the existing AHC-centred arrangements (see Section 6.2.3). Further, the mere opportunity to devolve may be sufficient for sub-industries to achieve their spending aims without recourse to formalised arrangements discussed above. Finally, from the perspective of some sub-industries the present arrangements amount to a near total wastage of levies. The QCSGC stated:

> ... the national levy has largely been regarded as "lost money" by the Queensland citrus industry. (Sub.DI29, p.3)

Devolution is unlikely to lead to much rationalisation of existing State levy collection arrangements, since State levies generally exceed AHC levies. However, devolution would accommodate corresponding reductions to State levies, addressing the existing 'double levy' complaint made by some States (eg, Queensland).

6.2.2 Research and development supplementation

In the draft report, the Commission, in the context of its proposals on decoupling and devolution, sought comment on the desirability of allowing the constituent bodies of an industry's peak body the option to use any levy funds devolved to them to augment the research and development funded through the HRDC levy.

Participants' views

QFVG supported the Commission's proposal on the principle that it enhanced the flexibility offered by devolution. A similar view was expressed by AJCE. The Tasmanian DPIF believed that devolution "would provide a direct benefit to research and development in Tasmania".

Whilst opposing devolution, the VAPGC saw merit in the potential for a particular group of producers to augment their research and development contribution, giving the example of a possible pear breeding program.

The Australian Horticultural Growers Council expressed concern at the prospect of research and development being financed from devolved levy funds:

> The Council is of the opinion that there is still too much waste and duplication in research programs designed and implemented on a State basis. One of the major advantages of a national focus such as that supplied through the HRDC is the removal of duplication and a national focus for research and development activity as provided through the industry peak body. (Sub.D142, p.3)

The AAPGA, whilst ambivalent about the proposal, saw it as a means of meeting specific urgent research needs where most HRDC funds are committed to on-going projects. The Rural Industries Research and Development Corporation submitted that supplementation should only be for high priority research and development projects and not be dissipated in marginal expansion of an industry's entire portfolio (Sub.D119, p.2). The Victorian Government opposed supplementation, but in the context of opposing devolution altogether (Sub.D156, p.4).

The AHEC submitted that it was inappropriate to effectively disperse limited funds from AHC levies to on-farm research and development problems when post-farmgate problems were presently receiving only a minor allocation of research and development funding (Sub.D161, p.14).

The AHC opposed any diversion of horticultural levies to research and development:

> ... the AHC is at a loss to understand how, in the face of the considerable submissions which it and others have presented to this inquiry, the Commission could suggest that even more funds be put into research and development. (Sub.D122, p.36)

Commission view

This proposal is an extension of decoupling and devolution, designed to accommodate sub-industry groups which would prefer to spend more on research and development than on other collective purposes. In particular, it addresses doubts expressed by many industry participants about the effectiveness of promotional programs ~ by far the main use to which AHC levies have been put. The proposal is intended to provide an opportunity for supplementing rather than replacing the existing HRDC arrangements.

Government matching of industry contributions to the HRDC would provide an incentive to use the HRDC for any research and development financed with devolved levy funds. However, the Commission sees no reason to retain the draft proposal's requirement for such research and development to be undertaken through the HRDC.

The Commission recommends that:

- industry bodies be permitted to use industry levy funds paid to them for research and development.

Detail of proposal

Research and development - whether through the HRDC or another agency or firm - would be included as a statutory purpose for which levy funds could be used (see Section 6.2.1).

6.2.3 The market for levy-financed services

The Commission's draft proposals for decoupling and devolution gave rise to the issue of how the ABC would operate as a service provider to industry. The Commission proposed that the ABC undertake tasks only on a fee-for-service basis.

Participants' views

Participants' views were reported under the subheading *Opposition to decoupling and devolution* in Section 6.2.1. It was submitted that the ABC would not be able to survive in a commercial environment, although others suggested that a more responsive AHC might attract increased industry support.

The ABC itself said of decoupling:

> Clearly the AHC would not long survive in such a situation and the nett effect would be that the operations of the AHC would have been terminated (by market forces) ... (Sub.D122, p.34, parenthesis in original)

Commission view

The Commission does not accept that decoupling would have the effect of terminating the AHC. Government funding provides a source of finance which is independent of market forces.[2] The Commission's recommendations on Government funding are discussed in Section 6.2.4**.**

Detail of proposal

That being said, in the area of services requested by industry the Commission considers that the AHC should be subjected to a market test. The Commission questions the AHC's assertion that industries would not wish to engage it on a fee-for-service basis. Nevertheless, if the assertion were correct then it would be preferable for the AHC to vacate such activities - predominantly domestic promotion - in favour of more efficient providers and concentrate on its national interest role.

The Commission recommends that:
- the AHC provide services requested by industry on a fee-for-service basis.

Detail of proposal

Levy financed activities could take place in-house, or be purchased on a fee-for-service basis. The Commission expects that the latter would be the main approach. Few bodies are likely to be able to attract the necessary executives to undertake an effective marketing program of their own. However, placing funds in the hands of the industry bodies would facilitate the development of a market for levy-financed services provided by appropriately staffed firms.

The AHC would operate on a fee-for-service basis, since levy funds would now be in the hands of industry bodies. Ibis could entail the provision of a bundle of services on subscription (eg, market information, telephone consultation). It would also remain possible to purchase an entire program of activities from the AHC. Indeed, it would be possible for an industry to - if it so desired - largely replicate the existing arrangements.

6.2.4 AHC funding

The Commission's draft proposal on Government funding for the AHC mirrored the fee-for-service approach proposed for industry. It suggested that general (untied) funding be replaced by project specific funding, with separate accountability for each project. It was also proposed that Government funds not be made available for domestic promotion or product-specific export promotion.

[2] The AHC's remarks on its inability to survive in a commercial environment were based, in part, on a perception that the Commission was proposing a progressive elimination of Government funding.

Participants' views

Participants supported the continuation of Government funding for the AHC. The AAPGA submitted that some of the AHC's activities are of benefit to the community as a whole and should be assisted through continued Government funding. The Australian Banana Growers Council said it was "of the belief that Government funding of the AHC does and will continue to benefit the consumer and we urge its continuation" (Sub.D131, p.2).

The AHEC submitted:

> Many of the AHC's functions and activities provide benefit to horticultural industries which are not paying the AHC levy. This particularly includes benefits from market access, quality assurance, market research and overseas market profile; these are generic across industry issues. (Sub.D161, p.14)

The VAPGC called for Government funding of the *AHC* as a form of compensation "to counter the problems caused by the artificial trade barriers in many major trading countries" (Sub.D136, p.7).

Those draft proposals which would have had the effect of replacing general Government funding with project specific funding were not supported by inquiry participants. The *AHC* raised several arguments in defence of continued general funding:

- project specific funding was at odds with having a statutory corporation with a charter and independent board;
- existing accountability arrangements - which include ministerial approval of corporate and operating plans, and a Government member on the AHC's Board are adequate;
- specific funding for all items would be unworkable, especially for the many small items;
- Government funding provides cash to cover gaps between the receipt and expenditure of levies; and
- the AHC needs to be able to respond quickly to opportunities.

QFVG commented that Government funding for specific projects was consistent with the fee-for-service role the AHC would have under decoupling, but felt there would still be scope for both industry levy funds and Government seed money to continue to contribute to the AHC's overheads for some time:

> We might even go to the extent that industry levy funds could still be used to contribute to [AHCI overhead costs and perhaps what might be regarded as core activities (Transcript, p.1069-70)

The Horticultural Policy Council (HPC) felt that general funding was important for the AHCs ability to plan ahead.

In relation to Government funding of export promotions, AHCE questioned the usefulness of the AHC undertaking any export promotion. Rather, they submitted that funds would be more effectively used under the control of the individual exporters (Sub.13158, p.2).

Commission view

- **Government funding**

The Commission has decided not to proceed with those draft proposals which would have had the effect of replacing general Government funding with project specific funding. There are several cases where project specific Government funding would not be appropriate. First, it would be inefficient for the AHC to request specific funding for small cost activities. Second, the AHC may need the financial and authoritative flexibility to respond quickly to some opportunities. Third, because levies will no longer be paid to the AHC, an initial stock of working capital may be required.

If the Government wishes the AHC to continue to initiate activities which participating industries are not prepared to purchase on a fee-for-service basis, then an alternative source of funding would be necessary under decoupling. Given the relatively small amounts of money involved, the Commission considers Government funding for those ‘national interest' activities to be an appropriate solution.

- **Industry funding**

A case can also be made for levy paying industries to contribute to the funding of national interest activities (see Section 6.1.3). If this view were to be adopted, the Commission considers that such contributions should be based on the size of the respective industries rather than the size of their respective levies.

- **Promotion**

The community would not benefit from Government expenditure on promotion of horticulture domestically in competition with other products. Should, for health reasons, the Government wish to encourage increased consumption of horticultural products, this should occur under health programs rather than the guise of commercial promotion. Promotion of specific products, in both domestic and export markets, is a matter for industries themselves to initiate and fund.

However, promotion in overseas markets of Australian horticulture as a whole could benefit growers in industries which make no contribution. It may be in the national interest for the Government to contribute to overseas sectoral promotion in order to overcome inter-industry free-riding problems.

The Commission recommends that:

- Government funding continue to be available to support activities undertaken by the AHC on the basis of national interest;
- should the Government require levy paying industries to contribute to the cost of the AHC's national interest programs, such contributions be linked to the gross value of production for those industries; and
- Commonwealth funds not be made available for domestic promotion or product specific export promotion.

Detail of proposal

- **Form of Government funding**

Government funding could take a number of forms:

- general funding for the AHC to pursue its statutory objectives and functions as it saw fit;
- funding for the pursuit of more specific Government objectives, leaving it to the AHC to develop the programs;
- specific programs 'purchased' by the Government on a fee-for-service basis;
- funding to subsidise participation by industry bodies in AHC projects (eg, activities aimed at developing an export culture) as a means of encouraging them to participate; and
- a stock of working capital, if required, at the termination of existing arrangements.

- **Form of industry funding**

Should the Government decide to require that levy paying industries contribute to the cost of the AHC's national interest programs, the size of such contributions would be determined by the Minister, rather the AHC, and be linked to the gross value of production of the industry rather than being a percentage of levies. Any levies collected above this contribution would then be paid directly to the industry under the terms outlined in Section 6.2. 1. Industry contributions to the AHC's national interest programs could be conveyed to the AHC in the same forms as Government funding.

- **Promotion**

The AHC would be required to achieve full cost recovery - including an appropriate contribution to overheads - from promotional activities requested by industries.

6.3 The Commission's recommendations about AHC trading powers and export licensing

6.3.1 Trading powers

The Commission's draft proposal was that the AHC's (as yet unused) trading powers be abolished.

Participants' views

The AHC defended its trading powers on the basis that they may be required, to the advantage of industry, at some later date. The possibility was raised of another country preferring government-to-government trading arrangements.

Opponents of the trading powers supported the Commissions proposal for their abolition. The AAPGA stated it would oppose the AHC engaging in any trade.

Mid Murray Citrus Growers (MMCG) submitted that removal of trading powers was quite unnecessary, for they will only ever be used if there were overwhelming industry support to "proceed down that path and with ministerial support". It contended that opposition to the powers was "irrational and illogical emotional frenzy" (Sub.D134, p.3).

In submitting that adequate safeguards exist on the use of its trading powers, the AHC drew attention to Queensland legislation which it suggested poses more of a threat to the particular interests concerned (Sub.D122, p.39).

The HPC, whilst not opposing the removal of the powers, felt the step was unnecessary; it suggested augmentation of the safeguards so that the Minister must consult all segments of industry, including affected exporters.

Commission view

The Commission considers the AHC's trading powers to be unnecessary and possibly an obstacle to more effective co-operation with exporters. Although the powers have never been activated, exporters have expressed concern that their mere existence pose a threat to their businesses. The Commission considers that the scenarios where it is suggested the AHC's trading powers might be useful - developing new markets and meeting the requirements of importing countries - can be adequately handled through agency and export licensing powers.

> The Commission recommends that the AHC's trading powers be removed.

Detail of proposal

The AHC Act should be amended to remove the AHC powers to export horticultural products in its own right. At present, section 10 explicitly allows the AHC to export if it has the written approval of the Minister. The AHC should retain the power to act as an agent, a power explicitly granted under section 9.

6.3.2 Export licensing

The Commission's draft proposals were to confine the application of export licensing to cases where it was necessary in order to open new markets or for premiums to be extracted through market power. It was also proposed that market based mechanisms be used to allocate those licences which restricted quantities and that exporters be free to sell by whatever means they see fit, including consignment selling.

Participants' views

The AHC submitted that existing export licensing was "an effective and workable compromise in what is a less than perfect world market" (Sub.D122, p.39).

The VAPGC viewed the export licensing system as necessary for the protection from commission agents of those who produce for export. It called for a restriction on the number of licences and drew attention to the failure of the AHC's checks on the financial viability of applicants to prevent the financial failure of licence holders, causing losses to growers. Rather than viewing quality assurance and product description as undermining the rationale for export licensing, the Council believes they should be incorporated into export licensing conditions (Sub.D136, pp.6-7).

The pear industry, through the AAPGA, suggested some form of guarantee to protect growers from financial failure by exporters, along with restrictions on the number of licences and the inclusion of quality assurance. The apple industry has abolished export licensing, feeling that because there were no restrictions on the number of licences, the scheme had accomplished little other than generate paperwork. The Association saw a need to preserve some form of licensing system as a means of allocating access on an equitable basis to overseas markets which have imposed quotas.

The AAPGA does not believe that terms of trade should be imposed on exporters, considering that sale will increasingly be made on quality and reputation and growers and exporters should be able to make whatever arrangements suit them. The AHC submitted:

> The view of the AHC, based on practical experience in the realities of international produce marketing, is that consignment selling is to be discouraged, and particularly so if there is no other influence/control on exports when the horticultural industry sector through the Al-IC is specifically promoting its produce in a target market.

> To do otherwise would simply invite "free-riders" to both dump short term surplus product on a market and reduce the price structure for Australian product in that market. Additionally, and more importantly for the longer term trading future, poor quality product (off-grade, and aging product) can, and has been, dumped on overseas markets and ruined the image of the Australian product for a considerable time. (Sub.D122, p.39)

MMCG would prefer single desk exporting for Australian citrus but viewed the next best option as an AHC which "does exercise their powers to prevent destructive undercutting practices to gain market share and consignment selling by irresponsible exporters". It also submitted that a distinction should be drawn between "the use of 'market power' to raise prices" and "the prevention of destructive marketing practices that actually lower what was an achievable return" (Sub.D134, p.3).

Opponents of export licensing, such as the QCSGC and AJCE, continued to seek its complete abolition, even in the restricted cases proposed by the Commission.

In relation to the Commission's proposal for licences to be allocated by market based mechanisms, the AHC submitted that "a negotiated allocation is reasonable and not necessarily worse, and certainly less administratively costly, than some formal auction system" (Sub.13122, p.39).

Commission view

The Commission considers that many of the elements of export licensing arrangements impede the efficient marketing of Australian produce. Current arrangements control such things as the quality which can be traded, terms of sale and payment, allowable commissions and accredited importers. These restrictions constrain growers and exporters in how they sell their produce, and can result in missed sales. Controlling the quality and terms and conditions of sale tends to favour sales by traditional means, possibly at the expense of newer varieties marketed through brand names and dedicated channels. Further, the development of marketing through brand names and quality assurance schemes weakens the case for export licensing.

The Commission considers that the only 'opening new markets' case for export licensing would be where a potential importing country required Australia to restrict exports to its market. It is also conceivable that such a requirement could arise with respect to an existing market. The Commission also accepts that, in some instances, it may be desirable to restrict *quantities* exported to particular markets in order to appropriate the benefits of market power. Export licensing may be an appropriate instrument in these circumstances. However, care must be taken to avoid unnecessary restrictions.

To the extent that licensing entails the community creating a valuable right, the value of that right should accrue to the community rather than the recipient of the licence. Competitive bidding would provide a means of identifying and capturing this value. Competitive bidding would also help prevent export licensing from operating as an obstacle to the entry of new firms, which may be more innovative or efficient.

In formulating its recommendations the Commission has taken into account the infancy of internationally recognised quality assurance programs for Australian horticulture and has allowed until 1 July 1995 for their further development and acceptance before restricting the circumstances under which export licences are issued.

The Commission recommends that from 1 July 1995:

- export licensing be applied to a market only with the specific authorisation of the Minister in each case, and only when necessary:
  - to meet the requirements of an importing country; or
  - for premiums to be extracted through the exercise of market power;
- licences be allocated by competitive bidding; and
- exporters be otherwise free to sell exports by whatever method they see fit, including consignment selling.

Detail of proposal

Ministerial approval would be required for the imposition of licensing controls on a market for a particular product. Approval would be on the basis of either of the headings outlined below.

The issuing of licenses to particular businesses for sale into such markets would continue to be controlled by the AHC (or, in the case of dried vine fruit, the Australian Dried Fruits Board). Licences would be allocated through competitive bidding. Licences would not be required for markets which did not have export licensing imposed on them.

- **Requirements of an importing country**

An importing country may require that quantities exported from Australia be restricted, or that they take place through a single Australian Government nominated enterprise. The export licensing scheme would prohibit export to that market without a licence. Licences would then be issued by the AHC in a manner consistent with the requirements of the importing country.

Restrictions by importing countries other than on quantities they are prepared to import (eg, requirements that produce be of a certain quality) do not necessitate export licensing. Rather, they can be controlled by such means as AQIS certification or quality assurance, similarly to phytosanitary matters.

- **Market power**

The price Australian exporters receive in a market could be inversely related to the total quantity of Australian exports to that market. In such cases, maximising Australia's export returns could require restrictions on supplies of Australian product to the market.

Where sellers are 'price takers' they can sell as much as they like without forcing price down.

However, where a seller - or Australian sellers collectively - make up a significant part of total supply, how much they sell can affect total supply and hence market price. In such cases - provided alternative supplies are not readily available - reducing supply by Australian exporters may raise prices. Alternatively, preventing more Australian exports may prevent the market price falling.[3]

Circumstances where such market power could arise include: where Australia is the major supplier of a product or Australian sellers temporarily dominate supply (eg, due to the timing of harvests); and where the Australian product is differentiated from other sellers' in the eyes of purchasers (eg, by being considered of superior quality), insulating it to some degree from competition from other sources. However, whilst these scenarios establish an 'in-principle' case for export licensing, their practical relevance is less clear.

The export licensing scheme would prohibit exports to the market without a licence. Licences would permit sale into a particular market either at a specified minimum price, or up to a maximum quantity.

[3] This latter perspective is the one generally adopted by participants, who tend to think in terms of preventing a market being flooded rather than exercising market power.

7 OTHER COMMONWEALTH INSTITUTIONS

This chapter examines two Commonwealth Government institutions which were created in 1988 to serve Australian horticulture - the Horticultural Research and Development Corporation (Section 7.1) and the Horticultural Policy Council (Section 7.2). Another Commonwealth Government institution which has an influence on the viability of the horticultural sector is the Australian Quarantine and Inspection Service; its operations are examined in Section 7.3.

7.1 Horticultural Research and Development Corporation

The HRDC was established by the Commonwealth Government under the *Horticultural Research & Development Act 1987*, with the objective of improving the efficiency of Australian horticulture by identifying research priorities and arranging research and development (R&D) activities. Funding of R&D by the Corporation is on the basis of the Corporation (on behalf of the Government) matching expenditure on a dollar for dollar basis up to 0.5 per cent of gross value of production (GVP) for a particular industry.

The HRDC comprises a chairman and a government member appointed by the Minister for Primary Industries and Energy, six members nominated by the HRDC Selection Committee and appointed by the Minister, and an Executive Director appointed by the Corporation. the seven members of the HRDC Selection Committee are nominated to the Minister by 'eligible industry bodies'.

7.1.1 Funding

An industry may obtain matching Commonwealth funds in three ways: through a statutory levy; a voluntary levy, whereby an industry organisation may wish to collect its own R&D funds by voluntary arrangement; or a voluntary contribution, funded by an industry, organisation, or an individual that wishes to undertake a specific R&D project.

Statutory levies to collect industry funds for R&D can be established at the request of the majority in an industry.[1] In 1991-92, eight horticultural industries contributed funds in this way - apples and pears, nashi, citrus, potatoes, avocados, macadamias, chestnuts, and nursery products. (Apart from the potato industry, all HRDC industries with a statutory levy also participate in the Australian Horticultural Corporation.) The peak industry bodies of the cherry, vegetable and cut flower industries have agreed to examine possible mechanisms for introducing statutory research levies.

[1] The criterion used to determine a 'majority' varies between horticultural industries. Often it is based on a fixed proportion of producers, the volume of production, or a combination of both.

Table 7.1: **Estimated industry support, through the HRDC, for R&D in relation to gross value of production, 1991-92**

Industry	*Industry GVP* [a]	*0.5 per cent of GVP*	*Industry contribution*	*Proportion of GVP* [b]
	$'000	$'000	$'000	per cent
Citrus	242 900	1 215	450	0.19
Apple & pear	290 900	1 455	425	0.15
Stonefruit	138 000	690	117	0.08
Apricot	28 000	140	na	na
Cherry	17 400	87	na	na
Nectarine	17 400	87	na	na
Peach	50 900	254	na	na
Plum and prune	24 300	121	na	na
Avocado	23 300	117	100	0.43
Mango	15 700	78	36	0.36
Banana	181 300	907	108	0.06
Berry	32 000	160	42	0.13
Pineapple	40 700	204	22	0.05
Table grapes	52 400	262	104	0.20
Macadamia	22 000	110	56	0.25
Almond	14 400	72	38	0.26
Mushroom	78 800	394	201	0.26
Potatoes	393 400	1 967	800	0.20
Tomatoes	170 600	853	168	0.10
Onion	88 200	441	39	0.04
Other vegetable	597 200	2 986	654	0.11
Cut flowers	244 000	1 220	244	0.10
Nursery products	200 000	1 000	370	0.19

na not available.
a Industry GVP values are for 1989-90.
b Industry contributions (1991-92) as a proportion of GVP (1989-90).
Source: HRDC Sub. 47, p.15.

In 1989-90, its first complete year of operations, the HRDC had a total budget for R&D projects of just over $2 million (the sum of government and industry funds). This budget increased to $5.2 million in 1990-91. The HRDC's research program for 1991-92 involved a total expenditure of about $8 million to assist over 300 projects - an average of $27 000 per project. The Corporation anticipates that total expenditure will reach $16 million by 1995-96.

A large number of horticultural industries receive assistance from the HRDC and almost all have considerable scope to increase their level of funding to the 0.5 per cent limit for Commonwealth matching grants (see Table 7.1); only avocados and mangoes are anywhere near the limit. For example, in 1991-92 the citrus industry contributed $450 000 or about 0.2 per cent of the industry's GVP. It is entitled to receive research grants of up to $1.2 million. In 1990-91, the Commonwealth Government's obligation, if all industries had contributed 0.5 per cent of GVP, would have been $15.8 million

7.1.2 Project selection process

In 1991, the HRDC developed a five year plan for the period 1991-92 to 1995-96. The plan defines strategies which the Corporation is to follow when selecting eligible projects. In summary, the main strategies of the plan are:

> ... to direct R&D efforts into those projects likely to provide the greatest benefits; to give a coordinated national focus to R&D programs, to encourage, where appropriate, multi-disciplinary and multi-industry activities; to involve industry in the R&D planning process, to commission R&D as one way of remedying gaps that have been identified; and to give emphasis to the transfer of technological and economic knowledge to producers. (HRDC 1991, p.1)

In 1990-91, the HRDC met with 49 industry and R&D bodies. This process included formal two-day planning workshops with eight horticultural industries; nursery, processing tomato, apple and pear, mushroom, potato, citrus, avocado and chestnut. The HRDC (1991, p.16) said that the goal of each workshop was to identify and prioritise R&D objectives for each industry:

All industry representatives agree that R&D is essential to maintain, let alone develop, the economic viability of Australian horticulture. The Corporation has assisted the industry in identifying the key priorities involved, developing a vision for long-term planning, and subsequently establishing the R&D strategies required to achieve industry objectives.

Common priorities for each industry were identified as:

- market research;
- quality assurance schemes/product quality; pest and disease management;
- cultural practices/production systems/orchard design; post harvest/product handling/storage;
- varietal performance;
- technology transfer; and new and value added products.

Each year the Corporation invites research agencies to submit project proposals which may qualify for support using Commonwealth funds and industry funds raised by statutory levy. The research agencies are made aware of each industry's research priorities and are expected to target their proposals accordingly. A technical committee comprising Corporation members and industry officials assess and decide on the eligible research proposals. Almost all statutory levy funds are expended in this way.

Projects which are to be part funded from voluntary contributions must meet a number of selection criteria before the HRDC will approve the expenditure of Commonwealth funds. For example, the HRDC considers the:

- scientific merit of the project and clarity of research objectives;
- adequacy of personnel, facilities and time for project completion;
- probability that the research project will achieve its objectives;
- project costs in relation to benefits;
- applicability of the project results to the entire community; and
- ease by which the R&D findings can be communicated to potential users.

7.1.3 The role of the HRDC in horticultural research

Substantial horticultural R&D is undertaken throughout Australia by a range of organisations within the public sector - State Departments of Agriculture, CSIRO, Australian Bureau of Agricultural and Resource Economics and Universities (see Appendix J). Although most horticultural R&D is carried out and funded by these other organisations, the HRDC does influence the actual research that is undertaken. Dr Rigney of the HRDC explained this process:

> ... research organisations are now looking for a proportion of their funding to be provided externally from organisations like ourselves. An important point, 1 think, in the allocation of funds by the research corporations like HRDC is that it's highly discretionary - it's marginal funding. So it does have considerable leverage in terms of directing other resources from those research agencies into specific areas. An often quoted figure is something like about three to one, where if we put $50 000 into a project, the research agency could well he putting $150 000 of its own resources into it. (Transcript, p.881)

The HRDC gave some examples of its role in improving the co-ordination of R&D resources and objectives:

> The strengthening of the strawberry breeding program (involving Victoria, SA and WA), the potato breeding program (involving CSIRO, WA, NSW, Tasmania and Old), and the reduction of cadmium levels in root vegetables (involving CSIRO, WA, NSW, Tasmania and Old) are typical of the networks being established across Australia. While it is true that some researchers may have been a little slow in realising the advantages of this networking, all the major State agencies now support the co-ordinated approach as being the most cost-effective mechanism for providing R&D support for industries, both nationally and within their States. (Sub.13121, p.5)

7.1.4 Participants' views

The Murray Valley Citrus Marketing Board welcomed the introduction of the HRDC:

> The HRDC appears to be an effective and satisfactory body to administer research expenditure. It is seen as responsive, cost effective and having a good understanding of industry needs. Growers have accepted the need to provide some funding of HRDC, but it is believed that as the entire economy benefits from the horticulture industry, it is appropriate that a significant part of research funding should come from sources other than direct taxes on growers which, incidentally, are levied regardless of grower profitability. (Sub.63, p.10)

The Nursery Industry Association of Australia Ltd, supported the establishment of the HRDC, but warns that care must be taken when allocating levy funds to specific projects:

> The advent of the HRDC and the nursery pot levy are promising developments. The HRDC faces major industry dissatisfaction unless it ensures that:
>
> - work is relevant
> - there is equity to those who contribute and that national centres of excellence are perceived and encouraged with consideration of the need for a presence in each State
> - that communication flows nation wide from the research workers to industry
> - that it works with the industry to develop non-parochial approaches via councillors and others with a national vision
>
> The work HRDC has carried out on industry planning and strategies is worthwhile but they are working with an impatient entrepreneurial and fragmented industry nationally who may see the pot levy as yet another tax unless it delivers benefits. (Sub.107, p.7)

The Queensland Government also supported the HRDC because it increases the level of total horticultural R&D:

> It is estimated that the total annual investment in research and development to support Queensland's horticultural industries is only slightly in excess of 1% of the gross value of the industry. The major share of this is provided by the State Government although industry has been steadily increasing its contributions to research and development work. If industry was to increase its contributions to 0.5% of the gross value of the industry as proposed by the HRDC then with a similar matching industry contribution of 0.5% which is available from the Commonwealth Government, total investment in research and development would rise to close to the 2% figure. Based on funding levels overseas, research contributions of this order appear fundamental to accelerating industry development and international competitiveness. (Sub.91, p.6)

7.1.5 The Commission's view

Although the HRDC consults with industry organisations to identify areas that require research, only a relatively small number of industries have ongoing statutory research levies. Some major industries such as bananas, stonefruit and vegetables contribute research funds on a voluntary basis. In 1990-91, the horticulture sector channelled about $2 million dollars of voluntary contributions (74 per cent of total contributions) through the HRDC which were matched by Commonwealth Government funds. These contributions far outweighed the contributions from statutory levies of $650 000. The HRDC (1991) noted problems caused by the voluntary contribution mechanism:

> Such arrangements have the advantage of being speedy to introduce and collection costs may be substantially less than for levies. Their disadvantages include the problem of 'free loaders' and the more uncertain funding base upon which the Corporation has to make plans. (p.5)
>
> ... the Corporation will give high priority to developing coordinated R&D programs for those industries which contribute to its activities by way of statutory levy or on-going voluntary contributions. The fostering of industry-based R&D advisory groups is seen as an important step in ensuring close industry involvement in the programming and evaluation of the Corporation's activities. (p.14)

In the draft report, the Commission suggested that, because all horticultural industries contribute significantly less than the 0.5 per cent of the GVP limit for matching Commonwealth Government funds (see Table 7.1), there was the possibility that some individuals would seek Commonwealth funding for a project even though it may not correspond with industry-wide priorities and the assistance may not be necessary to carry out the R&D. The HRDC has since informed the Commission that 1n those cases where a voluntary contribution is provided by private interests to assist in the development of a new technology or product, the Corporation would only support such a project if there was to be a wider applicability." Dr Chris Rigney, Executive Director of the HRDC, explained that the Corporation, in April 1992, rejected over $1.5 million in potential voluntary contributions because the projects were either technically unsound or they did not meet the HRDC's selection criteria (see Section 7.1.2).

Possible changes to the levy arrangements for the AHC, which could make it easier for industry to alter the level of funds contributed to the HRDC, are discussed in Chapter 6.

7.2 The Horticultural Policy Council

The Council is a statutory authority of the Commonwealth Government established under the *Horticultural Policy Council Act 1987*. The stated aim of the HPC is to "facilitate the development by the Commonwealth Government of sound, consistent and comprehensive policies in relation to Australian horticultural industries through the coordinated participation of those industries in the policy formulation process."

The Council consists of 16 members representing horticultural growers, processors, marketers, exporters and employees. The Council membership also includes representatives of the Australian Agricultural Council, and the Chairpersons of the AHC and the HRDC.

The Council Secretariat is staffed by four officers seconded from the Department of Primary Industries and Energy (DPIE). Total administrative costs of the Council for 1990-91 were $401273 which were funded by the Commonwealth Government.

7.2.1 Functions

The functions of the Council are to:

- examine, on its own initiative, issues affecting the horticultural sector and report to the Minister;
- examine matters relevant to horticulture referred to it by the Minister; and
- develop recommendations, guidelines and plans for measures designed to safeguard or further the interests of horticulture.

7.2.2 HPC Working Groups

Working Groups are established to examine issues of importance to the horticultural sector which are identified by the Council or by the Minister. The role of a working group is to review a specific issue and recommend appropriate policy changes. Groups that have operated in the last three years include the:

- Export Standards and Inspection Working Group;
- Fruit Fly Working Group;
- Fire Blight Working Group;
- Quarantine Working Group;
- Horticultural Industry Statistics Working Group (now transferred to the AHC);
- Horticultural Propagation Working Group;
- Horticultural Imports Working Group;
- Future Directions Working Group.

The Future Directions Working Group, which was established by the Council in early 1991, is a good example of the review process undertaken by the Council. The Group consisted of five Council members and the executive directors of the AHC and HRDC. It was given the task of identifying the opportunities and constraints to the longer term growth of Australian horticulture. The Group received 143 written submissions and held industry meetings in each State. In August 1992 the Group published a report entitled 'The Way Forward: Future Directions for Horticulture.'

The Future Directions report presents a vision for horticulture in which domestic sales expand significantly and there is a five-fold increase in exports. According to the HPC, horticulture will be strongly internationally competitive and there will be a greater role for larger, well-financed vertically

integrated businesses. There will also be microeconomic reform at the waterfront and in the labour market, an effective system of transmitting market signals regarding quality and quantity requirements, increased consumption per head, and processing plants which have adopted world best practices.

> This vision for horticulture within the first decade of the 21st Century constitutes major changes from current attitudes, practices and operations. These include the development within the sector as a whole of a world competitive outlook, an export culture for large segments of industry, commitment to providing what the markets want and an ability to provide produce at competitive prices (HPC 1992, p.3).

In encouraging industry and governments to implement a series of policies and measures to realise this vision, the HPC report directs broad recommendations and actions to each of the horticultural sector, governments and the HPC itself. However, these recommendations and proposed courses of actions have not as yet been expressed in terms of implementable policy instruments.

The Commission received little comment on the HPC.

7.2.3 Other activities

The Council also participates in other Government and industry inquiries/reviews that involve horticulture, such as the Senate Select Committee on Agricultural and Veterinary Chemicals, and the Market Access Committee of the AI-IC.

7.3 Australian Quarantine and Inspection Service

AQIS operates as a unit of the DPIE, with key responsibilities for export food inspection and the administration of Australia's system of quarantine security. Total AQIS expenditure in 1991-92 amounted to $176 million of which horticulture accounted for about $10 million. AQIS's role in the horticultural sector requires it to:

- assist safe entry and release of biological control agents aimed at combating existing pests and disease problems;

- participate in the development of international sanitary and phytosanitary standards and procedures consistent with Australia's national interests, and to pursue Australian interests in such negotiations;

- maintain needed protection against the entry and spread of exotic pests and diseases, while facilitating the importation of food, plants and related products; and

- aid the export of Australian food, plants and related products by providing information, inspection and certification to meet mandatory overseas country requirements, and to fulfil Australia's commitments under international obligations and treaties including fitness for human consumption, truth in labelling and plant health.

AQIS food inspectors and support staff are located widely throughout Australia to service the food industries - meat, processed foods, prescribed grains, horticulture and live animals. State and Territory Governments undertake quarantine and horticultural export inspection operations on behalf of AQIS.

It was announced in the Commonwealth Government's 1990-91 budget that AQIS was to charge the full cost of providing quarantine and inspection services to industry. Thus, all of AQIS's costs incurred in running the horticultural program, which are not classified by the Government as 'community service obligations', are required to be met by importers and exporters of horticultural commodities.

At the time of finalising this report, AQIS and the Department of Finance were negotiating which aspects of AQIS's operations should be cost recovered and which should be funded by the Commonwealth Government. These negotiations must be settled by 1 July 1993 at which time AQIS will operate using a trust account. AQIS has proposed that four areas of its activities be classified as community service obligations:

- activities associated with the maintenance of Australia's animal and plant health status, such as participation in technical committees, conducting research on animal and plant health matters, and undertaking pest and disease control and eradication;

- some areas of quarantine and inspection surveillance and deterrence, such as information provided to the public on quarantine and food inspection requirements, surveillance at air and sea ports and the northern coastline, and identification and prosecution of offenders;

- participation in bilateral and multilateral consultations with major trading partners on quarantine and inspection issues which aim to maintain or extend market access and mutual trade growth; and

- government business activities which are performed by AQIS for the Government, such as the preparation of Ministerial responses and speeches, input to Cabinet submissions and the preparation of Annual Reports. Included in this category is the cost of previous government decisions such as the cost of redundancy packages for surplus staff.

Since the announcement of the policy of full cost recovery, AQIS and representatives of the various horticultural industries have established a review group of over 20 industry organisations to discuss inspection and charging practices. AQIS has found that the diverse nature and structure of the horticulture sector has been an impediment to formulating and implementing appropriate policies.

Subsequent to the release of the draft report, many participants identified AQIS as an institution which has an important effect on the competitiveness of horticulture. The large number of comments was prompted by substantial rises in export inspection charges and an options paper published by AQIS in November 1992 on charging mechanisms for export inspection and certifications services (see Box 7.2).

7.3.1 AQIS's role in quarantine

AQIS is responsible for administering Australia's quarantine laws to prevent the entry into Australia of exotic pests and diseases whilst providing for safe importation of genetic material required to satisfy producers' demands for new and improved cultivars. The cost of providing these services is charged to importers. In 1992-93, for example, AQIS estimates that it will cost $2.2 million to operate Australia's plant quarantine stations and $4.4 million to inspect imported food - horticultural importers are major users of both services.

The performance of AQIS in carrying out its import quarantine activities received relatively little comment from participants compared with its export inspection service. However, other issues regarding the nature of quarantine arrangements did receive participant criticism which the Commission has addressed in other sections of the report:

- the use of quarantine regulations as a potential barrier to imports and exports (Sections 3.7.1 and 4.6.2, and Appendix L);
- the operation of interstate quarantine regulations, which is the responsibility of State governments (Section 3.1.6); and
- recent changes to food inspection standards (Section 3.6)

7.3.2 AQIS's involvement in horticultural exports

AQIS undertakes three activities which affect horticultural exports - phytosanitary certification, quality (or condition) certification and export market access negotiations. The options available to industry to have phytosanitary and quality certification (which are commonly referred to as export inspection services) are examined in this section; access to foreign markets is discussed in Section 7.3.3.

Export inspection costs are an important issue to horticulture because they are an unavoidable cost which must be paid if exports are to be sold in certain markets. In 1991-92, inspection charges totalled $3.8 million or about 2 per cent of the total value of horticultural exports. The Queensland Fruit and Vegetable Growers (Sub.D130) estimated that inspection costs account for about 5 per cent of the direct costs of exporting. The AHC (Sub.D122) said that for exporters of mixed lines of fresh fruit and vegetables in the Pacific, export inspection costs can amount to 11 per cent of the free-on-board value of exports.

AQIS's primary export inspection role is to provide phytosanitary certification. The phytosanitary certificate is a government-to-government requirement and is issued in accordance with Australia's international obligations attesting the acceptable plant health status of the consignment certified. About 20 per cent of horticultural exports require a phytosanitary certification. According to AQIS, if the certification procedure fails:

> ... then the industry, and the nation, may suffer the consequences of restricted or lost trade. The subsequent reflection on its integrity may also weaken AQIS' negotiating position on access for other commodities. (Sub.51, p.15)

Mandatory export inspection for commercial aspects of quality, undertaken by AQIS, ceased on 1 July 1991. Now if an exporter requires non-mandatory documentation relating to quality or condition it can be obtained from AQIS at $60 per certificate (see Table 7.2). Other commercial operators are also able to provide quality certification. For example, SGS (Australia) Pty Ltd inspects the quality of all shipments of horticultural produce to Indonesia valued in excess of $US5000.

Three options are currently available to horticultural exporters seeking phytosanitary or quality certification:

- conventional inspection;
- Certification Assurance agreements; or
- Australian Horticultural Quality Certification Scheme (AHQCS).

Conventional phytosanitary and quality certification is issued by AQIS on the basis of the assurance given by an inspection of each consignment by an AQIS officer prior to export. This can be costly to the exporter, particularly if the consignment is rejected.

Until recently, all phytosanitary certifications required an AQIS inspection, but now certification can be carried out by industry in operations that have adopted AQIS arrangements for quality assurance, provided that the importing country agrees. Under quality assurance programs, responsibility for ensuring that a product meets phytosarlitary or quality requirements rests in the first instance with growers who must design, implement and maintain systems for this purpose and demonstrate competency in their use.

Certification Assurance is an arrangement promoted by AQIS under which export establishments meet, under agreed conditions, all relevant legislative and certification requirements. AQIS provides certification based on assurance gained through initial inspections and continual auditing/monitoring of the effectiveness of the documented system operating at the establishment. This arrangement enables AQIS to cease routine inspection of exports.

The AHQCS, administered by the Australian Horticultural Corporation, offers exporters certification to the international quality system standard, ISO 9002, based again on quality systems in individual establishments. This is certification of a quality system, not of quality itself - although such a system can be used to satisfy quality standards. The scheme is audited and assessed by the National Association of Testing Authorities. Provided it meets the requirements of overseas government authorities, the AHQCS certification can be designed to encompass AQIS requirements for phytosanitary certification.

AHQCS and AQIS's certification assurance arrangement are both based on the ISO 9002 quality systems standard. Certification assurance satisfies international regulatory requirements such as phytosanitary, labelling and food health issues. AHQCS certification is a full quality management system requiring compliance with all elements of the standard.

AQIS said that until recently the horticultural industry had been slow to adopt quality assurance, but indications are that, now phytosanitary certification is feasible under a quality assurance arrangement, there will be a significant increase in interest. AQIS also said that overseas buyers are encouraging potential suppliers to develop quality assurance schemes.

The indirect costs imposed on horticultural exporters to ensure that products comply with export controls are substantially larger than the direct inspection costs. These costs are in the form of additional plant and processing arrangements which on commercial grounds would be judged unnecessary to meet the demands of the targeted export markets. The indirect costs of compliance are unavoidable because they are essential to qualify for Australian government certification demanded by the government of the importing country. However, there may be scope for reducing the indirect costs of compliance for some export markets and for some products (see Section 4.6).

Service charges

In 1991-92, AQIS spent $6.3 million on its horticultural export program which covered the cost of providing certification services, export market access work (see Section 7.3.3), office costs and other infrastructure costs. AQIS charged $3.8 million, or 60 per cent, of the cost of providing those services. In 1992-93, AQIS expects to recover $5.9 million, or 96 per cent, of the cost of undertaking its horticultural program.

There are three levels of charges for the horticultural export program - inspection fees, registration fee and document charges (see Table 7.2). The basic methodology for setting charges is to determine the costs that are attributable to a particular program, and then to determine the combination of charges which will enable cost recovery. In 1991-92, the cost of running the horticultural program was recovered through inspection fees (80 per cent), registration fee (16 per cent) and document charges (4 per cent).

The establishment registration fee is a fixed annual amount of $346 which is charged to all horticultural export establishments. Ibis fee must be paid if an exporter wants an AQIS inspector to visit their shed to inspect and certify product.

There are three types of document charges - export permit, condition (or quality) certificate and the phytosanitary certificate. The export permit is required for all exports of horticultural products whether inspected or not. The permit signifies to the Australian Customs Service that the produce can be exported; it is also used as the basis of export statistics. A phytosanitary certificate is required for specified horticultural products by certain importing countries. A certificate of

condition is issued only on request, as a result of a commercial decision made by the exporter and is additional to the charge for the export permit. The certificate of condition and the phytosanitary certificate are only issued on inspection, except where specific certification assurance arrangements are in place.

Fees are charged for inspections associated with the issue of phytosanitary and condition certificates. In the case of a phytosanitary inspection the first certificate for commodities going to the one country is included in the charge. Inspections are also required to audit operations with quality assurance programs in place. The inspection charge is set at $86 per half hour regardless of the location; there is no charge for the travelling time required to arrive at the inspection point.

Table 7.2: **Schedule of AQIS horticultural charges, 1991-92 and 1992-93**

Service	*1991-92 charge*	*1992-93 charge*
Establishment registration	*$150* per year	*$346* per year
Document charge		
phytosanitary certificate	*$20* per certificate	*$30* per certificate
certificate of condition	*$55* per certificate	*$60* per certificate
export permit	*$20* per permit	*$30* per permit
Inspection fee		
on site inspections	*$72* per half hour	$86 per half hour
in office inspections	$18 per quarter hour	*$43* per quarter hour
daily rate	n/a	*$745* per day

Source: information supplied by AQIS

Under the present arrangement, costs for phytosanitary and quality certification are equalised across exporters, industries and States. There is no incentive for inspection officers or for exporters to carry out inspection activities in an efficient manner or to seek productivity improvements. For example, it would be efficient if an exporter with several containers of produce to be exported, each requiring a separate inspection, organised so that all inspections were carried out at the same time. But under the present system the exporter pays only for the actual inspection time and has no incentive to reduce the waiting or travelling time of the inspector.

Participants' views

There were three main criticisms of AQIS's export inspection services - the move to full cost recovery, the export permit charge and the lack of flexibility in charging arrangements.

The major concern which participants had with the operation of AQIS was the move to full cost recovery for export inspection services. The implementation of full cost recovery was said to counter the policy of encouraging export competitiveness. The Tasmanian Government said:

> It is of great concern that fees could rise dramatically to full cost recovery in 1993. Substantial fee increases will reduce the viability of small exporters and work against the establishment of new export industries. (Sub.127, p.2)

Payment for AQIS clearance is a direct cost of exporting. Where clearance costs are substantial they can deter potential exporters, particularly those wishing to start on a relatively small scale and gain some exporting experience. Ernest Pardy and Sons submitted information showing charges for export permits, phytosanitary certification and inspection of small consignments to Pacific Islands. They said that charges of $20 applied to consignments with values less than $100 discouraged exports.

The degree of government subsidisation of export inspection services varies between countries (see Box 7.1). Australian Joint Citrus Exporters Pty Ltd criticised Australia's policy of full cost recovery because the same policy was not faced by overseas competitors:

> ... AQIS clearance activities are a government imposed handicap on industry rather than a form of assistance; the nation is being disserved by Australia's exports of horticultural produce being made less internationally competitive by the imposition of higher government export charges than those applied to other exporting countries with whom we must compete. (Sub.D138, p.2)

The Queensland Government supported the policy of charging the cost of a service to those who benefit:

> While industry asserts that these changes discourage exports, the 'user pays' concept behind the charges is widely supported by government. Industry also claims an element of public good in performing the export function and this issue appears to warrant being kept under review. While government should not set high charges which deter export development, it should also not subsidise industry unless the element of public good has been clearly identified. (Sub.91, p.12)

The payment of $30 for an export permit, regardless of the need for an inspection service, drew particular criticism from participants. The Australian Apple and Pear Growers' Association commented:

> The form EX28, which is required to be submitted for all export consignments, is a duplication and again little more than a money raising exercise for AQIS. The same information is submitted to Customs and the Australian Horticultural Corporation and c-an be obtained by AQIS from these sources. AQIS obtain the same information on other forms they require to be lodged. (Sub.135)

The Queensland Government was also critical of the charge for an export permit:

> ... the continuing requirement for AQIS 'export permits' on the basis that these provide useful data on export activities should be reconsidered. The data is available from Customs clearance procedures. It is seen by industry as duplication of effort and an unnecessary cost to trade. (Sub.91)

The horticultural export permit fee raises about $200 000 per year. AQIS argued that the fee enables a more equitable spread of the cost of providing and maintaining export access to markets requiring phytosanitary certificates (see Section 7.3.3).

Box 7. 1: **Overseas export inspection arrangements**

Australia has adopted a policy of full cost recovery for its inspection services; some other countries have some form of cost recovery.

New Zealand, one of Australia's strongest competitors in horticultural exports, also recovers the fun cost of its inspection service. New Zealand charges exporters an inspection fee (NZ$66.60 per hour), a travel rate (NZ$0.62 per km) and export certificate fee (NZ$14.50 each). Argentina also recovers the full cost of inspection services.

In the United States the Animal and Plant Health and Inspection Service (part of the United States Department of Agriculture) recovers the cost of inspecting the baggage of airline passengers for plant and plant products arriving from other countries, for issuing phytosanitary certificates and for quality certification. The cost to exporters for a phytosanitary certificate is US$30. If a certificate has to be reissued there is a $6 fee imposed. An overtime fee for weekend work is also charged. APHIS uses retired employees on an 'as needed' basis to supply peak demand. Industry can also use, in certain cases, appropriately trained, certificated and audited private sector organisations to provide certification.

Canada is currently examining the policy for full cost recovery and does recover for some services.

European governments generally pursue the policy of 'export facilitation' by not recovering their inspection costs, thereby reducing producers' costs; however there are exceptions as some costs are recovered fully.

The Japanese Ministry of Agriculture, Fisheries and Forestry applies a small charge on exporters for the issuing of a phytosanitary certificate (AXE, Sub.1)158, p.2).

Source: AQIS, Sub.51, p.13.

The lack of flexibility in inspection charging arrangements was another issue that raised criticism. The Queensland Fruit and Vegetable Growers said:

> Presently, AQIS charges are based on an average of the summation of the costs of the various State Departments of Agriculture/Primary Industries plus AQIS costs for administration and market access activities. The State Departments comprise 80 per cent of the costs of the export inspection activity, and it is acknowledged that some States are more efficient than others in the delivery of the inspection services. QFVG believes that this cross subsidisation is perpetuating the maintenance of inefficiencies and acting as an impediment or disincentive to export. (Sub.130)

The Nursery Industry Association of Australia was concerned by the:

> ... high overheads carried by the revenue-generation sectors of AQIS and the lack of relationships between the nature of the services and the charges imposed, ie visible value for money.

The Australian Joint Citrus Exporters (AJCE) detailed the costs involved in having a Japanese quarantine official pre-inspect citrus exports to Japan. Costs in December *1992* for the official were a daily salary of $226, overtime of $45 per hour and an accommodation allowance of $164 per day. Despite these costs, the AJCE stated:

> AQIS charges are now at levels where, if it were possible, it would be cheaper for Queensland citrus suppliers to bring 2 Japanese officials to Australia and completely eliminate the use of AQIS personnel for exports of their citrus to Japan. (Sub.D158, p.3)

The Australian Horticultural Export Council commented:

> Many exporters consider existing AQIS charges are exorbitant. Whilst full cost recovery is not debated, it is the level of charges that are. Does AQIS have excessive costs? AQIS has a monopoly in performing export inspection and there is no way of testing whether AQIS charges are excessive. The use of private sector agents to provide competition would be one way of testing this.

The AHC would also like to see competition introduced to AQIS:

> The AQIS inspection rates are out of all proportion to the service provided. It is not disputed that the charges may represent 'full cost recovery'. What is challenged is the AQIS cost structure that requires recovery. The AHC can see no reason why inspection procedures should not be franchised out to the private sector on a regional basis. (Sub.D122, p.41)

The Commission's view

In its *1989* report on the 'Food Processing and Beverages Industries' the Commission recommended that exporters assume greater responsibility for their own quality standards and that they should bear the full cost of quality and phytosanitary certification. The Industry Commission still considers that the benefits of export inspection accrue mainly to exporters and they should bear the full cost of that inspection.

The Commission has observed that some aspects of AQIS's charging system for export inspection impede the development of internationally competitive horticultural industries. The equalisation of inspection costs throughout Australia reduces the incentive for industry or AQIS to lower horticulture's total inspection cost and discourages some exporters from entering markets that require the AQIS inspection service. The lack of reform in this area can be explained, in part, by the monopoly supply that AQIS has in providing phytosanitary certification.

Inefficiencies will result when charges do not reflect the level of service provided. One obvious example of this is the AQIS inspection fee which is based only on the time taken for the inspection and spreads travel costs across all inspections by incorporating them into the equalised half hourly inspection charge. Another example is that AQIS makes no allowance in its charging rate for the number of consignments to be inspected in the one day.

In those areas where no competition to AQIS is possible there still should be some flexibility in the charging arrangements to encourage efficient decision making. Variations based on travel costs and number of consignments are obvious areas for action. In addition, State Government agencies which currently carry out the inspection service should be required to publish their costs so that industry is aware what it is paying for.

> The Commission recommends that, to encourage more efficient use of its services, AQIS better align its charges with the costs of providing services.

The Commonwealth Government's decision to charge the full cost for AQIS services has recently been fully implemented and industry is only now feeling the full impact of the policy. Industry and AQIS have started discussion on ways to reduce the burden of charges (see Box 7.2) but beneficial change is yet to occur. One way of ensuring that change does eventuate is to introduce competition to AQIS activities.

The nature of AQIS's work is to provide statutory assurances that government-to-government agreements are being satisfied. Even so, there are examples in other countries of private sector organisations undertaking phytosanitary certification on behalf of government. It is also possible to ask overseas governments if they would accept phytosanitary certification from private companies that have been accredited by AQIS. Another option is for AQIS to contract out its inspection service to State agencies or private organisations, the overall objective being to encourage competition that will place a discipline on AQIS costs and the level of service it provides.

> The Commission recommends that the Department of Primary Industries and Energy report on the scope for introducing competition in the provision of some or all of AQIS inspection and certification services, possibly by franchising or contracting them to a range of State authorities or any other suitably qualified organisations.

The Commission notes that these recommendations are consistent with the options for reform presented by AQIS in its November 1992 discussion paper (see Box 7.2).

Changes to the level of inspection costs will be shared among importers and exporters according to the price responsiveness of underlying demand and supply relationships. To the extent that export supply is less price responsive than export demand, which is likely to be the case for most horticultural products, changes in inspection costs will affect exporters more than importers. This is the case for decreases as well as increases in charges.

Box 7.2: **AQIS's options for reform**

In November 1992, AQIS released a discussion paper which outlined options for reform of the charging mechanism applied to its export inspection services. In A six options were put forward for industry consideration.

Travel change

A travel charge could locate all operators or inspection sites within specified zones. The total inspection charge would then be determined by adding the inspection fee (estimated at $37 per half hour) and the travelling charge (estimated at $15 per half hour of travel from the inspector's office).

Quantity based charge

A fixed charge per tonne could cover the costs of market access negotiations. At present 50 per cent of Canberra office costs are a result of securing and maintaining market access. The current inspection fee arrangements would stay in place.

Centralised inspection

Travel time, and consequently costs, could be reduced by providing services only at centralised points (eg, AQIS import/inspection centres, or other central locations such as markets). The locations of such sites would be determined through consultation with industry and the level of activity at particular sites.

The franchising of AQIS operations to the States

AQIS's inspection responsibilities could be franchised to the States to administer but in accordance with national standards established by AQIS. States could then determine more flexibly how they deploy staff and charge for services. This option would have the effect of allowing different rates of charge to be set in different States.

Putting the inspection service up for tender

Expressions of interest could be sought from suitably qualified organisations or contractors (including the States) who believe that they can provide a more cost-effective service. AQIS has doubts that the current access arrangements with overseas countries would allow this option to proceed without re-negotiation of access agreements. Thus, it could take some considerable time to fully implement this option.

Development of a compulsory form of quality assurance

All exporters could be required to adopt quality assurance arrangements, thus overcoming the problem of peak levels of demand.

Source: AQIS 1992,

7.3.3 Access to foreign markets

Access to markets may be sought by State Governments, marketing organisations, exporters or by individual producers. However, only AQIS, on behalf of the Commonwealth Government, can negotiate directly with overseas authorities for the removal of quarantine restrictions on Australian exports. The Department of Foreign Affairs and Trade is responsible for the non-quarantine aspects of market access.

In 1991-92, AQIS spent about $543 000 on market access negotiations for the horticultural sector. Approximately, $325 000, or 60 per cent, was recovered from industry. The future level of industry funding of market access negotiations is dependent on the outcome of AQIS negotiations with the Department of Finance. AQIS is arguing that all market access costs should be paid for by the Commonwealth Government.

At present, market access costs which are attributable to industry are recovered through AQIS charges. A proportion of the registration fee, document charges and inspection fee are used by AQIS to cover industry costs. The proportion of each charge that AQIS uses to cover these costs is fixed across all horticultural industries. Thus, AQIS bases its recovery program on the total cost of market access work for horticulture rather than on the cost of providing access activities to individual industries. It is possible that some horticultural industries, which are paying for market access activities through AQIS's charging system, do not receive or require access negotiations.

The export permit fee raises about $200 000 per year or 36 per cent of the cost of undertaking horticultural market access activities. One justification for the export permit fee is that it roughly relates the benefits from market access negotiations, and the work undertaken to keep markets open, by charging all exporters a fee for each export consignment.

In some cases quarantine risks identified by overseas authorities can be overcome by the use of post harvest disinfestation treatments. It is then the responsibility of the Australian industry to demonstrate the efficacy of such treatments by appropriate research methodologies and, through AQIS, to submit the results to the proposed importing country for approval. Funding for the disinfestation research is currently granted by the Commonwealth Government through the Standing Committee on Agriculture. AQIS is also responsible for ensuring the research data meet the requirements of the importing country.

AQIS's plant quarantine officials hold regular bilateral technical discussions with their counterparts in the United States, Japan, New Zealand and Canada to progress quarantine issues relevant to trade in horticultural commodities. AQIS has also participated in the GATT negotiations group examining measures to reduce the scope for quarantine to be used as a trade barrier.

In 1989, a Market Access Committee, comprised of key industry and some government representatives, was established by the AHC on behalf of the HPC (see Section 5.1.
8).

The function of the Committee is to prioritise efforts for market access. AQIS is a member of the Committee and has taken the recommended priorities as a guide to its expenditure on negotiating with overseas quarantine authorities. The Committee has identified trade and infrastructure impediments as a greater problem than phytosanitary barriers.

In early 1992, AQIS implemented an export facilitation program. Part of the program involved the placement of AQIS staff in Sydney, Melbourne, Brisbane and Perth to advise exporters. Advice is given on the entry conditions and certification arrangements which apply in importing countries.

Participants' views

AQIS believes that Australian horticulture lacks a commitment to the export market because of the fragmentation, limited communication and insular marketing attitudes of those in the industry. According to AQIS, this is reflected in the failure of industry to take advantage of market access agreements negotiated by AQIS:

> Access is being negotiated for untreated tablegrapes to be exported to Canada. However, the industry has not been able to supply sufficient quantity to enable the Canadian authorities to make satisfactory assessments of the trial conditions for shipment. This situation is caused in part by the industry's reluctance to commit shipments which might be refused entry but, until sufficient shipments are made, the Canadian authorities will not be able to agree to continuing conditions for imports. (Sub.51, p.5)

AQIS argued that industry must "commit itself to taking greater advantage of access achieved into overseas markets to date" or face the possibility that overseas authorities will not be prepared to undertake any further negotiations.

Participants pointed out that AQIS has on occasions negotiated access, but subject to conditions which were unreasonable or uneconomic. It was claimed that the negotiators are not sufficiently familiar with individual horticultural industries. Mr Lovett, of the Australian Horticultural Exporters' Association, gave the following example:

> ... it is not the market access committee unfortunately that goes along and tries to negotiate the access. It is usually somebody from Canberra in AQIS and sometimes he is not practically minded towards what is feasible and what is not feasible. They sometimes go along and negotiate an entry for a product into a certain country and come back and say, "Well, here we are. We have negotiated brussel sprouts into Canada for you." But what they didn't negotiate was a viable export situation whereby the Canadians say we can get them in as long as we cut them in half and then dip them in boiling water and rub them in salt, when we jolly well know we can't do that. (Transcript, p.1212)

Mr Jackson, of the Australian Joint Citrus Exporters, outlined some problems that he had experienced with AQIS's access negotiations for citrus into the Japanese market:

> ... we have had quite a number of occasions to go to the Japanese government direct ourselves seeking clarification or seeking information on some points that none is available on. ... after the first few approaches they do listen to us and talk to us and at times they have told us that the information we have been given by our own government is incorrect. What I'm suggesting is that market access is an area that does require attention and we would believe that there's no good reason why our own government, when talking to overseas government about market access issues, should not be prepared to allow industry representatives to be involved. (Transcript, p.1229)

The AHC also commented on this issue:

> Australia's access to some major international markets has been severely restricted by the application of quarantine concepts out of all proportion to their significance or reality. For example, negotiations by AQIS with their Japanese counterparts for access for Australian applies have been continuing for over 30 years. It is the view of significant sectors of industry, as well as the AHC, that a more co-ordinated negotiation process needs to be developed between AQIS, industry and the AHC. While it is acknowledged that AQIS has a lead role in technical areas of quarantine negotiations, experience in other countries such as the United States and New Zealand has demonstrated the value of industry involvement in the broader negotiation process. International negotiations need to include skilled agricultural negotiations. (Sub.D122, p.40)

AQIS (Sub.51, p.3) said that it 1s amenable to industry participation in separate briefing or comment sessions, with it and the overseas authorities. However, this would have to be agreed to by those authorities as part of the arrangements for each meeting."

The Commission's view

Market access negotiations have the potential to open up flew markets of significant value to horticulture. Australian industry and AQIS should therefore be operating in a co-operative manner to ensure that the best results for Australia can be achieved. The Commission has been presented with examples which suggest that this approach has not been followed. "The lack of specialist industry involvement in access negotiations, where compromise decisions are sometimes made, can result in agreements which reduce the value of access to industry.

One possible way of improving the relationship between AQIS and industry is to alter the basis on which industry is charged for market access activities. At present, market access costs are recovered indirectly through the export charging system. However, a more productive relationship between industry and AQIS may result if industry had the opportunity to fund access negotiations directly and therefore was able to specify the actual markets it would like targeted and the amount of work required.

Other benefits would arise if industry directly funded access negotiations. For example, it would simplify AQIS's charging practices and reduce the cost of inspection, registration and document services. It would eliminate the potential for cross-subsidisation of market access activities between horticultural industries and regions that can occur under the present system. Ultimately, it would encourage efficiency in resource use by allowing industry, which is financially motivated to seek profitable markets, a greater role in determining market access priorities.

The Commission considers that ideally horticultural industries should pay directly for market access negotiations carried out on their behalf by AQIS. However, the cost of those negotiations is relatively small (about $500 000 per annum) and it is likely to prove costly to administer a system of direct payments. There are thus no strong grounds for changing the existing indirect method of funding. Nevertheless, the Commission considers that industry must have a greater say in the details of market access negotiations and recommends that be achieved via the Market Access Committee.

> The Commission recommends that a mechanism be established, through the Market Access Committee, so that horticultural industry representatives have a greater involvement in market access negotiations with a view to ensuring practicable outcomes.

The Commission is aware that the level of Government funding for market access activities is currently being negotiated by AQIS and the Department of Finance. If the outcome of that process is that industry has to pay part or all of the cost of market access, then the Commission's earlier recommendation that AQIS better align its charges with the cost of providing services would also apply to this activity.

HORTICULTURE

PART C

APPENDICES

APPENDIX A: RECENT SUBSTANTIVE STUDIES

The terms of reference require the Commission to avoid duplication of recent substantive studies. These, which include several inquiries into parts of horticulture conducted by the Industries Assistance Commission in recent years, are described below.

A1 Future Directions in Horticulture

In August 1992 the Horticultural Policy Council (HPC) released **The Way Forward -Future Directions for Horticulture,** which sought to identify Australia's present and future challenges and the appropriate response to them. The report presented a vision for horticulture within the twenty-first century which involved major changes to attitudes, practices and operations. Elements of the vision are that within the first decade of the twenty-first century Australian horticultural production will be between two and two and a half times the present level, the domestic market will become about 50 per cent larger and exports will show a five-fold increase.

The Council put forward 35 recommendations covering issues which it considered should be addressed by the horticultural sector, governments and the HPC. The Council recommended that the individual industries and/or segments in the horticultural growing, marketing and processing chain devise their own strategies by addressing a wide range of issues. Examples of the issues are the development of commitment to supply for export, promotion of brands as a tool for marketing and the development of standards in packing.

Commonwealth Government challenges include negotiating increased overseas market access by removing/reducing trade and quarantine barriers, particularly in Asia, and reviewing the clearance and registration requirements for chemicals. State government challenges included maintaining the level of government services to industry in areas such as extension and research, and the removal or reduction of the incidence of regulations that impact on the sector's commercial relationship such as pricing/market control arrangements and quality control standards.

The Council considered that it should give consideration to a number of matters which affect international competitiveness, market orientation, industry unity and research and development. Examples are setting up working groups to promote the development of an export oriented culture and to identify ways of changing attitudes and integrating that change in sectoral policies and actions. Other examples are to consider promoting the rationalisation of industry bodies, and exploring, in co-operation with the Horticultural Research and Development Corporation, ways and means of promoting increased research and development.

A2 Statutory Marketing Arrangements

Some aspects of the present horticulture inquiry are an extension of the Commission's inquiry into **Statutory Marketing Arrangements** (IC 1991a), but with particular emphasis on horticulture. The findings of that inquiry were as follows.

- Many objectives of statutory marketing arrangements are sound from the viewpoint of both producers and the wider community. However, with some exceptions, these objectives are not sound from a community-wide viewpoint if they are based on powers which compel producers to participate, exclude entry to markets, or impose price increases on Australian user industries and consumers.

- Many features of statutory marketing arrangements - especially those dependent on powers of acquisition, production control and pricing - adversely affect the efficiency of resource use.

- Giving powers of compulsion to statutory marketing authorities (SMAs) to enable producers to exercise domestic market power generally reduces, rather than improves, the efficiency of resource use.

- There is no justification for the blanket trade practices prohibition on authorising voluntary recommended price agreements between fewer than 50 parties. Assessment should be undertaken case-by-case.

- Governments should continue to review their procedures allowing for the deregulation and privatisation of SMAs (or features of their operations). The reviews should consider ways of streamlining the process and reducing its costs.

- Greatest efficiency gains are in prospect from modifying or terminating those statutory marketing arrangements where domestic price effects are greatest, and those which control marketing outlets, prices or production.

- All reviews of statutory marketing arrangements, both State and Commonwealth, should adopt an economy-wide approach and review committees should be constituted accordingly.

A3 The Davis Report

The **Davis Report** covered similar ground to the Commission's inquiry into Statutory Marketing Arrangements but had a different function to fulfil **(Review of the Commonwealth Primary Industry Statutory Marketing Authorities, April 1990)**. The main task of the Committee was to review and make recommendations on the principles which should govern the operation, responsibilities and structure of the SMAs. The Committee made 50 recommendations for changing and modifying existing statutory marketing arrangements.

The Committee considered that for all SMAs direct and effective accountability to individual levy payers is of fundamental importance in improving their performance. Once this is established, almost all government controls over the managerial autonomy of SMA boards and their executives should be removed. The Committee questioned the validity of using Commonwealth powers to support activities which are focussed exclusively on the domestic market. It reached the view that the involvement of SMAs in commercial ventures should not displace private sector activities. The Committee favoured restructuring the SMAs for small industries into a single SMA with some subsidiary boards with devolved responsibility.

A4 Australian Exports

A Committee chaired by Professor Helen Hughes reviewed the Export Market Development Grants (EMDG) scheme and other export incentive schemes in 1988 and it reported the following year (Report of the Committee of Review of the Export Market Development Assistance, 1989). Some of the issues canvassed in that more general inquiry have relevance to the present horticultural inquiry. For example, the Committee made the point that exports have no merit in themselves and production for export is no better than efficient production for the domestic market. Nevertheless, the Committee said that Australia must be able to cover its import requirements. The Committee's wide ranging recommendations included changing some of the provisions of the EMDG scheme and continuing the revised scheme for five years.

The Committee recommended the inculcation of an export culture into the Australian community to ensure that the importance of international competitiveness in the production of goods and services for Australian living standards is well understood. This was seen as necessary in view of Australia's past inward orientation.

The Committee acknowledged that incentives to assist exporters overcome the initial difficulties can play only a limited role in stimulating export growth as their effect is swamped by the economic environment. However, because it takes time to improve economic policies even if policy changes are initiated and ongoing reforms accelerated, incentives to exporters were seen as of use in the interim to increase the involvement of small and medium sized firms.

The report was critical of macroeconomic policy being largely budget driven and recommended a number of changes. These were that macroeconomic management have regard to problems facing exporters arising from exchange rates, inflation and interest rates; that there be greater long term emphasis on fiscal, monetary and incomes policies; that the desirability of a value added tax be investigated; and that an independent body of economic advisers be establishment to coordinate long-term economic policy.

The Committee also recommended various microeconomic reforms. These covered areas of general tariff reductions, public utilities and transport, government regulations, training, productivity and management education. Microeconomic reform was seen as a way of increasing flexibility in the economy and ensuring that rigidities do not hinder the adjustment process.

A5 Fruit and Fruit Product Industries

In its report on **Fresh Fruit and Fruit Product Industries** the Industries Assistance Commission (IAC 1988a) recommended a reduction in tariffs to 10 per cent for many goods. It also recommended that the rate of sales tax on fruit juice be uniform and that food standards for fruit and jam be reviewed by the National Health and Medical Research Council.

A major recommendation in that report was that the Commonwealth approach State governments concerned with a view to implementing strategies for improving efficiency of water supply and use and removing controls over production, land ownership, farm size, and the regions where fruit can be grown. The Commission also recommended that the Innovative Agricultural Marketing Program criteria be interpreted so as to facilitate research into overcoming technical barriers to marketing in cases where the benefits are expected to accrue to the industry generally rather than principally to applicants themselves.

A6 Vegetables and Vegetable Products

The Industries Assistance Commission reported on Vegetables and Vegetable Products in April 1986 (IAC 1986). It was recommended that the duty on unprocessed vegetables be phased down to minimum rates and on processed vegetables to 10 per cent. The Commission also recommended the introduction of Plant Variety Rights and the future review of the export inspection system with a view to the industry taking responsibility for export quality. Further, increased funding for vegetable research was recommended.

A7 Horticulture in Focus

A review of CSIRO's research into horticulture was recently conducted by a group consisting of E N Fitzpatrick, G R Gregory and D C F Minnis (**Horticulture in Focus**, September 1991). The group was appointed by the Director of the CSIRO Institute of Plant Production and Processing and its purpose was to determine where CSIRO should be directing its horticultural research effort. That review emphasised fundamental and applied research, but kept commercial applications in focus. Because CSIRO has to anticipate likely avenues of research well in advance, that report has a different emphasis

from the Commission's inquiry which is concerned more with government involvement, through the existence or non-existence of regulations and interventions, and opportunities for co-operation and co-ordination within horticultural industries. The recommendations in Horticulture in Focus were in two parts: 'Australian Horticulture' and 'CSIRO'. The recommendations for Australian horticultural research were:

- Australian horticultural research should focus on crops and products with significant potential to contribute to higher net export income, concentrating the effort on major industries.

- Research for Australian horticulture should be more formally planned through joint consultations between industry, research agencies and funding bodies. This planning should be at two levels: on a broad industry basis; and for the use of specialised areas of expertise across a number of commodities.

- Existing national research centres containing national gene pools or disease-free collections should be preserved; and existing national breeding programs should be continued.

A8 Other substantive studies

The following is a list of other substantive studies which are relevant to this inquiry.

Industries Assistance Commission

Apples and Pears (Report No. 369: 27 August 1985)

Interim Report on Citrus Fruit (Report No. 395: 10 October 1986)

Interim Report on Canned Fruit (Report No. 400: 30 January 1987)

The Dried Vine Fruits Industry (Report No. 420: 1 September 1989)

Food Processing and Beverage Industries (Report No. 424: 15 December 1989)

Apples and Pears (Export Underwriting) (Report No. 425: 19 January 1990)

Public Bodies Review Committee Reports to the Parliament of Victoria

Tomato Processing Industry Negotiating Committee (No.20: 1987)

Wine Grape Processing Industry Negotiating Committee (No.21: 1987)

Victorian Dried Fruits Board (No. 25: 1988)

Western Metropolitan Market Trust (No.27: 1990)

Melbourne Wholesale Fruit and Vegetable Market Trust (No. 28: 1990)

Other

Inspecting Australia's Food Imports: A Cost Effective System to Reduce the Risks to Australians from Imported Food Breaching Australia's Food Standards, Second Report of the Working Group on Imported Foods, Department of Primary Industries and Energy, 1989.

Rural Guideline, Trade Practices Commission, 1989.

Review of the Citrus Industry Organisation Act (1965-1984), Department of Agriculture (SA), Green Paper, 1989.

Dried Fruits Marketing, Department of Agriculture (SA), Green Paper, 1991.

The Industries Commission has completed its report which assesses the effectiveness of the Australian Horticultural Corporation. The findings are summarised in Appendix D of this report. The present report builds on the AHC report, and adds further comment on the AHC.

APPENDIX B: INQUIRY PROCEDURES

Following receipt of the reference on 18 December 1991, the Commission advertised the commencement of the inquiry in the press and dispatched an initial circular to parties considered to have an interest in the inquiry.

A second circular, despatched in January 1992, called for submissions and was accompanied by an Issues Paper and Inquiry Procedures Booklet for those who had expressed an interest in the inquiry. Further circulars were despatched in February advising the time and venues of the initial round of public hearings and in April, giving participants the opportunity to obtain and comment on other submissions.

Commissioners and/or staff met with the following organisations and individuals to seek background information and views about inquiry issues:

Australian Bureau of Agricultural and Resource Economics, Canberra
Australian Horticultural Corporation, Sydney, New South Wales
Banana Industry Committee (NSW), Alstonville, New South Wales
Bundaberg District Growers Association, Queensland
Central Burnett Juice Factory, Munduberra, Queensland
Clements and Marshall, Devonport, Tasmania
CSIRO, Australian Capital Territory
Department of Agriculture (Western Australia)
Department of Primary Industries (Queensland)
Department of Primary Industries and Energy (Canberra)
Department of Primary Industry, Fisheries and Energy (Tasmania)
Dornauf, Robin, Deloraine, Tasmania
Edgell-Birds Eye, Ulverstone Tasmania
Gayndah Citrus Packing Co-operative, Queensland
Glen Grove Orchard, Mundubberra, Queensland
Horticultural Policy Council, Australian Capital Territory
Horticultural Research and Development Corporation, Sydney
Horticulture Export Authority, Wellington, New Zealand
Jackwitz, Keith, and others, Gatton, Queensland
Jong, Ann and Adrian, Port Sorell, Tasmania
Macadamia Plantations of Australia, Dunoon, New South Wales
Macadamia Processing Co, Lismore, New South Wales
Marshall, Hon Denis, MP, Associate Minister of Agriculture, New Zealand
McCains Pty Ltd, Smithton, Tasmania
Ministry of Agriculture and Fisheries, Wellington, New Zealand
New Zealand Apple and Pear Marketing Board, Wellington, New Zealand
New Zealand Kiwifruit Marketing Board, Tauranga, New Zealand

Passionfruit Growers Association, Murwillumbah, New South Wales
Plantex Australia Pty Ltd, Perth, Western Australia
Queensland Fruit and Vegetable Growers Association, Brisbane, Queensland
Redlands Greenhouses Pty Ltd, Brisbane, Queensland
Steinhardt, Ron, Bundaberg, Queensland
Sumich and Co, Perth, Western Australia
Total Flower Exports Pty Ltd, Perth, Western Australia
Trade Development Board, Wellington, New Zealand
Tweed Valley Fruit Processors Pty Ltd, Murwillumbah, New South Wales
Woomba Coffee, Woombah, New South Wales

Initial public hearings were held in Sydney, Melbourne, Launceston, Brisbane, Adelaide, Perth and Canberra during March and April 1992. Fifty-two participants attended. A total of 111 submissions were received before the draft report was finalised. The draft report was released in October 1992. Copies were sent to all participants, interested parties and relevant government bodies and were freely available to members of the public. Fifty five submissions commenting on the draft were received. The draft report hearings were held in Canberra, Sydney and Melbourne in December 1992 and were attended by 17 participants. Inquiry participants are listed in the following appendix.

In accordance with the terms of reference, a separate report on the effectiveness of the Australian Horticultural Corporation in increasing the international competitiveness of Australian horticulture was forwarded to the Government on 30 June 1992.

APPENDIX C: INQUIRY PARTICIPANTS

This appendix lists the participants in the Horticulture inquiry. Because of the overlap of AHC and horticulture issues, no attempt is made to identify those who responded specifically to AHC matters. Participants who attended the initial public hearings to discuss their written submissions are indicated by "*". Participants who attended the public hearings and did not submit written evidence are indicated by '#'. Submissions to the draft report hearings are prefixed by "D", and participants who discussed their submissions at these hearings are indicated by " + ".

Agricultural & Veterinary Chemicals Association of Australia Ltd	54	D160
Australian Quarantine and Inspection Service		D112
All States Group of Companies	37*	
Almond Co-operative Ltd (SA)		D152
Apple and Pear Growers' Association of SA Inc	89	D147
Association of Societies for Growing Australian Plants Inc	17	
Australian Apple & Pear Growers Association	25*	D135 +
Australian Avocado Growers' Federation Inc	44	D163
Australian Banana Growers' Council	103	D131
Australian Bureau of Agricultural and Resource Economies	111	D165
Australian Bureau of Statistics - Agriculture Section		D140
Australian Citrus Growers Federation	33 65*	
Australian Citrus Industry Council	93*	
Australian Dried Fruits Board	11	D115
Australian Fertilizer Manufacturers' Committee	12	D116+
Australian Flower Growers' Council	74*	
Australian Honey Board	66	
Australian Horticultural Corporation	24 102*	D122 D145 +
Australian Horticultural Exporters' Association	13*	D126+
Australian Horticultural Export Council		D161
Australian Horticultural Growers' Council	67*	D142
Australian Institute of Agricultural Sciences	20	
Australian International Business Centre	84*	
Australian Joint Citrus Exporters Pty Ltd, Central Burnett Exporters Pty Ltd, Griffith Producers' Co-operative Co Ltd, Australian Joint Citrus Exporters Pty Ltd and Queensland Citrus Export Committee	88*	D138 D158+
Australian Macadamia Society Ltd	99	
Australian Mango Exports Ltd	108	
Australian Nut Industry Council	98*	

Incitec Ltd	16*	D125
Kenez, Dr John E	9	
Maccallum, Dr DE	75*	D141+
Marrows Estates Pty Ltd	19	D118
Maud Gibson Trust	81*	
MIA Council of Horticultural Associations	60*	
Mid-Murray Citrus Growers' Inc	35*	D134+
Minnis, Mr David (Antico International Pty Ltd)	62*	
Murray Citrus Growers' Co-operative Association (Australia) Ltd	39*	
Murray Valley Citrus Marketing Board	63*	
New Zealand Fruitgrowers Federation	80	
Northern Territory Government	87	
NSW Farmers' Association	106	D154
NSW Free Growers Horticultural Council		D117+
Nursery Industry Association of Australia Limited	107	D113+
Nurserymen's Association of Victoria	70	
Phosphate Co-operative Company of Australia Limited	56	
Plantex Australia Pty Ltd	101	
Potato Growers' Association of NSW		D124+
Potato Growers of Australia		D143 D150
Presqualm Pty Ltd	10	
Qantas Airways Ltd		D166
Qualturf Pty Ltd	#	
Queensland Citrus Sectional Group Committee	22	D129+
Queensland Fruit and Vegetable Growers	48*	D130+
Queensland Government	91	
Royal Australian Institute of Parks and Recreation		D162
Rural Industries Research and Development Corporation	104	D119
Siviter, Mr FJ	6	
South Australian Government	94*	
Standards Association of Australia	55	
Story Horticultural Services Pty Ltd	92	
Sumich Group Limited	95*	D151
Sunraysia Districts Citrus Co-operative Society Limited	49	D139
Tasmanian Apple and Pear Growers Association and Tasmanian Licensed Fruit Exporters	23*	D133+
Tasmanian Government	79*	D127
Tasmanian Stone Fruit Association	76*	
Tesselaar's Padua Bulb Nurseries	21	
The Chestnut Growers of Australia Ltd		D120
Trade Practices Commission		D159
Tree Crops Centre	73*	

United Farmers and Stockowners of SA Inc (Horticulture Sector)	57*	
Wright & Warburton (University of New England)		D146
Victorian Apple and Pear Growers' Council	50*	D136+
Victorian College of Agriculture and Horticulture - Burnley Campus	32	
Victorian Farmers Federation - Flowergrowers Group	61	
Victorian Government	69*	D156
Victorian Horticultural Export Council	53 109	
Western Australian Fruit Growers' Association (Inc)	43*	
Wine Grape Growers' Council of Australia Inc	68*	
Winemakers' Federation of Australia	28*	
Woodford, Mr MJ	2	
Yuen, Dr Chris (University of NSW)	3	

APPENDIX D: EXECUTIVE SUMMARY OF THE INDUSTRY COMMISSION REPORT ON THE AHC[1]

This report addresses the question of whether the AHC has been effective in increasing the international competitiveness of Australian horticulture.

The short period during which the AHC has been operating, the lags involved with the effects of activities designed to increase international competitiveness, and the paucity of data, do not allow for a comprehensive statistical analysis of changes in international competitiveness.

]be extent of industry participation in the activities of the AHC is not a sound test of the effectiveness of the AHC. Industries might participate for reasons other than a perception that the AHC can increase international competitiveness.

The approach adopted by the Commission has been to determine whether activities undertaken by the AHC are consistent with increasing international competitiveness. The Commission found that several of the activities fall into this category in that they are aimed at increasing profitable exports of horticultural products.

The Commission proposes that Commonwealth funding of AHC activities be extended until 30 June 1994, but that the purposes for which those funds are used be limited and that there be stricter reporting requirements than in the past. Any commitment to provide funding beyond June 1994 should only be made following consideration of the Commission's more general report on horticulture to be finalised in December 1992.

1 Industry Commission The Australian Horticultural Corporation - *Effectiveness in Increasing International Competitiveness*, 30 June 1992, Report No 24.

APPENDIX E: STATISTICS

E1 Introduction

For the purposes of this report, horticulture comprises fruit, nuts, vegetables, nursery products and honey. Values and volumes of production and trade for the major product groups are summarised in the following tables. All production, export and import values (other than in Tables E6 and E7) have been converted to 1990-91 dollars using the Gross Domestic Product implicit price deflator published by the Australian Bureau of Statistics (Table E20).

This appendix encompasses world trade flows and comparisons with Australia for fruit and vegetables (Tables El-E7), and Australian production, exports and imports for fruit and vegetables (Table E8-E17). Production, exports and imports of nursery products (including cut flowers) and honey are given in Table E18 and E19, respectively.

E2 Data problems

A number of problems exist with horticultural statistics. The only Australia-wide source of statistics on production and trade is the Australian Bureau of Statistics (ABS). The most consistent ABS data are the Input-Output Commodities Classification, used to estimate product details for the National Accounts. These allow comparisons on a consistent basis. However, these are estimated only every few years (the last two occasions being 1983-84 and 1986-87, with the estimation for 1989-90 not expected to be published until 1993). Although sales, exports and imports are provided at a detailed commodity level, costs are not.

There are a number of other problems with official estimates of production. Prior to 1986-87, the ABS Agricultural Census included all establishments with an estimated production value of $2 500 or more. This estimated value was raised to $20 000 for 198687 onwards. Because of the large number of small producers in most horticultural activities, this has some impact upon comparisons with subsequent statistics.

There are also some differences between industry and official estimates of production. In some cases industry data provided to the Commission are larger than official estimates. This may be due in part to the existence of a significant cash economy for many horticultural products which are not recorded in ABS statistics, and omission by the ABS of establishments with an estimated production value less than $20 000.

E3 List of tables and charts

Table E1: World citrus trade, main competitors and markets, 1990, kilotonnes

	Importing countries										
	Singapore	*Malaysia*	*HK*	*Japan*	*Other Asia*	*US*	*UK*	*Other E.C*	*Other Europe*	*Other*	*Total*
Exporters:											
Argentina	1	1	3	-	-	na	na	22	1	142	170
Australia	**10**	**13**	**1**	**2**	**1**	**-**	**1**	**1**	**0**	**18**	**46**
Brazil	-	-	-	-	-	na	na	0	2	101	103
South Africa	8	-	10	4	1	-	70	19	11	322	445
Uruguay	-	-	-	-	-	na	na	-	1	35	36
United States	22	10	119	392	53	-	9	84	0	448	1139
Other	24	24	58	36	319	80	596	2952	598	na	4687 [a]
Total	**65**	**49**	**191**	**434**	**374**	**80**	**677**	**3078**	**613**	**1066** [a]	**6626** [a]

na Not available. (0) Less dun 300 tones. (-) Not given
a Totals for 'other' column and the table are for the selected countries only. World trade may be significantly higher.
Source: Data supplied by the AHC.

Table E2: World apple trade, main competitors and markets, 1990, kilotonnes

	Importing countries										
	Singapore	*Malaysia*	*HK*	*Japan*	*Other Asia*	*US*	*UK*	*Other E.C*	*Other Europe*	*Other*	*Total*
Exporters:											
Argentina	-	-	-	-	-	6	0	57	13	150	226
Australia	**8**	**5**	**1**	**2**	**0**	**0**	**1**	**3**	**3**	**4**	**27**
Chile	3	2	5	8	-	22	24	132	2	130	327
New Zealand	6	3	4	3	-	27	34	89	3	6	174
South Africa	1	-	3	1	-	-	91	99	-	29	225
United States	15	5	42	131	3	-	40	10	19	3	268
Other	8	3	26	0		54	283	979	91	na	1447 [a]
Total	**37**	**23**	**57**	**171**	**4**	**108**	**473**	**1368**	**132**	**321** [a]	**2694** [a]

na Not available. (0) Less dun 300 tones. (-) Not given
a Totals for 'other' column and the table are for the selected countries only. World trade may be significantly higher.
Source: Data supplied by the AHC.

Table E.3: World pear trade, main competitors and markets, 1990, kilotonnes

	Importing countries										
	Singapore	*Malaysia*	*HK*	*Japan*	*Other Asia*	*US*	*UK*	*Other E.C*	*Other Europe*	*Other*	*Total*
Exporters:											
Argentina	-	-	-	-	-	12	-	-	1	122	134
Australia	**7**	**1**	**4**	**1**	**2**	**2**	**5**	**7**	**2**	**5**	**36**
Chile	0	0	2	-	-	23	3	1	0	47	76
New Zealand	0	0	0	-	-	0	-	0	-	-	0
South Africa	1	-	1	-	-	1	21	5	-	28	57
United States	0	0	1	7	-	-	2	5	13	42	71
Other	21	14	-	0	-	4	68	427	62	na	595 [a]
Total	**29**	**15**	**8**	**8**	**2**	**42**	**99**	**444**	**78**	**244** [a]	**970** [a]

na Not available. (0) Less dun 300 tones. (-) Not given
a Totals for 'other' column and the table are for the selected countries only. World trade may be significantly higher.
Source: Data supplied by the AHC.

Table E.4: World fresh grape trade, main competitors and markets, 1990, kilotonnes

	Importing countries										
	Singapore	*Malaysia*	*HK*	*Japan*	*Other Asia*	*US*	*UK*	*Other E.C*	*Other Europe*	*Other*	*Total*
Exporters:											
Argentina	0	-	-	-	-	-	-	14	0	-	14
Australia	**3**	**3**	**2**	**-**	**0**	**-**	**4**	**1**	**0**	**3**	**16**
Chile	0	0	3	7	36	250	25	26	2	-	350
South Africa	0	0	1	-	-	-	16	36	66	-	120
Other	6	1	20	5	is	36	75	66	26	na	250 [a]
Total	**10**	**4**	**26**	**12**	**52**	**286**	**120**	**143**	**93**	**3** [a]	**750** [a]

na Not available. (0) Less dun 300 tones. (-) Not given
a Totals for 'other' column and the table are for the selected countries only. World trade may be significantly higher.
Source: Data supplied by the AHC.

Table E.5: Utilisation of selected products, Australia and major competitors 1990

Country	*Production*	*Imports*	*Total*	*Utilisation:*			*Ratios:*		
		(fresh)	*supply*	*Fresh domestic*	*Process-ing*	*Exports (fresh)*	*Process Prod.*	*Exports/ Prod.*	*Imports/ Prod.*
	kt	kt	kt	kt	kt	kt	%	%	%
Oranges:									
Argentina	1415	0	1415	775	470	170	33	12	0
Australia	**649**	**12**	**661**	**281**	**367**	**38**	**57**	**6**	**2**
Brazil	15370	0	15370	4345	10922	103	71	1	0
South Africa	825	0	825	127	253	445	31	54	0
United States	11963	80	12043	2725	8179	1139	68	10	1
Uruguay	169	0	169	89	44	36	26	21	0
Apples:									
Argentina	1030	0	1030	234	569	226	55	22	0
Australia	323	0	323	173	123	27	38	8	0
Chile	660	0	660	160	173	327	26	50	0
New Zealand	354	2	355	60	122	174	34	49	1
South Africa	534	0	534	185	125	225	23	42	0
United States	4140	117	4258	2248	1742	268	42	6	3
Pears:									
Argentina	262	0	262	63	65	134	25	51	0
Australia	135	0	135	23	76	36	56	27	0
Chile	119	0	119	38	5	76	4	64	0
New Zealand	11	2	12	8	4	0.5	37	5	14
South Africa	175	0	175	33	75	67	43	38	0
United States	781	40	821	357	393	71	50	9	5
Grapes (fresh and drying): [a]									
Argentina	140	0	140	118	8	14	6	10	0
Australia h	298	0	48	32	250	16	84 [b]	5 [b]	0
Chile	540	0	540	75	115	350	21	65	0
South Africa	102	0	102	41	7	54	7	53	0

Note: Totals may not add due to rounding.
a Grape production excludes winegrapes. Australian production of fresh and drying grapes has been estimated for 1990.
b Production, proportion exported and processed are not comparable with Table E10 because wine grapes are excluded.
Source: ARC

Table E6: Fruit and vegetable exports of selected countries, 1980 to 1990, $US million (1990) a; and annual growth rates (%)

Country	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*	*1986*	*1987*	*1988*	*1989*	*1990*	*1980-90 b*
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	%per year
Australia c	364	382	299	288	250	238	300	409	477	453	411	3
Brazil	835	1222	1030	1013	1976	1186	1070	1216	1543	1366	1778	5
Canada	405	472	446	418	406	364	389	478	528	499	559	2
Chile	364	377	370	323	422	517	679	701	786	791	1000	12
Indonesia	91	105	37	52	65	89	96	146	204	169	249	14
Malaysia	107	111	93	91	100	105	93	111	126	135	136	3
Mexico	674	703	577	479	721	696	1038	965	1013	925	1202	7
New Zealand	195	224	228	242	324	281	406	479	558	567	617	13
South Africa	927	789	694	555	507	442	548	601	634	594	629	-3
Thailand	1414	1400	1468	1148	1220	1049	1211	1323	1449	1489	1521	1
United States	4611	4793	3708	3196	3079	2961	3218	3494	3987	4057	5380	0

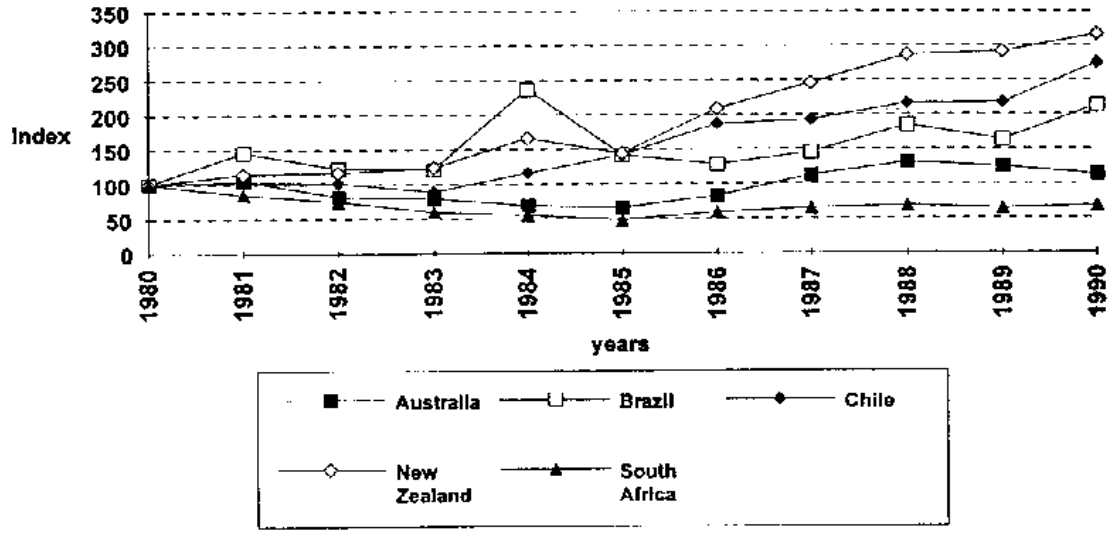
a Derived by converting current values in $US to WS(1990) using US GDP deflators.
b Annual growth rates calculated using a log-linear regression; only larger values are significantly different from zero.
c The Australian data include legumes and are thus not directly comparable with Australian data presented in Table E12.
Sources: FAO 1991b (and previous volumes); IMF 1986; IMF 1991.

Table E7: Fruit and vegetable exports of selected countries, 1980 to 1990 own currencies (index, 1980=100) a; and annual growth rates (%)

Country	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*	*1986*	*1987*	*1988*	*1989*	*1990*	*1980-90 b*
												%per year
Australia [c]	100	100	79	85	76	82	107	147	150	123	115	5
Brazil	100	145	126	209	463	288	155	267	473	467	326	14
Canada	100	116	109	100	102	95	102	118	120	108	119	1
Chile	100	95	111	129	189	304	411	366	461	413	576	22
Indonesia	100	114	41	72	97	142	167	317	432	367	547	24
Malaysia	100	109	94	91	101	116	109	128	153	173	176	6
Mexico	100	95	104	108	144	133	254	243	212	182	222	10
New Zealand	100	114	124	146	206	217	253	268	251	260	290	12
South Africa	100	90	92	70	77	90	100	88	94	93	88	0
Thailand	100	102	115	90	101	100	113	122	130	134	134	3
United States	100	103	80	69	67	64	70	75	85	86	113	0

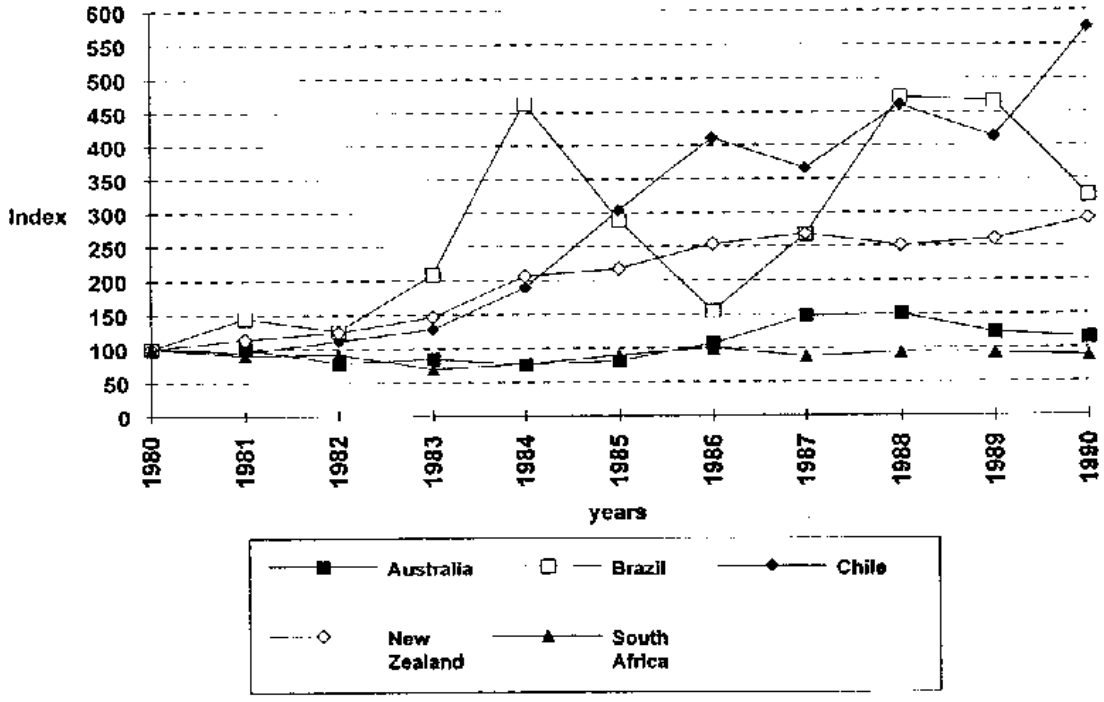
a Derived by converting current values in $US to ~ currencies, then adjusting with own country CP1 deflators.
b Annual growth rates calculated using a log-linear regression; only larger values are significantly different from zero.
c The Australian data include legumes and are thus not directly comparable with Australian data presented in Table E12.
Sources: FAO 1991b (and previous volumes); IMF 1986; IMF 1991.

Chart E.1: Fruit and vegetable exports of selected countries, 1980 to 1990, 1990 US dollars (1980 = 100)



Source: Table E6.

Chart E2: Fruit and vegetable exports of selected countries, own currencies, constant 1990 units (1980 = 100)



Source: Table E7.

Table E8: Australian production of selected fruits, nuts and vegetables, by State, for the year ending 31 March 1991, kilotonnes

Product	*NSW*	*Vic*	*Q1d*	*SA*	*WA*	*Tas*	*Australia a*
Oranges	195	63	19	171	5	-	453
Lemons/limes	8	6	4	12	1	-	32
Mandarins	4	3	24	8	1	-	40
Grapefruit	9	6	1	9	1	-	26
							552
Drying grapes	45	248	-	23	1	-	317
Wine grapes	108	79	0	291	8	1	487
Other grapes (includes table grapes)	9	29	3	3	2	-	47
Apples	59	91	37	20	36	45	289
Pears (includes nashi)	4	140	2	5	7	1	160
Apricots	1	8	0	is	0	0	25
Cherries	3	1	-	0	0	0	5
Nectarines	4	4	2	1	2	0	12
Peaches	13	32	2	8	2	0	58
Plums and prunes	10	4	2	1	3	0	20
Avocados	2	1	8	0	0	-	12
Bananas	55	97	-	13	-	165	
Custard apples	0	-	1	-	-	-	2
Kiwifruit	1	2	0	0	0	-	3
Papaws	0	-	4	-	-	-	4
Passionfruit	1	-	1	-	0	-	2
Pineapples	0	-	126	-	-	-	126
Mangoes	0	-	10	-	0	-	12
Strawberries	0	2	1	1	1	0	5
Almonds	0	4	-	3	-	-	7
Macadamias	4	-	3	-	-	-	7
Potatoes	120	377	119	175	110	235	1136
Tomatoes	81	165	101	9	8	1	364
Onions	32	11	22	56	28	73	222
Carrots	13	57	24	13	30	is	152
Cauliflowers	12	32	10	Is	17	5	90
Lettuce	6	35	32	9	14	1	98
Mushrooms	11	9	2	2	1	0	24

(-)	Nil.
0	Less than 500 tonnes.
Note:	Values have been rounded to the nearest whole number.
a	Includes the NT and the ACT.
b	For the year ending 30 June, 1990.
Source:	ABS 1992j (Cat. No. 7330.0).

Table E9: Australian horticultural production, by State, 1990-91, $ million

Product	*NSW*	*Vic*	*Q1d*	*SA*	*WA*	*Tas*	*Australia* [a]
Oranges	72	25	12	55	2	-	165
Lemons/limes	4	3	3	3	1	-	13
Mandarins	4	5	23	4	1	-	37
Grapefruit, other	4	2	1	2	0	-	10
Total citrus	**83**	**34**	**39**	**64**	**4**	**-**	**225**
Drying grapes	21	96	-	11	1	-	129
Wine grapes	36	28	0	101	6	1	172
Table grapes	12	159	5	115	11	1	362
Apples	31	66	23	24	16	23	183 b
Pears	2	72	1	4	3	1	84 b
Total pomefruit	**33**	**138**	**24**	**28**	**19**	**24**	**266**
Apricots	1	5	1	16	1	0	24
Cherries	11	5	-	2	0	1	20
Nectarines	12	7	5	1	2	0	27
Peaches	15	18	4	5	3	-	44
Plums and prunes	13	4	4	2	4	-	26
Total stonefruit	**52**	**39**	**13**	**27**	**9**	**1**	**140**
Avocados	4	3	18	2	1	-	28
Bananas	70	-	145	-	20	-	235
Pineapples	-	-	37	-	-	-	37
Mangoes	1	-	20	-	1	-	25
Strawberries	2	8	8	6	5	0	30
Almonds	0	11	-	6	-	-	17
Macadamias	16	-	3	-	-	-	19
Other	9	13	13	2	2	0	39
Total fruit and nuts	**340**	**404**	**323**	**250**	**71**	**27**	**1422**
Potatoes	50	96	57	56	38	51	377
Tomatoes	15	34	117	9	8	1	184
Onions	10	5	11	23	9	20	76
Carrots	4	29	8	10	13	3	67
Mushrooms	33	40	10	8	4	na	94 c
Lettuce	4	16	23	10	6	1	60
Cauliflowers	3	14	4	5	11	3	40
Other vegetables	59	87	143	30	39	22	386
Total vegetables	**208**	**320**	**373**	**151**	**127**	**101**	**1284**
Nursery production	**150**	**129**	**86**	**is**	**46**	**12**	**443 b**
Total	**697**	**852**	**782**	**415**	**244**	**140**	**3148**

Totals may not add due to rounding.

(-) Nil. na Not available. 0 Less than 5M tonnes.

a Northern Territory is included. ACT fruit and nursery production is not included.

b Excludes the ACT.

c Tasmanian mushroom production is included in other vegetables.

Source: ADS 1992h (Cat. No. 7503.0).

Table E10: Fruit and vegetable production, trade and consumption, 1990-91 a

Product	*Production*		*Fresh exports*		*Fresh imports*		*Apparent consump-tion (by value)*	*Fresh Exp. as % of production*		*Fresh Imp as % of apparent consum.*	*Prop proc'd (vol.) 1989-90*
	vol. b	*value*	*vol.*	*value*	*vol.*	*value*		*vol.*	*value*		
	kt	$m	kt	$m	kt	$m	$m	%	%	%	%
Oranges	453	165	48	37	2	2	130	11	22	2	60
Lemons/limes	32	13	1	1	1	2	14	3	6	14	55
Mandarins	40	37	4	4	0	0	33	9	11	0	is
Grapefruit, other	26	10	0.2	0.2	0.4	0.5	10	nc	2	5	65
Total citrus	**562**	**225**	**53**	**42**	**4**	**5**	**187**	**9**	**19**	**2**	**56**
Apples	289	183	26	23	0	0	160	9	12	0	38 c
Pears d	160	84	26	26	0.1	0.3	58	16	31	1	55 c
Total pomefruit	**448**	**266**	**52**	**48**	**0.1**	**0.2**	**218**	**12**	**18**	**0**	**44**
Peaches and nectarines	70	71	0.7	1.4	2.4	4.7	74	1	2	6	58
Plums/prunes	20	26	2.3	4.0	0	0	22	12	15	0	61
Apricots	25	24	0.2	0.5	0.7	1.7	25	1	2	7	84
Cherries	5	20	0.2	1.3	0.2	1.1	19	4	7	5	13
Total stonefruit	**120**	**140**	**3**	**7**	**3**	**7**	**140**	**3**	**5**	**5**	**48 c**
Bananas	165	235	0	0	0	0	235	0	0	0	2
Berries	6	38	0.4	2.6	6	10	45	7	7	21	na
Pineapples	126	37	0.9	0.6	0.1	0.3	37	1	2	1	78
Avocados	12	28	0.2	0.5	1.7	4	31	1	2	14	0
Mangoes	12	25	0.8	2.1	0.4	1.4	24	6	9	6	13
Other fruit	12 i	31 i	5	9	12	17	39	nc	29	43	na
Total fruit (excl. grapes)	**1464**	**1024**	**115**	**112**	**27**	**45**	**956**	**8**	**11**	**5**	**47**
Macadamias	7	17	nss	nss j	nss	nss j	ne	nc	nc	nc	n/a
Almonds	7	19	0.1	0.5	2	8	26	1	2	30	n/a
Other nuts	na i	na i	5	35	20	50	nc	ne	nc	ne	n/a
Total nuts k	**na i**	**na i**	**5**	**36**	**22**	**58**	**ne**	**nc**	**nc**	**nc**	**n/a**
Total fruit and nuts (excl. grapes)	**1466**	**1060**	**120**	**148**	**49**	**103**	**1014**	**8**	**14**	**10**	**48**
Wine grapes	487	172	n/a	n/a	n/a	n/a	n/a	nc	nc	nc	100
Drying grapes	317	129	n/a	n/a	n/a	n/a	n/a	nc	nc	nc	100
Fresh grapes	47	61	9	21	0	0	40	18	35	0	0
Total grapes	**851**	**362**	**9**	**21**	**0**	**0**	**341**	**1**	**2**	**0**	**99**
Total fruit and nuts (incl. grapes)	**2329**	**1422**	**129**	**169**	**49**	**103**	**1355**	**6**	**12**	**8**	**65**
Potatoes	1136	377	is	5	0	0	372	1	1	0	na
Tomatoes	364	184	2	3	0	0.1	181	1	2	0	na
Mushrooms	24	94	0	0.1	0.3	1	95	0	0	1	na
Onions	222	76	60	23	1	0.5	54	27	30	1	na
Carrots	152	67	20	11	0	0	56	13	16	0	na
Lettuce	98	60	2	3	0	0	57	2	5	0	na
Other vegetables	545	426	27	41	6	9	394	nc	10	2	na
All vegetables	**2542**	**1284**	**127**	**86**	**7**	**11**	**1209**	**5**	**7**	**1**	**so**
Total fruit, nuts, and vegetables	**4872**	**2706**	**255**	**255**	**56**	**113**	**2564**	**5**	**9**	**4**	**57**

n/a Not applicable. na Not available nss Not separately specified nc Not calculable. table footnotes …/2

Footnotes to Table E10.

Note: Totals may not add due to rounding.
a Apparent consumption defined as total production (for fresh and processing purpose), minus, exports, plus imports. Proportion processed is that proportion of total output that is used for processing purposes, where known. Some figures (eg, for bananas) are Commission estimates.
b Production volumes only are for the year ending 31 March.
c Because of the biennial nature of apple and pear production a five year average has been taken.
d Production includes nashi. Trade includes quinces.
c Proportion processed is for apricots, cherries and peaches only.
f Production of strawberries and raspberries only.
9 Trade is for all berries.
h Trade data includes mangoes, guavas and mangosteens
i Other fruit category includes 'other nuts'.
j Included in 'other nuts.
k Includes fresh or dried nuts only
Sources: ABARE 1992a; ABS 1992h (Cat No. 7503.0); ABS 1992j (Cat, No. 7330); ABS 1992e (Cat. No. 3436.0); ABS 1992f(Cat No. 3437.0)

Table E11: Dried grape and canned fruit production, trade and consumption, 1989-90 a

Product	Production vol.	Production value	Exports b vol.	Exports b value	Imports vol.	Imports value	Apparent consumption c (value)	Exports as % of production vol.	Exports as % of production value	Imports as % of apparent consum.
	kt	$m	kt	$m	kt	$m	$m	%	%	%
Dried grapes										
Currant	6	10	0.6	1.2	0.8	1.1	9	10	13	12
Raisins and lexias	4	6	0.8	1.8	0.2	0.3	5	19	29	6
Sultanas	55	86	39	67	4	6	25	71	78	24
Mixed grapes		0.2	0.4							
Total	**65**	**102**	**40**	**71**	**5**	**7**	**39**	**62**	**69**	**19**
Canned fruit										
Peaches	36	na	11	12	na	2.9	nc	**31**	nc	nc
Pears	30	na	23	23	na	0.6	nc	**77**	nc	nc
Apricots	9	na	1	0.8	na	1.0	nc	**11**	nc	nc
Total	**75**	**na**	**35**	**36**	**na**	**4.4**	**nc**	**47**	**nc**	**nc**

na not available nc not calculable.
Note: Totals may not add due to rounding.
a Apparent consumption defined as processed product production, minus exports, plus imports.
h Actual exports (it, does not take account of stock changes).
c Processed product weight.
Sources: ABARE 1992a; ABS 1992h (Cat. No. 7503.0); ABS 1992j (Cat. No. 7330); ABS 1991a (Cat. No. 5436.0); ABS 1991b (Cat. No. 5437.0); Australian Dried Fruits Corporation 1990-91 Annual Report.

Table E12: Australian exports and imports of fresh and processed fruit, nuts and vegetable products, 1982-83 to 1991-92, $ million (1990-91) a b

	82-83	*83-84*	*84-85*	*85-86*	*86-87*	*87-88*	*88-89*	*89-90*	*90-91*	*91-92*
Exports:										
Fresh fruit c	107	91	107	143	179	195	103	122	133	206
Dried grapes	101	86	87	99	124	96	95	73	81	82
Processed fruit (excl. dried grapes)	118	93	90	111	148	151	115	97	129	139
Total fruit	**326**	**270**	**283**	**353**	**451**	**442**	**313**	**292**	**344**	**427**
Fresh vegetables	40	50	49	60	77	91	81	76	86	113
Processed vegetables	6	5	5	7	11	is	13	14	22	25
Total vegetables	**46**	**54**	**54**	**68**	**87**	**106**	**94**	**89**	**108**	**138**
Nuts d	5	3	11	10	19	17	23	20	36	20
Mixtures c	4	3	3	4	11	13	8	6	8	12
Total exports	**381**	**331**	**351**	**435**	**569**	**578**	**438**	**407**	**496**	**597**
Imports:										
Fresh fruit c	28	41	47	43	42	43	49	49	45	68
Dried grapes	0.5	4	5	5	7	8	8	8	8	14
Processed fruit (excl. dried grapes)	79	94	101	63	72	45	119	85	79	105
Total fruit	**107**	**139**	**153**	**110**	**122**	**96**	**176**	**141**	**132**	**187**
Fresh vegetables	5	6	6	9	9	8	10	12	11	9
Processed vegetables	81	92	115	120	105	106	128	169	136	154
Total vegetables	**86**	**98**	**122**	**129**	**113**	**115**	**138**	**181**	**146**	**163**
Nuts d	65	78	102	90	85	70	62	67	64	70
Mixtures e	10	13	25	19	21	44	17	19	29	23
Total imports	**267**	**329**	**402**	**348**	**340**	**325**	**394**	**407**	**371**	**443**
Exports-imports	**114**	**2**	**-51**	**87**	**229**	**254**	**44**	**0**	**125**	**154**

a There is a break in the ABS data series in 1988 caused by the adoption of the Harmonised Commodity Description and Coding System (HCDCS) and introduction of the third revision of the Standard International Trade Classification (SITC) on 1 January 1989. Values for 1997/88 has hem calculated using the ABS recompilation of the AHCC data according to the AECC.

b Excludes legumes and leguminous vegetables.

c Includes some SITC classifications ‘fresh and dried’; eg, citrus, avocados, figs, pineapples, mangoes.

d Nuts category includes fresh, dried, roasted or otherwise prepared or preserved.

c Includes mixes of products, except dried fruit and nuts which has been included in processed fruit

Source: ABS 1992c (Cat. No. 5424.0); ABS 1992d (Cat. No, 5434.0); ABS 1993a (Cat. No. 5426.0); and previous issues.

Table E13: Australian production of selected fruits, vegetables and nuts, 1980-81 to 1990-91, kilotonnes

Product	*80-81*	*81-82*	*82-83*	*83-84*	*84-85*	*85-86*	*86-87*	*87-88*	*88-89*	*89-90*	*90-91p*
Oranges	425	376	410	392	445	496	523	486	409	500	465
Lemons/limes	49	41	36	32	47	46	45	35	37	38	40
Mandarins	34	29	26	36	30	34	34	35	39	41	45
Grapefruit, other citrus	30	31	31	31	31	35	33	33	30	31	28
Drying grapes	250	420	350	320	297	361	285	306	269	268	330
Wine grapes	473	500	431	495	559	509	506	490	609	571	525
Table grapes	22	23	27	26	34	38	46	49	52	48	so
Apples	306	295	301	267	352	288	328	302	323	319	289
Pears a	146	110	119	122	138	143	145	167	147	164	160
Avocados	na	na	9	11	17	17	9	12	13	13	14
Kiwi fruit	na	na	1	1	2	4	8	10	3	5	5
Mangoes	na	na	na	7	9	13	17	8	6	10	18
Macadamias b	1	1	2	2	3	3	3	4	5	6	na
Potatoes	866	919	858	1020	992	965	1020	1106	1071	1203	1136

na Not available.
p Preliminary.
a Includes nashi.
b Year ended 31 March. Data supplied by the RIRDC.
Sources: ABARE 1992a (various tables); ABARE 1992b; RIRDC (unpublished).

Table E14: Selected fresh and semi-processed fruit exports, Australia, 1980-81 to 1990-91, kilotonnes

Product	*80-81*	*81-82*	*82-83*	*83-84*	*84-85*	*85-86*	*86-87*	*87-88*	*88-89*	*89-90*	*90-91*
Oranges	25	25	28	21	28	32	48	47	28	33	42
Lemons/limes	1	1	1	1	1	3	3	1	1	1	1
Mandarins	8	5	4	4	2	3	3	3	2	2	3
Grapefruit, other citrus	1	0	0	0	0	1	1	1	-	-	-
Apples	53	33	33	25	19	30	29	34	18	23	26
Pears a	36	19	29	23	31	35	36	39	21	29	26
Avocados	na	na	na	0	0	0	0	0	0	0	0
Mangoes	na	na	na	0	0	1	0	1	0	1	1
Dried grapes b	52	40	58	58	56	54	59	41	53	37	33
Canned pears	44	24	34	17	25	23	31	26	24	24	34
Canned peaches	30	25	27	21	16	23	24	26	18	11	16
Canned apricots	3	3	2	2	1	1	1	1	1	1	2

na Not available. nil (0) less than 500 tonnes.
a Includes nashi pears.
b Product weight or dry weight kilotonnes.
Sources: ABARE 1992a (various tables); ABARE 1992b; data supplied by the RIRDC (unpublished).

Table E15: Australian production of fruit, nuts and vegetables, 1979-80 to 1991-92, $ million (1990-91) a

Product	*79-80*	*80-81*	*81-82*	*82-83*	*83-84*	*84-85*	*85-86*	*86-87*	*87-88*	*88-89*	*89-90*	*90-91*	*91-92p*
Fruit and nuts:													
Oranges	174	175	165	169	164	195	183	155	171	193	181	165	192
Lemons/limes	19	17	16	14	13	15	17	16	is	13	14	13	na
Mandarins	19	30	28	22	26	31	34	32	35	37	44	37	na
Other citrus	19	13	12	12	12	12	13	9	14	12	12	10	na
Total citrus	231	235	221	216	215	254	246	212	235	254	250	225	na
Apples	241	242	229	221	209	263	192	253	218	256	218	183	249
Pears b	82	84	57	70	71	75	88	96	92	70	82	84	111
Total pornefruit	**323**	**326**	**285**	**291**	**280**	**338**	**280**	**350**	**309**	**326**	**299**	**266**	**360**
Apricots	31	34	33	31	27	29	34	27	36	30	29	24	32
Cherries	13	20	24	13	14	16	13	13	17	is	18	20	na
Nectarines	5	7	8	7	9	9	11	12	16	19	18	27	na
Peaches	54	52	42	36	40	42	40	46	53	46	52	44	44
Plums/prunes	24	31	21	28	27	29	32	29	26	29	25	26	na
Total stonefruit	**127**	**144**	**129**	**114**	**116**	**124**	**130**	**128**	**148**	**140**	**142**	**140**	**na**
Table grapes	35	36	31	34	31	48	52	62	80	64	54	61	na
Wine grapes	181	169	173	149	179	197	154	145	207	306	245	172	na
Currants	17	11	18	11	10	11	14	11	9	8	10	7	na
Raisins	16	10	24	12	3	5	13	10	5	5	6	7	na
Sultanas	269	137	164	149	115	121	141	95	109	82	89	115	na
Total grapes	**517**	**362**	**410**	**355**	**338**	**383**	**373**	**323**	**411**	**465**	**404**	**362**	**406**
Bananas	103	121	113	117	135	137	140	161	141	147	187	235	276
Pineapples	45	40	38	42	41	49	45	54	49	48	42	37	37
Strawberries	22	17	18	18	19	20	22	23	24	24	28	30	na
Avocados	nss	nss	nss	14	15	16	16	20	16	24	24	28	na
Macadamias	5	6	5	5	4	6	8	11	15	17	23	19	na
Mangoes	3	4	5	4	5	6	8	9	is	12	16	25	na
Almonds	6	11	9	11	8	10	15	18	20	13	is	17	na
Other fruit, nuts	45	30	33	17	23	29	25	23	20	31	26	39	na
Total fruit and nuts	**1427**	**1297**	**1266**	**1203**	**1199**	**1372**	**1309**	**1333**	**1401**	**1501**	**1455**	**1422**	**1652**
Vegetables:													
Potatoes	285	345	333	282	451	240	284	347	316	348	405	377	381
Tomatoes	144	153	145	161	158	157	143	145	140	156	175	184	163
Onions	56	92	95	54	80	69	59	71	75	114	91	76	59
Carrots	49	53	60	46	66	48	53	58	58	82	82	67	69
Mushrooms	38	38	40	45	46	54	60	65	74	71	81	94	96
Lettuce	44	49	42	43	44	45	50	51	51	58	60	60	67
Other vegetables	285	304	213	251	305	314	335	378	390	440	472	426	452
All vegetables	**900**	**1034**	**1021**	**929**	**1150**	**927**	**985**	**1116**	**1104**	**1269**	**1366**	**1284**	**1287**
Total fruit, nuts, and vegetables	**2328**	**2331**	**2286**	**2133**	**2349**	**2300**	**2293**	**2448**	**2505**	**2770**	**2821**	**2706**	**2939**

na Not available nss not specified seperately p preliminary
a Values converted to $1989-90 using the ABS price deflator for GM
b Includes nashi.
c Includes avocados before 1982-83.
Sources: ABARE 1992a, p.71-73; ABS 1992b (Cat. No. 5206.0), p.21; ABS 1992g (Cat. No. 7502.0); ABS 1992h (Cat. No. 7503.01 p.21,

Table E16: Selected fresh and semi-processed fruit and nut exports, Australia, 1981-82 to 1991 -92, $ million (1990-91) a

Product	*80-81*	*81-82*	*82-83*	*83-84*	*84-85*	*85-86*	*86-87*	*87-88*	*88-89*	*89-90*	*90-91p*
Citrus	21	26	20	24	33	42	40	24	28	45	66
Apples	35	27	22	18	25	28	32	17	20	22	34
Pears	26	30	25	31	39	45	40	21	29	26	40
Table grapes	na	na	na	na	na	36	46	23	21	17	36
Macadamias	na	na	na	na	na	na	na	na	is	26	14
Canned peaches	28	23	20	18	26	31	32	24	11	20	20
Canned pears	26	27	17	27	25	39	31	26	24	37	37
Dried vine fruit	90	83	75	52	87	96	76	81	55	63	69

na Not available. p Preliminary
a Values converted to 51990-91 using the ABS implicit price deflator for GDR
Source: ABARE 1992b (and previous issues); AHC Sub.24, p. 10; ABS 1992c (Cat. No.5206.0); ABS 1993b (Cat. No.5436.0).

Table E17: Major Australian horticultural Imports, by value and country of origin, 1991-92 a

Product		*Import value*	*Major shares of Australian imports (016), by country of origin*
		$m	
Fresh cut flowers		6.5	Singapore (33).
Garlic, fresh or chilled		5.9	United States (40), China (23), New Zealand (19).
Green peas & green beans, frozen		16.9	New Zealand (96).
Tomatoes, prepared or pres.	b	16.0	New Zealand (39), Italy (36).
Asparagus, prepared or pres.	b	12.1	New Zealand (63), Canada (35).
Corn, frozen		9.2	United States (50), New Zealand (50).
Mushrooms, prepared or pres.	b	9.1	China (69).
Olives, prepared or preserved		8.8	Spain (67), Greece (25).
Dried shelled green peas		6.4	New Zealand (96).
Berries		11.4	New Zealand (69), United States (29).
Stonefruit		7.2	New Zealand (99).
Jams, jellies and purees		12.6	New Zealand (28), United Kingdom (15).
Orange juice		23.3	Brazil (91).
Apple juice		13.4	New Zealand (52), Chile (2 1).
Frozen berries		9.2	Mexico (3 1), United States (25), New Zealand (16).
Frozen fruit and nuts		7.1	United States (37), Thailand (25), New Zealand (18).
Canned pineapple		14.4	Thailand (55), Indonesia (35).
Dried grapes		13.8	Turkey (70).
Dates, fresh or dried		7.2	United States (37), Pakistan (22), Iran (21).
Cashews		23.6	India (80).
Coconuts		11.4	Philippines (71).
Walnuts		13.1	United States (70), China (25).
Almonds		9.4	United States (100).
Hazelnuts		5.6	Turkey (67), United States (25).

a Table covers individual commodities valued at more than $5m or major product groups valued at ~ than 57 m
b Excludes dried product and that preserved in vinegar or acetic acid.
Source: ABS 1993c (Cat No. 5437.0).

Table E18: Australian production and trade In nursery materials, fresh cut flowers and turf, 1985-86 to 1991-92,$ million (1990-91) a

	85-86	86-87	87-88	88-89	89-90	90-91	91-92
Value of production b c	**na**	**328**	**362**	**434**	**457**	**443**	**461p**
Value of sales: d							
Nursery plants and live plant material	na	234	na	na	278	na	na
Fresh cut flowers	na	65	na	na	70	na	na
Cultivated turf	na	18	na	na	38	na	na
Total sales	**na**	**318**	**na**	**na**	**386**	**na**	**na**
Bulbs, tubers, cuttings, slips, live trees & plants, rhizomes etc.	3.0	6.0	3.8	2.1	1.6	3.1	2.5
Orchids	1.2	1.7	1.4	1.5	1.0	1.1	1.3
Fresh cut flowers, buds for ornamental purposes, excl. orchids	4.9	7.7	9.9	11.8	11.9	14.3	22.1
Foliage, branches etc., for ornamental purposes	0.1	0.1	1.3	0.8	1.1	2.1	1.3
Total exports	**9.2**	**15.4**	**16.5**	**16.2**	**15.6**	**20.6**	**27.2**
Imports:							
Bulbs, tubers, cuttings, slips, live trees & plants, rhizomes etc.	0.6	1.2	1.3	1.3	2.4	3.1	3.8
Fresh cut flowers, flower buds for ornamental purposes; orchids	6.3	4.5	4.8	6.8	9.8	7.7	6.5
Mosses, lichens & grasses for bouquets or ornamental purposes, foliage & branches of trees	0.4	0.2	0.2	0.4	0.5	0.5	0.4
Total imports	**7.2**	**6.0**	**6.4**	**8.6**	**12.8**	**11.4**	**10.7**

na Not available. p preliminary.
a Values converted to 51989-90 using the ABS price defiator for 0DR
b Includes producing establishments with sales of $20 000 or more.
c Excludes the ACT and Northern Territory.
d Value ofnursery products sold during the period. Includes com~W establishments with sales J$20 000 or more.
Sources: ABS 1992g (CaL No. 7502.0); ABS 1992h (Cat. No. 7503.0); ABS 1992j (Cat No. 7330.0)
ABS 1993b (Cat. No. 5436.0); AW 1~ (Cat. No. 5437.0)

Table E19: Australian honey production and trade, 1980-81 to 1991-92, kilotonnes and value, $ million (1990-91) a

	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92
	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt
Production	20	25	22	25	28	20	19	23	23	21	na	na
Exports	8	13	is	11	17	15	12	12	14	13	11	9
imports	na	na	na	na	0.1	0.1	0.1	0.2	0.4	0.6	0.6	0.1
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
Production	32	34	28	29	31	35	40	39	32	27	26	na
Exports	19	20	21	17	24	23	21	19	18	17	16	is
Imports	na	na	na	na	0.5	0.4	0.4	0.7	1.2	0.2	0.3	0.3

na Not available.
Statistics up to 1984-M are based on operations with 40 or more hives and from 1985-86 on all returns received.
Source: Australia Honey Board 1991.

Table E20: Gross domestic product implicit price deflator, Australia, 1978-79 to 1991-92

	78-79	*79-80*	*80-81*	*81-82*	*82-83*	*83-84*	*84-85*	*85-86*	*86-87*	*87-88*	*88-89*	*89-90*	*90-91*	*91-92*
Index (100=1990-91)	40.3	44.7	49.2	54.3	59.9	64.2	67.8	72.5	77.8	84.1	91.9	97.2	100.0	101.0

Source: ADS 1992b (Cat. No. 5206.0), p. 61

APPENDIX F: ASSESSING INTERNATIONAL COMPETITIVENESS

F1 Introduction

While the term 'international competitiveness' is much used in economic policy discussion, definitions of the term are difficult to find. Some people interpret it to mean simply the ability to produce and sell product on export markets. But interpreting international competitiveness in this way would mean that a country that is able to export as a result of export subsidies should be regarded as internationally competitive. Few would agree with that view.

Too, a definition that is solely in terms of volumes exported takes no account of those countries that are able to supply some, and perhaps all, of their requirements of a commodity from domestic production without any assistance to its producers and despite the ability to purchase the product on world markets.

The Commission has examined international competitiveness in terms of the relationship between the so-called 'import parity price', the 'export parity price', and the domestic market clearing price which would balance Australian demand and supply. The configuration of these prices at any time, which depends on world supply and demand conditions and international transport costs, together with Australian supply and demand conditions, determines whether Australia is an importer, an exporter or is exactly self-sufficient for the product concerned.

A model depicting these outcomes is outlined in the following section of this appendix and its shortcomings are noted. Other sections amplify the key ingredients of the model. Also, a distinction is drawn between ability to export and economic efficiency.

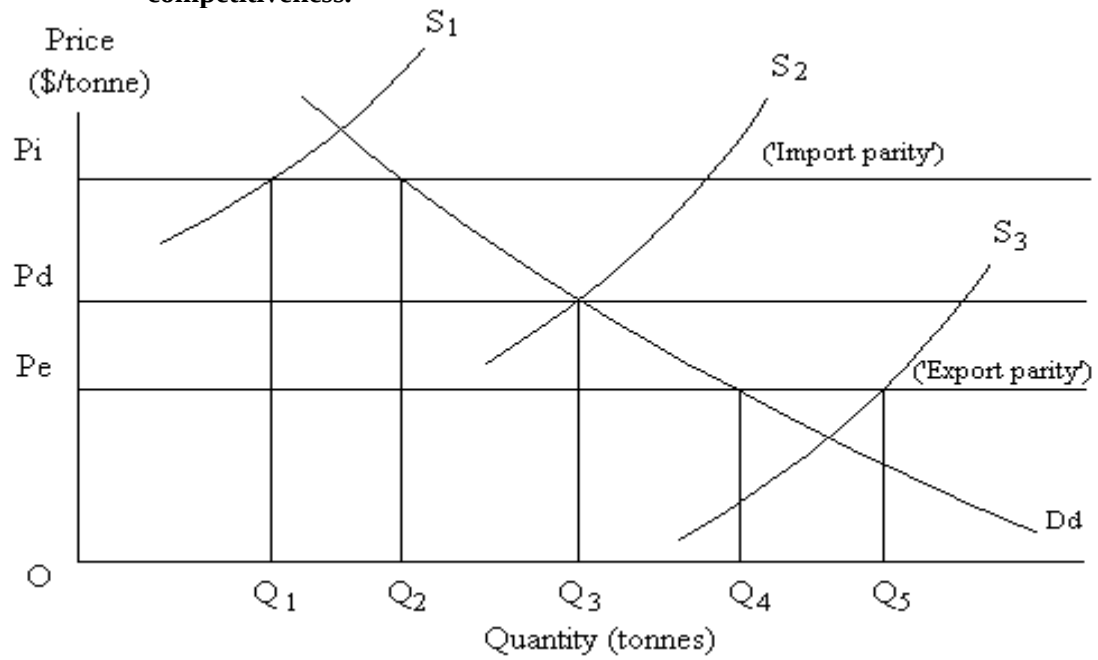
F2 The Model

The model which follows explains the fundamental economic forces that determine whether Australia, at a point in time, is an importer, an exporter, or is exactly self-sufficient in some horticultural product. A graphical representation of the model is given in Figure Fl.

Domestic demand for the horticultural product is given by Dd. The commodity can be imported at the import parity price level, Pi, which is equal to the price that the commodity can be purchased for in an overseas market plus the per unit costs of delivering it to Australia (transport, commissions and other costs). The domestic price would not rise above Pi since domestic buyers can always import the commodity at that price. The commodity can be exported at the export parity

price level, Pe, which is equal to the price it sells for in an overseas market less the per unit costs of delivering it to that market. The domestic price would not fall below Pc because domestic producers can sell all they wish on the export market at that price.

Figure F1: **Supply and demand representation of different degrees of international competitiveness.**



Three different supply situations are represented in the diagram. If the domestic supply is given by S1, the domestic price level will be- at import parity Pi, with O-Q1 tonnes of the commodity being supplied domestically and Q1-Q2 tonnes being imported. If the domestic supply is given by S2, the domestic price will be at Pd where domestic supply and demand are equal and O-Q3 tonnes will be produced and consumed domestically. Australia is exactly self sufficient in this situation. If the domestic supply is given by S3, the domestic price will be at export parity Pe, with domestic production being at O-Q5 tonnes, of which O-Q4 tonnes are consumed domestically and Q4-W tonnes are exported.

For a single horticultural product category such as apples or pears there will be a range of varieties and qualities each with their own configuration of import, export and domestic price levels. To the extent that different varieties and qualities are substitutes for each other in satisfying demand then their configuration of prices will be related.

This model oversimplifies reality in a number of ways. Because of Australia's geographical size and the fact that many horticultural products can be grown under a diverse range of agro-climatic conditions, there is no single export or import parity price that is relevant for Australia as a whole. Rather, different regions confront different import and export parity prices because of their different locations relative to overseas markets. Too, regions within Australia differ in terms of their local supply and demand conditions. Hence, some regions within Australia will be exporting (or importing) a horticultural product while others are not.

It is also the case that domestic and international trade in horticultural products is seasonal. Importantly, the Northern and Southern Hemispheres have opposite seasons so that product is available for export from Australia when there is a shortage of product in the Northern Hemisphere. The demand for Australian product will be less during the Northern Hemisphere 'on-season'. What this implies is that the configuration of domestic and import and export parity price levels changes throughout the year.

In practice there may be a lack of information about price levels because they change through time and it can be expected that different participants will have different levels of knowledge about market conditions. It also takes time for market participants to respond to price changes. For these reasons domestic prices at a point in time might be outside the range of import and export parity prices.

Other features of the model are qualified in subsequent sections. Despite these qualifications, the Commission believes that the model captures the fundamental forces determining Australia's status with respect to importing and exporting of horticultural products at any point in time.

Clearly, there are actions on the part of government, institutions and individuals that can influence this status. These are discussed subsequently. Important is the fact that any country, including Australia, can export more or import less as a result of various forms of assistance to the horticultural sector. However, increased export capability or reduced import dependency as a result of such assistance should not be viewed as increased international competitiveness.

How, then, should a country's international competitiveness in horticultural products be assessed? In the Commission's view, international competitiveness is a relative concept which refers to the degree to which a country can satisfy its own requirements for a particular product in the absence of government assistance. In the case of horticultural products (as opposed to, say, electronic goods) seasonality associated with supply means that the extent to which a country can satisfy its own requirements will vary throughout the year. Hence, most countries which export horticultural products do so only at certain times of the year. The same is true for importing countries. Some countries might export at certain times of the year and import at other times. In all these cases the countries are internationally competitive to some extent.

Countries which normally export horticultural products may be unable to export in a particular year because of adverse growing conditions. Likewise, a country which normally imports horticultural products may experience years in which it can fully satisfy domestic demand from local production because of highly favourable growing conditions. Hence, a country's degree of international competitiveness can change from year to year as well as within a year.

In a country such as Australia which is geographically large it also seems appropriate to think in terms of international competitiveness on a regional basis because the conditions that determine whether there will be exports, imports or exact self-sufficiency vary across regions.

In summary, Australia's international competitiveness in horticultural products is related to:

- import and export parity prices and how these change through time; and
- domestic demand and supply conditions and how these change through time.

An assessment of changes in international competitiveness requires that attention be given to the ways in which each of these factors can be influenced by government policy and the activities of institutions, industries and producers, recognising that some elements are outside Australia's control. Importantly, increasing international competitiveness does not necessarily mean exporting more. It could mean importing less or replacing imports completely.

F3 Import and export parity prices

The principal determinants of import and export parity prices, in the absence of government interventions, are world demand and supply conditions, exchange rates and delivery costs.

When supply in the rest of the world declines relative to demand, export and import parity prices increase, thereby raising Australia's international competitiveness. The reverse is true when supply in the rest of the world increases relative to demand. In fact, changes in Australia's international competitiveness from this source can be sudden and short-lived because of the volatile nature of the supply of horticultural products attributable, in turn, to changing weather conditions. For example, failure of orange crops in either Florida or Brazil due to adverse weather would bring about increases in world prices of fresh oranges and orange juice for a season. However, the extent to which Australian producers can expand exports in response to increased export parity prices is limited by time lags involved in production.

In the model developed above import and export parity prices have been assumed to be invariant to volumes imported and exported from Australia. This assumption is made on the grounds that imports into Australia and exports from Australia constitute an insignificant share of world horticultural trade. However, institutions and individuals may seek to influence the particular export parity prices that they receive through strategic marketing behaviour which is discussed subsequently.

Exchange rates directly influence import and export parity prices: a depreciation of the Australian dollar increases our international competitiveness by increasing import and export parity prices expressed in Australian dollars. Since December 1983 Australia has had a floating exchange rate which is determined by a multitude of factors well beyond events in the horticultural sector. When the value of our dollar has declined (as occurred from January 1985 to July 1986), our international competitiveness attributable to this source has increased. Again, however, the extent to which exports can be increased in response to higher export parity prices resulting from a depreciation in the Australian dollar is limited by time lags in production. When our dollar's value has increased (from December 1987 to January 1989) our international competitiveness has decreased.

Delivery costs determine the difference between import and export parity prices. lle smaller the delivery costs, the smaller is the difference between import and export parity prices and, hence, the smaller is the range of fluctuation in domestic supply and demand conditions needed to cause a country to change from being an exporter to an importer of the commodity concerned (and vice-versa). Because of their perishability and their need for careful handling, delivery costs for many horticultural products are substantial, thus making for large differences between import and export parity prices and, hence, relatively low volumes traded internationally compared with commodities such as wheat.

F4 Domestic supply

Australia's ability to supply horticultural products depends on costs of production which, in turn, depend on technology, input costs and the efficiency with which inputs are used. In the framework developed here, costs of production include not only on-farm costs of growing and harvesting but also costs incurred beyond the farm such as assembly, grading, processing, packaging, storage and delivery (see Chapter 2).

An important determinant of on-farm costs is the scope for alternative uses for resources. For example, urban spread tends to increase land costs on farms located near cities. In general, the scope for alternative use of resources will vary depending on location and the horticultural product under consideration.

A region's endowment of resources (particularly soils, topography, and climate) relative to available technologies is obviously an important determinant of capacity to supply any agricultural product. In this regard, the capacity of various regions in Australia to supply horticultural products can be contrasted with the capacity of other regions to supply broad-area agricultural products such as wool. In particular, resource endowments and the relative lack (compared to horticulture) of alternative uses for resources are such that the supply of wool in Australia is 'robust' in the face of even very substantial price changes. It can be expected that Australia will continue to be a major supplier of wool (and other broad-area products) to world markets in the foreseeable future.

The same is not true for many horticultural products. Compared with the case of regions specialising in broad-area agricultural products, small fluctuations in output and/or input prices can mean that it becomes more profitable to divert resources to the production of non-horticultural products (eg, fat lambs), or to divert land to non-agricultural uses such as housing development. Changes in supply of horticultural products due to relative price changes can be sufficient to eliminate quantities available for export.

Research and development (R&D) activity can be an important determinant of capacity to supply. In Australia, horticultural R&D is undertaken by state and commonwealth institutions as well as by private firms. The HRDC was established in 1988 by the Commonwealth Government to facilitate horticultural R&D. Innovations resulting from R&D can shift the supply function for certain horticultural products rightward because costs of production or marketing activities are lowered. This works in the direction of increasing international competitiveness. However, Australia's competitors in horticultural trade also have R&D programs which increase their capacity to supply horticultural products. Hence, Australia has to undertake a certain amount of R&D in order to maintain existing levels of international competitiveness.

F5 Domestic demand

Changes in demand relative to supply can alter Australia's import requirements or export availability. Although there is a tendency to think of competitiveness only in terms of costs of production, domestic demand conditions cannot be ignored.

Australia's domestic demand for horticultural products depends on relative prices, incomes, population size and structure, and consumer's preferences. Importantly, consumers can readily substitute horticultural products for one another (eg, different fruits, different vegetables, and fruits for vegetables and vice-versa) and, to a lesser extent, can choose between horticultural and non-horticultural products (eg, potatoes and rice, or meat and vegetarian substitutes). This has important implications for marketing strategies discussed subsequently.

F6 Government policies and institutional involvement

Australian horticultural farmers and industry leaders have been highly critical of foreign governments' interventions in markets and how these have impacted negatively on Australian producers and exporters (by lowering the world price and hence the export and import parity prices). Interventions by foreign governments are discussed in Appendix M. While some countries subsidise or otherwise support exports (US, EC), others tax them (Argentina, Turkey). However the Commission believes that the combined actions of foreign governments decrease Australia's competitiveness in horticultural products overall.

Forms of intervention extend to more than export and marketing subsidies; they also include tax exemptions, subsidised credit, production subsidies and institutional selling arrangements. For example, South Africa and New Zealand have selling arrangements which attempt to maximise any potential market power available to these countries. There is little that Australia can do to prevent other governments intervening in markets in ways that are deemed to be 'unfair' other than lobbying in international forums for reforms. However, Australia does institute anti-dumping and countervailing actions against assisted imports when they cause or threaten material injury to local industry.

Several types of institutions are involved in Australian horticultural production and marketing. A complex web of institutions, both public and private, operates at the national, State and regional levels. These institutions can influence the international competitiveness of Australian horticulture in a number of ways. The activities of the Horticultural Research and Development Corporation in fostering R&D have already been referred to. The Australian Horticultural Corporation (AHQ, among other things, fosters quality control and undertakes both domestic and international promotion (see next section). Institutions such as the Horticultural Policy Council and its affiliates play a role in representing the interests of horticulturalists in policy matters.

F7 Marketing strategy

International competitiveness can be influenced by marketing strategies adopted by sellers of horticultural products. Different sellers have different levels of commitment to developing marketing strategies and those that are committed to them experience differing levels of success from implementing them.

Marketing strategies embrace a variety of activities including attempts to understand consumers' current and future preference patterns (ie, market research), attempts to influence preference patterns (eg, promotion) and activities associated with quality control and building a reputation as a reliable supplier. Importantly, the export parity price confronting a particular exporter of horticultural products can be increased (ie, a premium can be earned), with associated expansion in volumes exported, from activities which convince buyers that the exporter's product is superior in some sense (eg, more consistent quality, freedom from chemical residues) compared with the product available from other exporters. The AHC is involved in such activities.

As in the case of R&D, a certain amount of investment by Australian horticultural exporters in developing marketing strategies is probably necessary just to maintain share in export markets because Australia's competitors also undertake these activities.

Strategic marketing activity may also involve lengthy negotiation to gain market access. The export parity price obtainable from a particular market only has relevance if an exporter is permitted to export to that market. Gaining this permission may require the potential exporter to convince the government of the importing country that the exporter's product is 'safe' in the light of quarantine regulations. For example, as a result of negotiation, Tasmania has been recognised as an area free of fruit fly thus enabling exports of berry fruits, cucurbits and lemons from Tasmania to Japan.

Strategic marketing activities may also be directed at the domestic market. Notable here is domestic promotion activity. To the extent that promotion increases the domestic demand for a particular horticultural product without any simultaneous increase in supply, international competitiveness is reduced in the sense that less is available for export, domestic price moves closer to import parity or imports may become necessary.

Some people have doubts about the effectiveness of promotion in enhancing the domestic demand for horticultural products as a group. To the extent that consumers allocate a relatively constant share of their food budgets to horticultural products, successful promotion of, say, apples is likely to be at the expense of expenditure on other fruits. (Similarly arguments are made with respect to the promotion of particular types of meats). The same arguments are not made with respect to export promotion which can be directed at convincing importers to purchase more Australian apples, or more generally, more Australian fruit, rather than the products supplied by Australia's competitors.

F8 International competitiveness versus economic efficiency

Government policies aimed at increasing national economic efficiency may lower the international competitiveness of particular industries. Conversely, particular industries can be made more internationally competitive at the expense of national economic efficiency. Some examples serve to illustrate these points.

F8.1 Input subsidies

Unless they correct for some market failure, input subsidies lower the efficiency of resource use by distorting relative input prices. Subsidised irrigation water used in horticultural production is a case in point. It increases Australia's capacity to supply horticultural products (resulting, perhaps, in greater import replacement or greater exports of horticultural products than otherwise would be the case) but it distorts the pattern of resource use within horticulture as well as the allocation of resources between horticulture and other activities. Removal of the subsidy would decrease Australia's supply of horticultural products (resulting, perhaps, in more imports or fewer exports) but it would also increase national resource use efficiency.

F8.2 Import tariffs

A tariff on an imported horticultural product (or a comparable barrier such as a lower sales tax on goods sourced domestically) increases the import parity price level. This results in a greater proportion of domestic demand being satisfied from domestic supply. Although this increases international competitiveness (in terms of the framework used in this report) it also lowers national economic efficiency through its adverse effects on both resource use efficiency and consumer welfare. A reduction in the tariff would improve economic efficiency but would lower international competitiveness for the product concerned. Tariffs on some imported horticultural products (eg, canned fruit) can also affect Australia's international competitiveness in other horticultural products (eg, fresh fruit) to the extent that they are substitutes in demand and/or supply for the imported product. Removal of the tariff would increase international competitiveness in the substitute product and national economic efficiency but it would reduce international competitiveness in the (formerly) protected product.

F8.3 Pooling returns

When discriminatory pricing practices are employed and a pooled price paid to producers, the effect is to increase output. This can increase international competitiveness (in terms of the framework used in this report). But it can also lead to inefficient levels of production. Such has been the case for dried vine fruits which have been sold at a higher price on the domestic market than on the export market. The pooled return growers have received has exceeded the export price which would have been received in the absence of this form of pricing. As a response, producers of dried vine fruits have produced more output than they otherwise would. The true value of that additional output has been less than the costs associated with producing it. The statutory underpinning which enforced price pooling was removed at the end of 1990. But price discrimination continues to be authorised by other legislation which exempts the operations of the Trade Practices Act (via section 51(1)) in relation to these activities. To the extent that this allows prices to be pooled voluntarily, international competitiveness of dried vine fruits continues to be increased by what is a form of export subsidisation.

Clearly, then, increased international competitiveness should not be confused with increased efficiency of resource use. Some policy initiatives (eg, labour market reforms and lower tariffs on inputs used in horticulture) will improve both the international competitiveness of horticulture and economic efficiency, while others will improve economic efficiency at the expense of international competitiveness (or vice-versa).

APPENDIX G: COST STRUCTURE OF AUSTRALIAN HORTICULTURE

The terms of reference require the Commission to "examine the production and cost structure of the Australian horticulture industry". This appendix investigates cost structures associated with the production and marketing of horticultural commodities. The data on which this appendix is based are accounting costs, cash outlays and some imputed values for labour costs.

There are dangers in drawing inferences about courses of action based on accounting or cash cost data alone. Significant costs such as family labour, capital and land are either omitted or else approximated by crude measures. Environmental costs and the perceived benefits of a rural lifestyle are ignored. Furthermore, an emphasis on costs, to the exclusion of revenues, gives only a partial description of the situation; it takes no account of market conditions. An accounting approach makes no allowance for alternative uses to which resources may be put and hence cannot be used to infer whether the costs of producing horticultural commodities in Australia are appropriate in a technical or allocative efficiency sense.

The appendix examines costs structures for horticultural commodities up to the point of wholesale. Section G1 examines horticultural production costs up to the farm gate and compares these cost structures with broad-area farm-gate costs. Section G2 focuses on the costs for individual stages in the production, distribution and marketing chain. Section G3 extends the treatment to distribution to overseas markets. Section G4 is a brief discussion of economies of size and their effect on horticultural farm costs.

G1 The farm-gate cost structure of horticultural and broad-area agricultural industries

This section examines the relative contributions of intermediate inputs and value adding factors to the growing and harvesting of horticultural products. The physical and financial aspects of horticultural industries are compared with the export oriented broad-area industries to shed some light on the different market focus of the two sectors.

For individual horticultural industries total exports seldom represent more than 15 per cent of production in Australia (Appendix E, Table E10). Thus, despite perceptions that horticultural industries have the potential to make a significant contribution to Australia's export performance, production has been oriented to supplying domestic markets. This is in direct contrast to broad-area agricultural industries.

G1.1 Data sources

There are two sources of official data on the financial features of agricultural industries - the Australian Bureau of Agricultural and Resource Economics (ABARE) and the Australian Bureau of Statistics (ABS). In both cases the data have been derived from farm surveys. ABARE provides data on both the physical and financial performance of the farms covered by its industry surveys. The data are presented as averages per farm. The ABS Agricultural Finance Survey concentrates on financial performance; each farm is classified according to its major product. The data are presented as averages per farm and also as aggregates for Australia and States.

A principal difference between the ABS and ABARE collections is the unit of reference. The unit used in the ABS Agricultural Finance Survey is the management unit which may consist of a -number of holdings. ABARE surveys are based on establishments (individual holdings). This difference may cause significant variations in averages derived from the data collected by ABS and ABARE. For the purpose of this appendix the unit of reference in each case is called the farm.

A similar design is used for both surveys and, with some exceptions, similar financial information is reported. Both surveys are directed at farm costs and returns, although some off-farm revenue and costs may be included. The information provided in the ABARE survey allows an estimate to be derived for 'on-farm' receipts and costs -receipts such as off-farm share farming and government income assistance and costs such as the private use of farm facilities are excluded from the analysis. Rent and leasing revenue are deducted from the ABS turnover data to more closely align the 'adjusted turnover' with on-farm receipts. In both surveys receipts for crops are gross of deductions made by marketing authorities for freight and selling charges, where appropriate; these deductions are included in farm costs. (Prior to 1988-89 ABARE's crop receipts and costs were net of these deductions.) Both surveys include off-farm packing, transport and wholesaling costs as farm costs if they are borne by the grower. The data in both surveys have been adjusted to take account of build-ups or run-downs in livestock.

The ABS survey makes no provision for depreciation or the imputed cost of owner operator and family labour. The ABARE survey uses depreciation rates applicable for income tax purposes as a proxy for economic depreciation and the Federal Pastoral Industry Award rates and the operator's estimates of work undertaken by the operator and family to impute a cost of operator labour.

Coverage of the horticultural sector and the range of data presented differ significantly between the surveys. ABARE classifies farms according to the activity of interest. In many cases the farms surveyed may have significant other agricultural activities, for example citrus farms may grow grapes, in which case the same farm may be used for both surveys. Detailed ABARE time series data are available for citrus, deciduous canning fruit, multi-purpose grapes and wine grapes. ABS survey data are more highly aggregated than the ABARE data. However, in addition to publishing data for the fruit

industry (covering grapes, plantation fruit, orchard and other fruit), ABS publishes information for the vegetable and nurseries industries and has conducted its financial survey on an annual basis since 1986-87. Farm surveys have been conducted by ABARE since 1947 for most agricultural commodities, however it is no longer conducting annual horticulture surveys. The last full survey was undertaken in 1988-89. Industry funding is now a major consideration in determining the commodities and regions to be surveyed.

G1.2 Comparison of physical and financial characteristics

There are significant differences between the physical characteristics of horticulture and broad-area industries. Table G1 shows that in 1988-89 the average farm area used in horticultural industries was much smaller than the area used in broad-area industries. The average area for horticulture farms was less than 5 per cent of the area for wheat and other crop farms - the smallest in farm area of the broad-area industries examined. In 1988-89, the total area for wheat farms was less than 20 per cent of the total area of sheep farms and only 6 per cent of the total area of beef farms.

Table G 1: **Characteristics of horticultural and broad-area farms, average per farm, 1988-89**

	Citrus	*Multi-purpose grapes*	*Wine grapes*	*Deciduous canning fruit* [a]	*Meat* [b]	*Beef*	*Sheep*
Total farm area (ha)	25.7	22.8	41.8	25.4	972	15 972	5374
Land and improvements	319 632	226 764	363 367	153 463	594 527	902 261	800 677
Plant & machinery	38 581	34 425	41 575	45 167	118 133	46 667	50 230
Livestock ($)	86	250	483	2 016	25 161	236 231	106 057
Total Capital	358 300	261438	405 551	251 066	747 452	1 189 385	971 305
Capital to output ratio	3.5:1	3.4:1	3.5:1	1.9:1	4.6:1	8:1	5.7:1

a Based on 1987-88 data
b Based on farms producing wheat and other crops
Source: ABARE Farm Survey data 1987-88 and 1988-89 (ABARE 1992d).

Total capital invested (dominantly land and improvements in all industries reviewed) in the horticultural industries surveyed in 1988-89 ranged between $251 000 and $405 500 per average farm. In comparison, for the broad-area industries reviewed, total capital ranged from around $747 400 for the average wheat and other crops farm to $1.2 million for the average beef farm. Capital to output ratios were higher for the broad-area industries. Further analysis shows that for the nine year period 1980-81 to 1988-89 the average capital to output ratios for broad-area industries were: wheat 5: 1; beef 7: 1; and sheep 6A. In comparison the average capital to output ratios for horticulture, in the additional analysis, ranged from 2:1 for deciduous canning fruit to around 3:1 for citrus, multi-purpose grapes and wine grapes.

G1.3 Comparison of industry cost structures

The Commission has undertaken separate analyses of cost structures of horticulture based on ABARE and ABS data. Horticulture, like most of agriculture, is characterised by considerable year to year variability in the value and volume of output. The use of average data can smooth out seasonal fluctuations. The analysis based on ABARE Farm Surveys calculates averages using nine years data (1980-81 to 1988-89, the last year surveyed for most horticultural industries).[1] The analysis using ABS Agricultural Finance Surveys is based on average data for the four years 1986-87 to 1989-90 for all industries except Nurseries where data for only 1986-87 and 1987-88 are available.

The examination of cost structures relies on the accounting identity that the value of output may be divided into the cost of intermediate inputs and value added. In turn, value added can be divided into payments to hired labour and contractors, rent on land, interest, and an operator margin. Depending on the availability of data, the operator margin may be further broken down into depreciation, an imputed owner operator wage and a return to capital and land.

Analysis based on ABS Agricultural Finance Surveys

Table G2 compares the average cost structures of the fruit, vegetable and nursery industries with those of three broad-area industries and the agriculture sector as a whole using ABS Financial Survey data for the period 1986-87 to 1989-90.

ABS estimates indicate that value added[2] as a proportion of turnover was similar for most industries reviewed. Value added ranged between 47 and 51 per cent of turnover for the fruit, vegetables and cereals industries and for the agricultural sector. The sheep, beef and nurseries industries had a higher proportion of value added which accounted for 58 per cent of turnover.

The components of value added differ considerably between the horticulture and broad-area industries. The break-down of average value added into three components (land rent and interest, wages and contract services, and the operator margin) is shown in Table G2. Wages and contract services

1 Due to differences in the regions surveyed for deciduous canning fruit in 1988-89, an eight year average has been used.

2 Value added is the difference between the value of output and the value of intermediate inputs such as materials and services. Value added is made up of wages paid to hired labour, returns to owner operator and family labour, depreciation, rent on leased land, interest paid on borrowings and returns to capital.

Table G2: **Average ABS cost structures for horticultural and broad-area industries: Australia, percentage of adjusted turnover, 1986-87 to 1989-90**

Costs	*Fruit*	*Vegetables*	*Nurseries*	*Beef*	*Sheep*	*Cereals*	*All agriculture*
Materials & selected services	45	46	34	35	35	47	43
Insurance, rates, taxes & other expenses	7	4	8	6	7	6	7
Return to value adding factors:							
• land rent & interest on other capital	8	8	7	11	10	12	10
• wages & contract services	21	18	34	12	17	8	13
• operator margin	20	24	17	35	31	27	28

Note: Totals may not add to 100 per cent due to rounding.
Source: Commission estimates based on ABS Agricultural Industries Financial Statistics Australia, Cat. No. 7507.0 average data for the period 1986-87 to 1989-90 (ABS 1992i)..

accounted for a much larger proportion of turnover for the horticultural industries then for the broad-area industries. Wages and contract services account for 21 per cent of turnover in the fruit industry, 18 per cent in the vegetable industry and 34 per cent in the nurseries industry. In comparison, wages and contract services accounted for around 17 per cent of turnover for the sheep industry and 8 per cent and 12 per cent, respectively, for the cereals and beef industries.

The operator margin in the horticultural industries was significantly lower than the average for the agricultural sector. The broad-area industries had higher operator margins which may reflect the more capital intensive nature of these activities. The operator margin also includes a return for owner operator labour. This component would need to be disaggregated before any conclusions could be reached regarding the labour intensity of these industries. Information on a return to owner operator labour is not available from the ABS survey.

Analysis based on ABARE Farm Surveys

The ABARE farm survey allows for analysis of a longer period and, for fruit products, a more disaggregated series of data.[3] Cost structures based on the ABARE data, shown in Table G3, do not align closely with the ABS cost structures reported in Table G2. Nevertheless, both data sources indicate that wages and contract services are significantly more important for horticultural industries. The ABARE data, by providing estimates of the imputed costs of operator and family labour, allow an assessment to be made of the relative labour intensity of the horticultural and broad-area industries.

3 The ABARE Farm Survey does not collect information from farms which specialise in the production of vegetables.

Chart G1 shows components of value added as a proportion of on-farm receipts, based on an average of nine years of ABARE survey data.[4] The chart shows that owner operator labour is a significant proportion of the operator margin for the four horticultural activities examined. (The imputed value of operator labour is an ABARE estimate based on the Federal Pastoral Industry Award rates and operator estimates of work undertaken by the operator and family.) Return to labour accounted for between 47 per cent and 58 per cent of on-farm receipts for the horticultural farms surveyed compared with around 20 per cent of on-farm receipts for the wheat and sheep farms surveyed.

Table G3: **Average ABARE cost structures for horticultural and broad-area farms: Australia, percentage of on-farm receipts, 1980-81 to 1988-89**

	Citrus	multi-purpose grapes	Wine grapes	Deciduous canning fruit [a]	Wheat [b]	Sheep
Materials and services	38	34	29	44	48	43
Insurance, rates and taxes	8	9	12	6	4	5
Return to value adding factors:						
• rent and interest	6	7	8	8	15	13
• hired labour & contract services	21	23	23	25	7	6
• operator margin	27	27	28	17	26	33
Total on-farm receipts	100	100	100	100	100	100
Components of the operator margin						
- imputed operator labour	26	35	33	26	15	19
- depreciation	13	14	17	11	8	11
- return to capital	-12	-22	-21	-20	4	2
- total	27	27	28	17	26	33

a Averages based on eight years data, 1980-81 to 1987-88.
b and other crops
Source: Commission estimates based on ABARE Farm Survey data (ABARE 1992d).

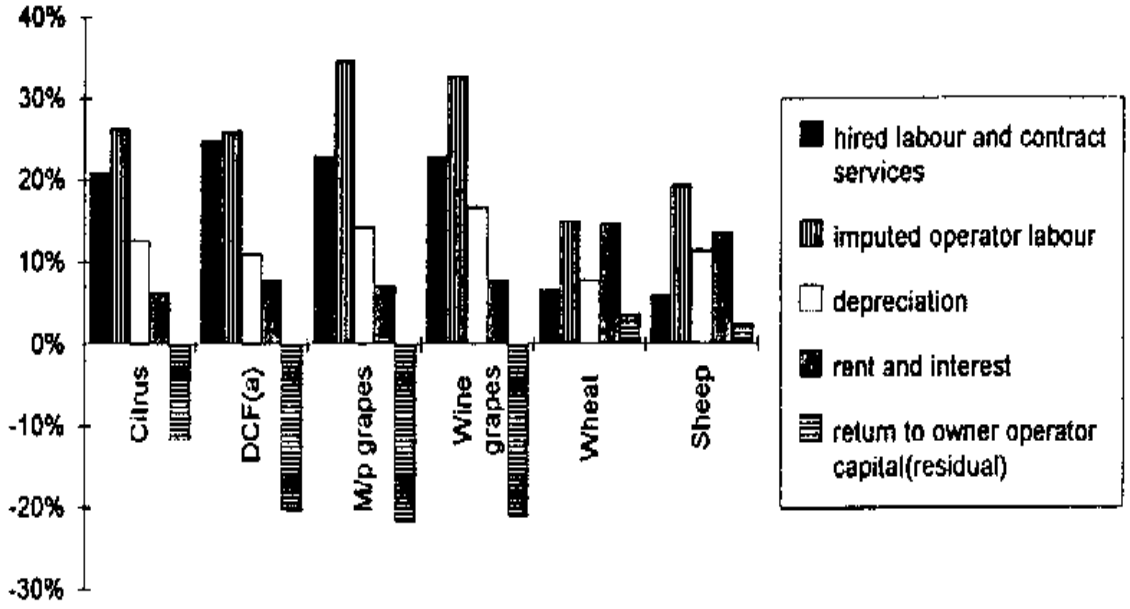
Depreciation also takes up a larger proportion of on-farm receipts for horticulture. It is important to note that, based on the depreciation and imputed operator labour estimates made by ABARE, and assuming the return to capital (and land) is the residual, the average return to operator owned capital in the horticultural industries surveyed has on average been negative over the nine year period. Ibis result suggests that the estimates for depreciation and/or imputed operator labour may be too high.

[4] Value added in this chart includes payments for contract services.

Whilst a negative return to capital could be observed in the short run, say for one or two years, such a result would not be sustainable over a longer period.

The ABARE data suggest that horticultural farmers supplement their on-farm incomes by working for wages off-farm to a greater extent than broad-area farmers. Average off-farm income earned by horticultural farm operators and their spouses ranged from 7 per cent of on-farm receipts for deciduous canning fruit farms to nearly 14 per cent of on-farm receipts for multi-purpose grape farms. Off-farm income amounted to only 3 per cent of on-farm receipts for sheep and beef farms and less than 1 per cent of on-farm income for wheat farms.

Chart G 1: **Average labour and capital contributions to value added, percentage of non-farm receipts, 1980-81 to 1988-89**



Source: Commission estimates based on ABARE Farm Survey data (ABARE 1991d).

G1.4 Comparison of cost structures between States

The data presented above illustrate the average cost structure for production across Australia. Differences in technology, climate and geographic features are likely to lead to variations in the cost structure of horticulture between regions and or States. ABS data are available on a State basis for the fruit and vegetable industries; regional and State data for individual fruit industries are available from the ABARE farm survey.

The cost structures of the fruit and vegetables industries by State are shown in Table G4.[5] In the fruit industry the proportion of materials and services varies markedly

[5] These cost structures are based on ABS data for the three years 1987-88 to 1989-90. Due to the level of aggregation these data are not strictly comparable with the data presented in Table G2. For example, livestock purchases could not be deducted from turnover and are included in materials and services. Similarly, contract services are included in materials and services, rather than in value added.

Table G4: **Average ABS cost structures for the fruit and vegetable industries, by State, percentage of turnover, 1987-88 to 1989-90**

4 year average	*NSW*	*Vic*	*Q1d*	*SA*	*WA*	*Tas*	*Australia*
Fruit							
Materials and services	-50	51	60	50	64	56	53
Land rent and interest paid	11	7	5	6	9	4	8
Wages and salaries	17	22	17	16	12	25	18
Operator margin	22	20	18	28	15	15	21
Capital to output (ratio)	5.1:1	3.2:1	3.7:1	3.0:1	4.5:1	2.8:1	3.7:1
Vegetables							
Materials and services	52	52	56	51	49	53	53
Land rent and interest paid	9	6	9	6	6	6	8
Wages and salaries	18	18	17	14	9	13	16
Operator margin	21	25	18	28	36	28	24
Capital to output (ratio)	3.7:1	3.0:1	2.7:1	3.9:1	2.8:1	3.1:1	3.1:1

Source: Commission estimates based on ABS Agricultural Industries Financial Statistics, Australia (Cat. No. 7507.0) average data for 1~ to 1989-90 (ABS 1992i).

between States. Materials and services accounted for 64 per cent of turnover in Western Australia compared with 50 per cent in New South Wales and South Australia. The labour intensity of fruit production also varies between States. Wages and salaries for hired labour accounted for 12 per cent of turnover in Western Australia and 25 per cent of turnover in Tasmania.

In the vegetable industry materials and services are a similar proportion of output in all States. In Western Australia, wages and salaries are a much smaller proportion of turnover in Western Australia, amounting to only 56 per cent of the national average, while operator margins are the highest. These results may reflect a larger labour contribution by owner operators or a higher return to other value adding factors.

The differences in cost structures between States reflect in part each State's production pattern. The cost structure for Tasmania, for example, reflects the cost structure of the apple industry - in 1989-90 apples accounted for over 85 per cent of the Tasmanian Fruit industry local value of production. Similarly, in 1989-90 nearly, 60 per cent of South Australia's fruit industry local value was from grapes. In New South Wales, citrus and grapes made up over 50 per cent of the local value of production in 1989-90. Bananas and pineapples contributed just over 50 per cent of the fruit industry local value in Queensland, while pome fruit and grapes accounted for 54 per cent of the local value in Western Australia in 1989-90.

Potatoes were the major product grown in the vegetable industry in 1989-90, in all States except Queensland. Potatoes made up just over 50 per cent of the local value of production in Tasmania and around 30 per cent in the other States. Tomatoes, which accounted for 30 per cent of the local value, were the major vegetable product grown in Queensland, followed by potatoes with 14 per cent. Potatoes have a degree of natural protection in all States, because of their high transport costs.

G2 Costs for individual stages of production and domestic distribution

The ABS and ABARE survey data considered so far are unsuitable for comparisons of international competitiveness because they are not expressed in a uniform way, such as cost per tonne at the point of wholesale distribution (which could be in another country). The results are expressed as average costs per (multi-product) farm rather than for single products, and are averages over fresh and processing uses. They include no estimates of overseas freight costs.

This section focuses on the costs of getting Australian produce to domestic wholesale markets. The following section addresses the additional costs of preparing product for export and of international freight.

An alternative approach to using ABS and ABARE survey data is to make use of estimated cash costs per tonne supplied by State Departments of Agriculture to growers for guidance. These are itemised for numerous cost components and for many products. While fob costs may not be available, reasonable estimates of wholesale costs for single products can be made.

Table G5 summarises estimated costs of production and marketing for one product, apples, expressed as costs per tonne at the point of wholesale distribution. Most costs are provided per hectare. The Commission has converted these to costs per tonne using the published assumed yield for each budget. Ibis conversion is appropriate for most cost items because costs are proportional to tonnes. However, it may not be appropriate for growing, because the same growing costs can result in a range of yields, depending on the season. Given that growing costs are less than 20 per cent of total wholesale costs, and that the assumed yields are for average seasons, the Commission's conversions introduce little error to the overall story, and are more reliable than expressing results as costs per hectare (where all results except for growing would depend on the yield).

There is a reasonable consistency in the independent estimates of cash cost components. However, only a few measures of costs of capital are available. Based on ABARE results, costs of capital and owner and family labour might result in total costs which are 35 per cent greater than total cash costs.

Table G5: **Cash costs of individual production and distribution steps to the point of wholesale distribution, for Australian apples, $ per tonne**

	Batlow NSW June 91		*Northern Victoria April 92*	*Western Australia*		*Tasmania*	
	$	%	$	$	%	$	%
Growing	72	15		115	17	120	14
Harvesting	55	12		60	9	60	7
Packing/handling	147	31	160	177	27	180	21
Packaging materials			118	135	20		
Storage – ordinary	37	8	28	38	6	110	13
- controlled atmosphere	3	55	146				
Freight	41	9	109	39	6	150	17
Commission	84	18		50	8	150	17
Levy	6	1	9	14	2		
Cash overheads	79	17		20	3		
Machinery repairs				10	2	100	11
Total cash Costs b	**469**	**100**		**658**	**100**	**870**	**100**
Depreciation/capital costs	57			20		87	
Wholesale price received	893					1060	
Sales shares: export %				60		84	
local %				30			
juice %				10		16	

a Longer term storage, used particularly for exports.
b Measured at the point of wholesale distribution.
Sources: Gordon and Walker 1991; Northern Victorian Fruitgrowers Association Ltd 1992; WA Department of Agriculture, Sub.100, p.14; Tasmanian Government, Sub.79, p.11.

Table G6 summarises estimates of cash costs for several fruits and vegetables; total costs would, of course, be higher. Several important conclusions can be drawn from inspection of Tables G5 and G6:

- the sum of growing and harvesting costs is a relatively small proportion of total cash costs to the point of wholesale distribution, about 30 per cent;
- the cost of packing is in many cases greater than the cost of growing and harvesting, with packaging materials accounting for about half of this cost;
- agents' commissions are a relatively large cost component, from 10 to 20 per cent of the wholesale price; and
- freight costs vary considerably, depending on the location of the growing region relative to markets.

Table G6: **Cash costs of individual stages of production and distribution to the point of wholesale distribution, for various fruits and vegetables, $ per tonne**

	Oranges (WA)		*Apples (Batlow)*		*Peaches (WA)*		*Potatoes (MIA)*		*Tomatoes (Qld)*	
	$	*%*	*$*	*%*	*$*	*%*	*$*	*%*	*$*	*%*
Growing	46	15	72	15	143	15	106	38	140	21
Harvesting	50	17	55	12	120	13	38	14	100	15
Packing/handling	129	43	147	31	319	34	36	13	58	9
Packing materials	na	na	na	na	na	na	15	5	122	18
Storage	4	1	37	8	63	7	na	na	35	5
Freight	16	5	41	9	91	10	53	19	110	17
Commission	31	10	84	14	184	19	29	11	100	15
Levy	2	1	6	1	2	0	na	na	na	na
Cash overheads, repairs	20	7	20	7	27	3	na	na	na	na
Total cash costs	**299**	**100**	**469**	**100**	**948**	**100**	**276**	**100**	**666**	**100**
Wholesale price	564		893		1469		285		800	

na not available.

Sources: Boughton and Gallagher 1989 (oranges, peaches); Gordon and Walker 1991 (apples); McKenzie, Salvestrin and Crean 1990 (potatoes); Queensland Government, Sub.91, Appendix 2 (tomatoes).

G3 Costs of stages from farm to overseas destination

Comprehensive data regarding on-farm costs, delivery and selling costs for the domestic and export markets are not available. However, many participants did provide information about the costs of production and distribution of products for which they had a particular interest. From that information and ABARE farm survey data, the Commission synthesized cost structures for some horticultural industries for the various stages from production through to final buyers (Table G7). While not purporting to accurately reflect average costs for each industry, the synthesized estimates do provide an insight into the likely major components of costs. These costs will, of course, differ from region to region and from market to market.

Because costs increase as value is added at each stage through the production and distribution chain, for each activity to be profitable the price offered at each stage must increase. For example, for apples to be delivered for processing, the price at which apples are sold to the processor must be farm costs plus a component for domestic freight. If they were to be sold on the fresh domestic market, the price required would appear to be slightly over 100 per cent above farm returns to compensate for packing, delivery and marketing costs. If they were to be sold on the export market, the price received on the buyers' wharf would need to be about 300 per cent above farm returns. A purchaser in export markets would also be required to pay any import duty applicable plus land freight and internal marketing costs.

Table G7: **Indicative cost structures for production and distribution of selected horticultural products, (farm gate returns = 100)**

Component	*Citrus*	*Apples*	*Wine grapes*	*Deciduous canning fruit*	*Potatoes*	*Wheat* [a]
On-farm production costs						
labour [b]	42	37	46	42	55	22
materials & services	41	41	34	42	32	53
plant and capital [c]	17	22	20	16	13	24
Farm costs	**100**	**100**	**100**	**100**	**100**	**100**
Packing and storage						
labour [b]	40	42	na	na	18	na
materials	40	40	na	na	12	na
other costs [c]	20	25	na	na	10	na
Ex-shed cumulative costs	**200**	**207**	**na**	**na**	**140**	**na**
Distribution costs						
Delivery to domestic market or point of export	15	23	5	9	20	19
Domestic commissions	15	22	na	na	14	na
Cumulative costs for domestic production and distribution	**230**	**252**	**105**	**109**	**174**	**119**
Export freight, insurance etc	90	125	na	na	na	21
Export commissions	25	33	na	na	na	34
Cumulative cost to land exports excluding import duties	**345**	**410**	**na**	**na**	**na**	**175**

na not applicable.
a Farm costs based on farms producing wheat and other crops.
b Includes hired labour and imputed cost of family labour.
c Includes depreciation of plant and equipment, overheads, and returns to capital and management.
Source: Commission estimates based on various data sources including ABARE, ABS, Departments of Agriculture Farm Budget Handbooks and submissions.

The indicative cost structures in Table G7 suggest that a given percentage reduction in the landed duty free price of exports has a more dramatic effect on grower returns from exports of horticultural products than broad-area crops, such as wheat. Assuming the incidence of the reduction is incurred wholly by the grower, a modest 5 per cent reduction in the landed duty free export price is equivalent to a reduction in the farm gate returns of 17 per cent for citrus and 20 per cent for apples, but only 9 per cent for wheat. Although some of the effects of price fluctuations are

likely to be absorbed by others in the distribution chain (eg, commissions are usually charged in percentage terms), to the extent that growers receive residual returns, these figures suggest that Australia's capacity to supply broad-area crops to world markets is 'robust' in the face of changes in international prices, whereas the same probably cannot be said for many of our horticultural commodities. For horticultural products it might take only modest changes in exchange rates for Australia to become uncompetitive in some world markets. This would not be the case for broad-area commodities such as wheat or fine wool.

G4 Economies of size and scope

A significant issue is the possibility of reducing costs by means of larger operations, whether this be larger farms, packing sheds which are larger or are used for longer hours, or transport in larger consignments. Alternatively, costs may be reduced by growing and marketing a greater variety of products.

Horticultural cost information provided by ABS, ABARE and State Departments of Agriculture is usually in the form of industry averages, and hence provides no indication of differences between more efficient and less efficient operations, or between larger and smaller operations. Of relevance in this regard is the observation that a small proportion of producers account for a large proportion of output. Several participants referred to a 20:80 rule, ie that 20 per cent of producers account for 80 per cent of production. According to the South Australian Government those 25 per cent of growers on holdings of greater than 8 hectares account for more than 65 per cent of production (Sub.94, p.11). In these circumstances it is important to know if large and small producers have different unit costs. The Commission was told that some of our overseas competitors produce on a large scale and have lower unit costs than us.

ABARE examined the relationship between unit costs and farm size for the citrus industry and found that:

> ... there does not appear to be a significant difference at the farm level in either the United States or Australian citrus industries (with the exception of the Queensland sector). ... There may be size advantages captured in the latter stages of the production process (processing, converting, packing and distribution) by large scale co-operatives and companies in the United States. In comparison with the relatively large number of packers and processors in Australia, there are only a few major co-operatives packing fresh citrus for both domestic and export sales and a small number of processors. ... However, with no data available on costs structures in processing, packing and exporting operations in Australia and the United States, there is no empirical evidence to suggest that such economies of size exist. (Sub.111, p.41)

ABARE's conclusion about the lack of evidence for economies of size in citrus growing areas was based on comparing average unit costs and average farm sizes in Australia, California and Florida (see Appendix N). Arriving at such a conclusion is further complicated by the need to use exchange rates, and the possibility of different production methods.

ABARE investigated the possibility of economies of size in the Australian irrigated citrus industry using information collected during its 1990-91 citrus industry farm survey. All farms in the Murrumbidgee Irrigation Area, Riverland and Sunraysia regions for which citrus receipts accounted for more than 90 per cent of farm cash receipts were treated as a single group. Given the small size of the sample there was no significant evidence of a relationship between cash costs per tonne and tonnes harvested. There was some evidence of a relationship between business profit per tonne and tonnes harvested, but the percentage of total variation accounted for in the relationship was small. Overall, there is some evidence of economies of size in the industry, but the relatively small size of the sample and the diversity of citrus farms would preclude firm conclusions being made.

A summary of studies of economies of size in agricultural marketing plants is given in French (1977). The results for horticultural packing and canning are somewhat dated, the studies being between 1956 and 1970. These show that plants of half the maximum size observed had unit costs of 1 to 7 per cent higher. There is a suggestion of greater non-linearity for smaller plants. Plants of 20 per cent of the size of the largest plant had unit costs which were 10 to 30 per cent higher than the largest plants.

Australian farms are typically family businesses, with most of the characteristics and problems of small business. Many horticultural farms are small. In some cases this is a result of soldier settler schemes over 50 years ago. It may also be a rational response to the high costs of hired labour, which must be employed in Australia at rates determined under centralised awards. In this sense, there may be diseconomies of size.

What may have once been a viable farm size may not be today. As reported above, in many cases the family income is supplemented by other work off the farm, often of a non-farming nature. In such situations the preservation of farms which are not large enough or sufficiently profitable to support a family is a matter of choice of life style. The same applies to hobby farms.

Many horticultural operations cover a range of products, and presumably the variety of products is chosen so as to minimise costs and maximise returns. In the case of vegetables, where there may be several crops per year, soils cannot sustain repeated plantings of the same crop and are improved by appropriate crop rotations. Crops which are planted, nurtured and harvested at different times of the year have a steady rather than peaked labour requirement. To the extent that family labour can be utilised, this minimises the need for hired labour. The use of a variety of crops also reduces the risk of losses due to crop failure, whether by weather or disease. Economies of scope also exist in marketing in that different products can be stored, transported and even promoted jointly.

It does not follow, however, that unlimited benefits are to be gained by widening the range of products. Indeed, there can be diseconomies of scope. It is not cost effective to own or even use specialised cost reducing equipment when throughput is small. A larger range of products also requires greater technical expertise and a wider knowledge of markets.

APPENDIX H: INTERNATIONAL COST COMPARISONS

The terms of reference require the Commission to "identify structural and other issues which, in comparison with overseas producers, affect the competitiveness of Australian producers in overseas markets."

Hundreds of horticultural products are grown throughout Australia. Consequently, the structural and other issues which affect a producer's competitiveness are many and varied - for example, availability of natural resources, production methods, organisational structure, size of packers and exporters, selling arrangements, transport and labour costs, and market access.

The Commission sought to gain an understanding of structural issues by asking inquiry participants for information on costs and cost structures for production and marketing, both domestically and in other countries. Participants provided some information which the Commission has used in various sections of the report. Chapter 2 presents some information about international differences in the cost of labour, capital and transport. Chapter 4 examines 'single-desk' selling and the role of international trading organisations.

Ibis appendix summarises two studies which were submitted to the inquiry - an Australian Bureau of Agricultural and Resource Economics (ABARE) study of the Australian and United States citrus industries (Sub.111), and an Edgell-Birds Eye analysis of the Australian vegetable processing industry (Sub.110).

H1 Problems that arise when comparing costs between countries

An ideal international comparison would detail costs for each of the steps in the production-marketing chain, namely growing, harvesting, packing, storage, freight, wholesaling/exporting and processing, for countries with similar factor endowments and production technologies. There would be grounds for investigating the structure of a particular stage if its cost was significantly higher than the comparable international cost.

However, international cost comparisons alone are rarely a good measure of the importance of structural issues in determining a product's competitiveness for two reasons.

Firstly, factor endowments and production technologies are never identical between countries. Even within one country there are large differences in production methods according to: the type of land (soil, undulation), availability of water (rain, irrigation), availability of plant varieties, existence of pests and diseases, cost of labour, cost of capital and the cost of transport. For example, bananas are grown on hilly country in northern New South Wales but on relatively flat country in Queensland so one would expect to find higher labour costs in New South Wales even when growers in each area are efficient.

Further, the costs of producing horticultural products in Australia could be high (relative to costs in competitor countries) because greater alternative opportunities are available for the use of resources in Australia. For example, the cost of land suitable for citrus production may be higher in Australia than in Brazil because there are more profitable uses for that land in Australia. If true, this would place Australian citrus growers at a competitive disadvantage relative to Brazil, but it does not imply technical or allocative inefficiency on the part of the Australian growers.

There are also cost differences between countries depending on where goods are sold - fresh domestic, fresh export, or processed. Crops grown specifically for processing tend to have lower unit costs because they may not have to satisfy the same requirements in relation to size, colour and blemishes. In addition, product sold for processing does not incur packing costs or agents' commissions. It also has smaller freight costs, given that the processing plant is usually located close to growers. Product for export may be grown, harvested and packed with greater care and expense and it generally has higher freight costs.

Secondly, inter-country comparisons of costs are problematic because it is difficult to obtain good quality data and because conversions of values to a common currency are complicated by changes in exchange rates. Furthermore, while there may be significant variations in unit costs between different farms or packing sheds in the same region, this information is not usually available because most cost information is in the form of totals or averages.

Nevertheless, there is some merit in attempting to compare costs in Australia with those for other countries. Where production methods are similar, component costs can be compared. The reasons for large differences may reveal ways to improve efficiency.

H2 ABARE citrus study

The ABARE study compared the cost of producing oranges in Australia with that in the United States. Information on the Australian industry was obtained from a 1988-89 ABARE survey of Australian horticultural industries. A subset of citrus growers who earned at least 90 per cent of their farm incomes from citrus production was selected. Data for Florida and California were obtained through a 1988-89 study by Buxton (1991). ABARE attempted to compare the cost categories identified by Buxton with those of the Australian industry.

Table H1 contains the results of the study. It shows that gross receipts per hectare for Australia ($4 977) and Florida ($4 922) were similar, although lower than that earned by California ($7 487). This is

Table H1: **Citrus grower receipts and costs in Australia, California and Florida in 1989, $A**

	Unit	*Australia* [b]	*California*	*Florida*
Sample size	number	23	109	64
Total crop area	ha	21.2	56.3	165.5
Area planted to navels & valencias [c]	ha	18.2	15.4	53.0
Area bearing trees	ha	16.0	14.6	29.7
Production	t	356	407	937
Yield	t/ha	19.5	26.4	17.7
Yield per bearing area	t/ha	22.3	27.8	31.6
Gross receipts	$A/t	254	283	278
	$A/ha	4977	7487	4922
Cash costs				
Nursery stock, trees and seed	$A/ha	42	38	39
Fertiliser	$A/ha	178	299	429
Chemicals and biological pest control	$A/ha	226	640	423
Fuel oil and grease	$A/ha	157	na	na
Fuel, lube and electricity	$A/ha	na	436	117
Repairs and maintenance	$A/ha	384	374	162
Other material costs	$A/ha	22	na	na
Contracts	$A/ha	118	132	82
Packing, handling, marketing, freight	$A/ha	129	na	na
Hired labour	$A/ha	792	1789	908
Total rates and taxes	$A/ha	274	533	220
Interest paid	$A/ha	171	611	154
Other costs [d]	$A/ha	692	925	509
Total cash costs	$A/t	163	218	172
	$A/ha	3185	5778	3043
Depreciation [e]				
Vehicles, tractors, equipment etc	$A/ha	348	169	103
Irrigation and water supply	$A/ha	96	168	194
Wind machines (regular and PTO)	$A/ha	na	113	0
Total depreciation	$A/ha	444	450	298
Cash receipts less cash costs less depreciation	$A/t	68	48	89
	$A/ha	1348	1259	1582

a Converted to Australian dollars using the average US/Australian exchange rate for 1988-89.
b Includes only the Murrumbidgee Irrigation Area and the Sunraysia and Riverland regions.
c Includes small amounts of other citrus varieties for Australia.
d Includes the cost of general overheads, phone, accounting, insurance, administration expenses and other motor vehicle expenses.
e Depreciation figures for Australia are 1987-88 averages per hectare for all surveyed citrus farms.
Source: ABARF, Sub.111, p-53.

because Californian growers had a higher yield per hectare and obtained a higher price per tonne. On a per tonne basis the differences in receipts are reduced - Australia ($255), Florida ($283) and California ($283).

Total cash costs per hectare were similar for Florida ($3 043) and Australia ($3 185), but lower than in California ($5 778). On a total cash cost per tonne basis, Australia had the lowest cost ($163) followed by Florida ($172) and then California ($218).

An examination of individual costs shows that nursery trees and contracts costs were similar for all three areas. Fertiliser and chemical costs were lowest in Australia. Labour costs, interest payments and total rates and taxes (including the cost of irrigation water) were much higher in California compared with Australia and Florida. Total depreciation costs per hectare were similar for Australia and California but lower in Florida.

Cash receipts less cash costs and depreciation, per hectare in 1988-89, were highest in Florida at almost $1600, compared with Australia and California at around $1300. ABARE concluded from its analysis that:

> With regard to economies of size, there does not appear to be a significant difference at the farm level in either the US or Australian citrus industries (with the exception of the Queensland sector). Average farm sizes differ between the total Australian average and the California and Florida averages. In Australia in 1988-89, the average crop area was 21.2 hectares compared with 56.3 hectares in California and 165.5 hectares in Florida. However, this is not reflected in cash costs per hectare. (Also the Australian average does not include the Queensland industry which has large citrus farms.) There may be size advantages captured in the latter stages of the production process (processing, converting, packing and distribution) by large scale co-operatives and companies in the United States. (Sub.111, p.41)

As recognised by ABARE, there are limitations to the usefulness of this study.

Firstly, severe frosts increased the number of non-bearing trees per hectare in Florida at the time of the survey - the level of non-bearing trees for California was 5 per cent compared with 44 per cent for Florida. Because of this ABARE argued that "costs per acre in Florida are likely to be understated because of the high proportion of non-bearing trees and the consequent lower costs resulting from the significantly lower fertiliser, chemical and labour requirements compared with those for bearing tree areas."

When Florida's receipts and costs are calculated on a per tonne basis for bearing trees only, the results of the study are altered significantly. (The yield per hectare for bearing and non-bearing trees is 17.7 tonnes, whereas the yield per hectare for bearing trees only is 31.6) Gross receipts less cash costs and depreciation, on a per tonne basis from bearing trees, are highest for Australia at $60 per tonne, with Florida earning $50 per tonne and California $45 per tonne. The same measure, but for bearing and non-bearing trees, ranked Florida highest at $89 per tonne, followed by Australia at $68 per tonne and California at $48 per tonne.

Secondly, the Californian citrus industry relies more on the fresh domestic and export markets than its counterparts in Florida and Australia. Only about 30 per cent of total orange production in California was used for processing in 1988-89 compared with 94 per cent in Florida and just under 60 per cent throughout Australia (Sub. 111, p.36). As a result, California would have incurred extra costs (such as labour costs) but obtained higher returns from producing quality fresh fruit as opposed to fruit for processing.

Thirdly, ABARE gave evidence that there is a substantial difference between Australia and other countries in the quantity of oranges required to produce one tonne of frozen concentrated orange juice:

> The significance of this difference between the juice yield (or the amount of total soluble solids recoverable from one tonne of fresh fruit) in Florida and Brazil compared with Australia indicates that Australia is at a substantial disadvantage in producing frozen concentrated orange juice. ... Therefore, if a true comparison of the relative cost structures of Australia and Florida is undertaken, it can be seen that the costs of producing fruit in Australia for the manufacture of frozen concentrated orange juice may be up to 40 per cent higher than in Florida. (Sub.111, p.38)

ABARE argued that the reason for this difference is that:

> ... the Australian citrus industry is well behind most other major citrus producing countries in the development (identification, selection) and use of superior rootstocks, clones and varieties. This is largely the result of a 30 year quarantine based ban on the introduction of budwood (rescinded in 1986) and the relatively small amount of resources invested in research. (p.39)
>
> There now exists an increasing need for research in Australia into new varieties and in particular, a need for objective benefit-cost analyses of the introduction of new plant materials from both overseas and Australia. Increased emphasis needs to be placed on economic analyses of the costs and benefits of quarantine regulations on a case by case basis for new and internationally competitive varieties being imported into Australia. (p.40)

Fourthly, ABARE's conclusions on economies of size were drawn from comparison of average costs for the three growing areas. Analysis of the Australian data suggests that there could be some economies of size, but the evidence is inconclusive (see Appendix G, Section G4).

H3 The Edgell-Birds Eye study

Edgell-Birds Eye (EBE) is a major Australian processor of vegetables. Each year it uses up to 400 000 tonnes of horticultural produce, which has a crop value of about $70 million and a final market value of about $250 million.

EBE is currently reviewing the competitiveness of its processing operations. In particular, it is examining the production and cost structure of its operations, including its processing plants, costs of inputs (raw product, packaging materials) and transport costs. It is comparing costs for selected growing and harvesting practices with those of operations in other countries - a process it describes as 'international benchmarking'. According to EBE the purpose of the study is to is establish a "benchmark for the 'best practice' for each operator which can be used as a goal for Australian vegetable growers and processors."

Some grower costs and grower prices from a precursor study, based on published data, were presented in the draft report. These were criticised, particularly by potato growers. EBE responded that the initial figures were based on published data and that the initial grower costs included only direct costs. An important part of the study now underway is to validate the financial data, including checking that consistent cost categories are used when making comparisons.

A major part of the EBE study is to visit overseas operations to Investigate and evaluate grower cost data from major horticultural producing countries". The exercise is funded jointly by EBE and the Horticultural Research and Development Corporation (HRDC). EBE forwarded the first interim report to the HRDC in February 1993 (Stephens et al. 1993). Updated and expanded reports will be completed and released publicly over the next three years as the study progresses.

The first interim report is based on the Study Group's visit to New Zealand in July 1992. The Group collected detailed information for several crops. Table H2 summarises the data for grower costs and prices paid to growers by processors for five vegetable crops in Australia and New Zealand. The study contains data from other countries also, which are not included here as they have not been validated.

This table suggests that growers in Australia and New Zealand experienced reasonably similar costs in producing potatoes, sweet corn, and beetroot in 1991-92. But costs were much higher in Australia than New Zealand for peas and beans. The margin between growers' costs and the price received is significantly higher in Australia ($90 per tonne) for potatoes than in New Zealand ($40 per tonne).

EBE pointed out that there are large differences in yields between growers. Even if not all growers can be expected to achieve best practice there is considerable scope for improvement by those with low yields and high costs. Based on its initial research, EBE suggested that benefits of size might be obtained by operating the farms in groups, through greater co-operation between the growers, so avoiding the need to consolidate them into larger units (Sub.D164, p.3). EBE criticised the fragmented grower base which led to under utilisation of equipment and severe over capitalisation of farm enterprises.

> Grower needs could be serviced through machinery rings or similar systems which would be set up to supply their operation of land preparation, planting and harvesting more efficiently. In one Australian valley, there are up to 40 crop harvesters used when only 6 would be needed to do the whole region if properly organised and scheduled. (Sub.110, p.5)

Table H2: **Comparisons of grower costs and prices for selected vegetables in Australia and New Zealand, 1991-92 ($A per tonne)**

Product	*Australia*		*New Zealand*	
Grower costs [a]				
Potatoes		100 [b]		90 [c]
Beetroot		85 [d]		66 [e]
Beans [a]	235 [b]	273 [d]	46 [c]	124 [e]
Green peas [f]	249 [b]	241 [d]	138 [c]	280 [e]
Sweet corn [f]	87 [d]	101 [g]	73 [h]	80 [i]
Grower prices				
Potatoes		190 [b]		130 [c]
Beetroot		132 [d]		89 [e]
Beans [a]	350 [b]	323 [d]	214 [c]	221 e
Green peas [f]	300 [b]	277 [d]	190 [c]	221 [e]
Sweet corn [f]	90 [d]	135 [g]	88 [h]	89 [i]

Source: Stephens B., Henderson PL, and McMahon PL, 1993.
Notes: (a) Grower costs include interest, depreciation, farmer's unpaid labour, and consultancy fees.
(h) Tasmania, Australia (c) Canterbury, New Zealand
(d) Queensland, Australia (e) Hawkes Bay/Heretaunga, New Zealand
(f) These harvesting and freight costs are paid for by the processor and the growers prices received reflect this.
(g) Bathurst, NSW, Australia (h) Poverty Day, New Zealand
(i) Hastings, New Zealand

The Potato Growers Association of NSW disagreed with this particular example saying that sharing the machinery among producers was often limited by the difficulties of harvesting in wet weather and would only be practical 'if climatic conditions are also completely organised and scheduled' (Sub.D 124, p.4).

Comparing grower costs and prices paid by processors for raw product, for one year, and for selected regions and growers is not a rigourous method for assessing a products competitiveness. This is because raw product costs vary considerably between countries from one year to another as seasonal and climatic conditions change. And prices paid by processors fluctuate according to domestic and international market conditions. Also, the value of the raw product to the processor depends on the type of harvesting technique used, the product's quality and the amount of product wastage at the farm and processing stages.

Many vegetable crops are not grown in the same ground season after season because of nutrient depletion and risks of disease. Crops in individual fields are rotated and the viability of the farm depends on returns from a package of activities (eg, potatoes, peas, beans, grazing). Viability may depend on large profits for some crops to overcome losses from others.

EBE criticised State marketing authorities and other pricing organisations because they:

> ... act as a shelter for the smaller, possibly less efficient growers and have created a protective environment when competitive improvements should have been promoted. With cooperation and stronger emphasis on market driven improvements, there would be incentives to develop improved agricultural practices by more efficient farmers at the expense of the less efficient. (Sub.110, p.16)

EBE also identified industry reforms which will assist the industry to become more internationally competitive:

> Best Practice Demonstration Programmes are underway at three Edgell-Birds Eye processing locations; Ulverstone (Tasmania), Bathurst (New South Wales) and Manly (Queensland) with support from the Federal government, management, workers and associated unions are actively making inroads into practices that adversely affect the operating efficiencies. At the same time, the development of a single Edgell-Birds Eye Agreement within the year will help bring about a unified approach with a much stronger focus for international competitiveness. (Sub.110, p.15)

The Queensland Fruit and Vegetable Growers (QFVG) said that the use of unreliable information and the lack of informed debate within the industry has the potential to cause many problems in the processing vegetable industry. For example, unreliable data could be used as the basis for the contract prices offered to growers. The QFVG recommended, however, that comprehensive studies on world best practice of production and cost analysis be pursued further, taking into account other factors such as taxation, government assistance measures and regulations and tariffs (Sub.D130, p.5).

The Potato Growers Association of NSW argued that any attempts at 'international benchmarking' standards are going to be well wide of the mark unless the factors of soil, climate, yields, standards of living, working conditions and profit margins are all factored into the result (Sub.D124, pp.3,4).

APPENDIX I: TAXATION, SOCIAL AND ENVIRONMENTAL ISSUES

I1 Taxation Relief

Primary producers can avail themselves of some special features of the tax law to help manage the consequences of fluctuating incomes. They can use Income Equalisation Deposits (IEDs) to help stabilise year-to-year incomes without incurring tax disadvantages, and they can average their incomes over time to establish a rate of taxation which will not result in them paying more tax than others who have more stable income flows.

One of the consequences of having a progressive income tax schedule based on an annual income assessment is that, where two individuals have the same taxable income over a number of years, the one whose tax fluctuates more widely from year to year pays more tax. The additional tax has two main affects. First, there is an equity effect as different taxpayers earning the same income over a period of years are not treated equally. Second, there is an efficiency effect as the tax system is not neutral between resource uses yielding stable and unstable income flows. This tends to discourage investments which result in fluctuating incomes.

In addition, primary producers can carry forward losses indefinitely for taxation purposes. In contrast, other businesses are limited to seven years of loss carry forward. Primary producers may also make use of measures designed to meet the general welfare goals of the community.

I1.1 The Income Equalisation Deposits scheme

The IED scheme, for which all primary producers are eligible, provides a mechanism for offsetting the effects of fluctuations in growers' incomes so that they are not disadvantaged by the progressive nature of personal income tax rates. The scheme enables growers to deposit funds with the Commonwealth Government in high income years and to withdraw them in years when their income falls. The amount of a deposit is allowable as a deduction from taxable income in the year of deposit. Withdrawals are added to taxable income in the year they are withdrawn.

Under the current scheme, which was introduced in July 1989, primary producers receive a market rate of interest on 61 per cent of the deposit. The other 39 per cent, on which interest is not paid, represents the average component which would have been subject to tax in the year of deposit but for the use of the deferral provision. A tax benefit accrues to growers taking advantage of the scheme when the average rate of tax on an amount in the year of withdrawal is lower than the average rate of tax otherwise payable on that amount in the year of its deposit. This happens if income is shifted into a lower marginal tax bracket, or if marginal tax rates are reduced over time.

Since the early 1980s, nominal income tax rates have been reduced significantly. If this trend were to continue over the life of the IED scheme, nearly all growers could obtain a tax benefit through use of the scheme, while stabilising their disposable incomes. With the IED scheme, growers themselves must plan for years of low income by making deposits in years of relatively high income. Only if they initiate such action, can they obtain assistance through the available tax benefits.

The Minister for Primary Industry and Energy announced in October 1991 there would be a joint review of the IED Scheme by the Treasury and the Department of Primary Industry and Energy. The Minister for Primary Industries and Energy announced in July 1992 that as part of the National Drought Policy, that the IED Scheme would be revamped. New measures were introduced under the Scheme in August 1992 to broaden the capacity of IEDs to attract more farmers and provide a greater incentive for them to build cash reserves. Changes included a new farm Management Bond becoming available from October 1992 which has a higher investment component, on which interest is paid, than the basic IEDs.

I1.2 Tax averaging

Even if primary producers do not wish to transfer funds between years through the use of IEDs, they can average their income over a number of years for the purpose of determining tax liability.

Under the tax averaging provisions, primary producers may use the incomes of the current year and the preceding four years to determine the tax rate applicable for the current year. The tax rate applicable is determined by the average income over the period. The tax for the current year is then determined as the current year's income multiplied by the tax rate.[1] The averaging provisions apply to the whole income of the taxpayer, and not just to the income derived from primary production.

One effect of the provisions is to establish equity between primary producers who have fluctuating incomes and other individuals who have stable, but equivalent incomes, over a number of years. However, tax payments are greater in low income years and lower in high income years than they would be in the absence of tax averaging. Thus, in the absence of the use of IEDs to transfer incomes between high and low income years, tax averaging tends to accentuate after-tax income variability.

[1] For example, tax for a taxpayer who has a current taxable income of $40 000 and average income of $30 000 (including the current year), would be calculated as $40 000 multiplied by the tax rate applicable for $30 000.

Both the averaging and the indefinite carry forward of losses provisions advantage primary producer taxpayers relative to other taxpayers in the community. Many taxpayers engaged in other industries and in paid employment are subject to income fluctuations, but are not able to use income averaging for tax purposes or to indefinitely carry forward losses. To this extent, the limited eligibility provisions are inequitable.

On the basis of information obtained from Treasury, the Commission estimates that tax averaging provided $11.7 million in assistance to horticulture (including honey) in 198990.

I1.3 PAYE tax

Another aspect of taxation is that claims are made that in horticulture there are particular difficulties in relation to labour employed for picking. Attracting labour can be difficult if tax is to be deducted from earnings, administrative costs of a large number of casual employees can be high, and the progressive rate of taxation disadvantages pickers who have other employment. A flat rate of tax for pickers is sometimes advocated as a means of reducing these difficulties.

The Industries Assistance Commission in its 1988 report on 'Fresh Fruit and Fruit Products Industries' noted that there were taxation arrangements to reduce the over-deduction of instalments where wages are derived on a seasonal or irregular basis. The Commission stated that while no preferred taxation treatment was suggested for fruit industry as against other workers in the community, the seasonal nature of fruit industry employment should be taken into account in reviews of social security and taxation provisions (IAC 1988a).

I2 Rural Adjustment Scheme

Structural adjustment and income assistance is provided through the Rural Adjustment Scheme (RAS) to farmers, including horticulturalists, who are experiencing difficulties. RAS is administered by State and Territory Governments under legislation complementary to Commonwealth legislation.

The RAS operated under the following categories until December 31, 1992:

RAS Part A: Long-term funds usually in the form of interest subsidies or loans to farmers who have been assessed as having good long-term prospects.

RAS Part B: Short-term interest subsidies for carry on finance to farmers who are experiencing cash flow problems but still have good long-term prospects. The is also now a special 2-year program to provide Debt Reconstruction and Interest Subsidies. Joint funding with the States is required for both these components. During 1991 the Commonwealth Government increased its funding under Part B vis-a-vis the States from 1:1 to 2:1.

RAS Part C: Assistance for non-viable farmers to leave farming.

The RAS was revised in 1992 and its new version commenced on January 1, 1993. Its key features are:

- a focus on farm productivity, profitability and sustainability, rather than the emphasis on assistance and debt reconstruction under the old scheme;

- concentration on a single program, to be administered flexibly by State Rural Adjustment authorities, to replace the existing Parts A, B and C under the old scheme; provision for interest subsidies on commercial finance; grants for farm training, farm planning and appraisal;

- a re-establishment grant of $45 000 for those meeting financial tests and electing to leave the farm;

special interest subsidies up to 100 per cent, under a Commonwealth and State shared funding arrangement, to provide additional support for farmers experiencing exceptional circumstances (such as drought);

- strong Commonwealth administration and arrangements for improved accountability of the Scheme, and the establishment of a Rural Adjustment Scheme Advisory Council to provide a strategic oversight of the Scheme; and

- a comprehensive review of the Scheme in four years, with an eight year sunset clause on the Scheme in its new form.

Also, farm households which are temporarily in need of income to meet day-to-day requirements of the family farm will have access, under certain conditions of hardship, to new arrangements in the form of farm household support. The revised RAS includes a re-establishment grant which will be available to eligible farmers on the sale of their farm assets, in order to facilitate adjustment out of farming of those considered to be unprofitable in the long run. The scheme will also be a vehicle for providing assistance to farmers in times of exceptional downturn which will include not only drought but other events such as commodity price falls and disease outbreaks. The Government announced in August 1992 that funding for RAS for 1992-93 will be $166.46 million.

In addition to RAS, the Government announced in April 1991 that funding for the Rural Counselling Program was being increased to $2.6 million over the three financial years commencing in 1991-92. In February 1992 the government announced the provision of a further $245 000 in 1991-92 and $770 000 in each of the following three years for the establishment of counselling services.

The Commission has estimated that in 1989-90 horticulture received $3.5 million 'adjustment assistance' out of a total of $71 million. The individual horticultural industries which received the most were deciduous canning fruit and potatoes with $0.7 million each.

There was little comment on RAS during the inquiry. The Queensland Fruit and Vegetable Growers said that RAS is an important area of government activity related to facilitating adjustment and maintaining viability (Sub.48, p.18). The Wine Grape Growers' Council of Australia mentioned that provision of funds for farm build up through RAS may be one way of enabling small vineyards that could benefit from economies of scale to be amalgamated with adjoining properties (Sub.68, p.7). The Bowen District Growers Association was more critical and indicated that industry is disadvantaged by the implication that to be eligible the applicant has to be devoid of funds, yet viable (Sub. 15, p.7). The limited number of comments suggest that RAS is not seen as nearly as important in horticulture at present as it is in some other agricultural activities.

I3 Social security

Horticulturalists, like other farmers and members of the wider community, are eligible for the full range of social security benefits providing normal eligibility criteria are met.

Rural assistance was reviewed in 1991 and changes were announced in October 1991 with the intention of giving farmers better access to unemployment assistance, family payments and education assistance.

Job Search and Newstart Allowance arrangements introduced in December 1991, which replace unemployment benefits, are intended to overcome difficulties farmers have had in meeting the work test criteria of being 'unemployed' because of their commitment to their farms, and particularly their relatively high level of assets despite low or negative incomes. RAS authorities now assist in determining farmers' employment status, availability for full time work and identification of business assets essential to the long term profitability of the farm. The change is intended to provide for farmers who are ineligible for RAS assistance and cannot carry extra debt, but who are assessed as having prospects of longer term profitability. RAS officers first assess the financial affairs of an applicant, and those considered eligible then register for work with the Commonwealth Employment Service. Finally the Department of Social Security applies a liquid funds test, an income test and a modified assets test.

The modified assets test also applies to the Family Allowance and Family Allowance Supplement for Low Income Family Schemes. It can enable assistance to be given to low income families in financial difficulties, which are otherwise ineligible for family payments because of the value of their assets. Farmers qualify for the Family Allowance Supplement if they have assets of less than $600 000

(previously the limit was $347 500), income below $13 078 (with adjustment for each child) and with limited available funds (below $6000 for a single person and $10 000 for couples). The Government introduced an assets test for the Family Allowance from 1 January 1992 of $600 000. However, families with assets over this limit but which meet the income and available funds criteria for the Family Allowance Supplement remain eligible for the Family Allowance.

A further change is that for AUSTUDY and Assistance for Isolated Children a hardship provision has been introduced so that the assets test no longer applies if a student's parents are receiving either a Social Security or Veterans pension or benefit, or household support under Part C of the Rural Adjustment Scheme.

The use of these arrangements by horticulturalists attracted little comment during the inquiry, probably a reflection of horticulture being in a stronger position than broad-area farmers in the recent past and needing less recourse to these arrangements. There was considerable comment on the effect of social security on the availability of labour, particularly pickers. This is discussed in Section 2.2.4 of the report.

A National Drought Policy was announced in August 1992. An element of this Policy is the introduction of new measures to support farmers unable to meet living expenses. Farmers who are in extreme financial hardship and cannot obtain commercial finance are to be able to access farm household support under new legislation to be administered by the Department of Social Security on an agency basis from Department of Primary Industries and Energy.

The Government in September 1992 announced further details of the farm household support measures. Key elements were said to be:

- support for farmers unable to access commercial 'carry on' finance to meet daily family requirements;

- a two year period during which farm household support will be available at the equivalent of the Job Search Allowance while the farmer is free to choose whether he sells or remains on the farm;

- any farm household support received by farmers who choose to remain on the farm will be on the basis of a loan;

- farmers who sell within the two year period will receive the first nine months of farm household support as a grant and the balance as a loan;

- the capacity to cash out the balance of the nine months farm household support grant as a lump sum if the sale occurs within the nine month period; and

- a total potential benefit under the farm household scheme and the RAS reestablishment grant to individual farmers of $55 000.

I4 Environmental matters

Over 80 per cent of participants addressed environmental matters partly because the Commission raised it as matter for attention in its issues paper. Many comments regarding the environment were emotive, although they do highlight the wide-spread concerns held regarding the environment in the community.

The issue of sustainability or sustainable development has been widely examined since it was brought to prominence by the Brundfland Report (WCED 1987). A recent focal point in Australia has been a Cabinet discussion paper (Commonwealth of Australia 1990) which formed a starting point for Working Groups to examine ecologically sustainable development in different sectors of the economy.

Definitions of sustainability and sustainable development abound. A number of participants submitted their own definitions. Much of the value in the concept lies in the process of examination and debate that it engenders - highlighting relevant information, and analysing and examining community values and trade-offs that need to be considered and choices that must be made. While information and analyses are vital to support the decision making process, sustainability ultimately remains an ethical issue, which can only be resolved through community awareness, debate and decision - in other words, through the political process.

Moreover, even after decisions are taken on what constitutes sustainable development, policy makers must still devise ways to promote and achieve that outcome either through market mechanisms or by regulation.

Governments are already implementing a range of measures to promote better resource use. The Commonwealth Government released in December 1992 a National Strategy on Ecologically Sustainable Development, which discusses sectoral and intersectoral issues.

The submission by the Department of the Arts, Sport, the Environment and Territories (DASET) focused on the issue of sound land management as a prerequisite for economically viable horticultural industries. It said that obtaining short term competitiveness at the expense of degrading a resource base is placing costs on the community and future resource users. DASET considered that:

> ... few of our current horticultural systems are sustainable in the long term. Of all the various forms of agriculture in Australia, horticulture has been the most reluctant to abandon the traditional European cultivation techniques which are so unsuited to Australia's soils and climate. Australian horticultural management has been characterised by relatively small scale monoculture cropping of introduced species, regular tillage to control weeds and to produce a soft seedbed, regular application of fertilisers and biocides and little direct regard for the maintenance of supporting ecosystems. (Sub.82, p.1)

DASET summed up the major issues concerning sustainable development and horticulture:

> Economic efficiency and international competitiveness in Australian horticulture will, in the long run, be limited by our ability to maintain a productive natural resource base. (Sub.82, p.1)

The Australian Fertilizer Manufacturers' Committee agreed with this statement but further added that 'economic efficiency and sustainability cannot be reached or maintained unless soils are fertile and productive', requiring the appropriate use of fertilisers (Sub.Dl 16, p.2). They pointed out that if a method of farming is not profitable, it is not sustainable.

DASET also addressed a number of land management practices which need to be adopted to achieve production and conservation goals. These include land protection systems, conservation of natural ecosystems and adoption of better soil management techniques. In discussing sustainable water management, DASET raised the problems associated with irrigation such as soil salinity, rising water tables and water logging, and the consequent effect on yields and river water quality. Suggested solutions to these problems included alternative pricing of water which reflects the full costs of supply and the costs of use on the environment and downstream users and better water management.

DASET was also concerned with use of chemicals without regard for the incidental impacts on the farm system. It said chemicals often produced a range of unexpected problems and the impact of chemicals are often subtle and may be difficult to connect with the original chemical use. In particular:

> Impacts may include disruptions to soil ecology and effective soil fertility, increased crop susceptibility to pests and disease caused by fertiliser use, increased insect pest problems caused by the removal of alternative weed hosts with herbicides, increased weed problems caused by the removal of non-target weed insect predators with pesticides and increased nematode and insect pest problems caused by the removal of beneficial soil fungi through the use of fungicides. (Sub.82, p.12)

Dr Maccallum said that soil acidification caused by fertilisers was a significant problem in the horticultural industry (Transcript, p.1105). The HRDC added that this is particularly the case when using fertigation practices, in which soluble fertiliser is added to irrigation lines (Transcript, p.1116). CSIRO said that soil acidity problems in areas with certain soil types have been exacerbated by the use of ammonium-based nitrogenous fertilisers (Sub.34, p.5).

Incitec defended the use of chemicals in horticulture against claims of adverse environmental impact. It said that profitable and sustainable fruit and vegetable production is dependent on the proper and integrated use of fertilisers and crop protection products in overall management programs. CSIRO and Incitec said fertilisers are essential to correct soil nutrient deficiencies, and to replace nutrients removed in farm produce. The AFMC (Sub.D116) argued that there were

environmental benefits from fertilisers. It stressed that unless nutrients which had been removed by farming were replaced using fertilisers, the soil would be degraded, making it less productive and more susceptible to erosion by wind and water. Furthermore fertilisers increase the health and robustness of crops and can reduce or even contain root borne diseases afflicting them. The Australian Fertilizer Manufacturers' Committee said that soil acidity in Australia was largely caused by legumes or other organic matter fixing the nitrogen in the soil rather than the fertiliser itself (Transcript, p.1232).

Crop protection products protect crops from insects, disease, nematodes and other pests, and control weeds. Incitec said they enhance yields and quality, and are not harmful to human health. Incitec (Sub.D125) said DASETs conclusions ignored the very extensive testing that occurs before a crop protection product is registered, and the advances being made in integrated crop pest management and overall crop management.

DASET suggested a number of alternative practices which could be used to minimise chemical induced damage to the ecosystem, including integrated pest management systems and biological control techniques. The Nursery Industry Association of Australia said that research in these areas had been slow to yield results and that pests and diseases were controlled in the main by agricultural chemicals (Sub.D 113, p.3).

DASET proposed the use of levy mechanisms on chemicals to source funding for residue monitoring systems and the development and promotion of integrated management systems (Sub.82, p.14). One of the underlying concepts in this idea is to include, in the cost to the farmer, environmental or health costs the chemicals may cause. Increasing the cost of chemicals may also reduce their use and hence any associated problems. AFMC argued that cost minimisation already discourages any excessive use of fertilisers or crop protection products. Furthermore, levies on farm inputs such as fertiliser and crop protection products, would place Australian farmers at a competitive disadvantage, both at home and abroad by adding unnecessarily to their production costs. They also argued that such levies ignored the environmental benefits the chemicals provide.

The Agricultural and Veterinary Chemicals Association of Australia said that much more information was needed to judge the merits of the proposal, however it seemed 'an ad hoc approach to dealing with environmental and social issues' (Sub.D160, p.1). The Association said that industry already contributed 100% of the funding of the National Registration program. The HRDC commented that:

> ... it would be most disadvantageous for the industry and the community ... to impose restrictions on activities when we have no solutions available. It's a quick way to get a business to go out of business. (Transcript, p.117)

Much of the debate about sustainability concerns the extent to which the needs of future generations should be taken into account, and the difficulty in doing so. Future generations are affected by current decisions to consume or conserve resources but have no way of expressing their preferences. Clearly, a market system driven only by the preferences of the current generation should not be left to allocate resources.

Indeed, there is considerable debate between environmentalists and economists, and within the economics profession, as to whether conventional economic tools, such as cost-benefit analysis, are of assistance in allocating resources to the environment and between current and future generations.

Some environmental costs and benefits are difficult to identify, let alone value. Many people are uncomfortable expressing these in money terms. Indeed, some argue that the value of environmental assets is infinite, making economic techniques like cost-benefit analysis irrelevant.

Further, when attempts at valuation are made, future costs and benefits are discounted. This is because they are valued from the point of view of the preferences of the current generation, who are presumed to prefer services now rather than later.

It is clear that when the prices paid for inputs do not reflect the private cost (producer costs) and the social costs (eg, environmental and health costs), then there is some justification for government intervention for the common good. However, what is not clear is the extent of these costs in monetary terms and to what extent and by what means these costs should be internalised. Internalising the externalities will adversely affect the competitiveness of horticulture or any activity; nevertheless this is a choice the community will need to make.

APPENDIX J: HORTICULTURAL RESEARCH

J1 The rationale for government support of research

One argument for government support for research and development (R&D) is that firms (eg, growers, processors, distributors) may not, acting individually, devote enough resources to this area from a community-wide perspective. One reason for this is that it may prove difficult to prevent others stealing good ideas or copying innovative products and practices - the benefits of R&D often do not accrue exclusively to those who undertake it. That is, the social benefits (the total of all benefits both public and private) of some R&D activities may exceed the private return the firm can capture from selling its new product or service, or licensing some new production process.

As most Australian horticultural industries are characterised by large numbers of small family farms it increases the likelihood that an individuals private returns will not exceed the costs of R&D. For example, it would not be a profitable investment for a small citrus grower to devote resources to R&D into the control of 'black spot' in citrus. But if all citrus growers that would benefit from the eradication of the disease were to fund the research then it may become a viable project.

Often there is a high cost of organising and obtaining funds from the individuals that would benefit from socially worthwhile research. Thus the normal operation of market forces fails to provide appropriate private incentives for innovative activity and a case may be made for government intervention. Governments have several options: they can require all potential beneficiaries to contribute to research; subsidise private research; undertake direct public research; or introduce institutional arrangements that encourage research in the private sector (eg, plant variety rights, see Box J1).

Product levies can be used to encourage funding of research by an industry. Requiring all of an industry's production base to share the cost of research ensures that all who benefit within an industry also pay. This helps to ensure that the industry collectively will carry out research without the high risks borne by small firms doing their own research. Compulsory levies may be necessary if not enough people are prepared to contribute voluntarily towards funding research that would benefit the whole industry (ie, if too many people want to 'free-ride' on the efforts of a few).

Not all R&D or related innovative activity generates external benefits which justify government intervention. Moreover, even where there are externalities in the offing it would be a mistake to subsidise any innovation if prospective returns were sufficient to make the activity viable without government assistance. In such cases, projects could be expected to proceed without subsidy, even though the innovators were not able to capture all the benefits that might ultimately flow from them.

Box J1: **Plant variety rights (PVRs)**

Governments have introduced PVRs to reduce the 'free-rider problem' associated with horticultural research into plant varieties. PVRs give variety breeders the legal right to exclude others from using the results of their research. This property right enables plant breeders to charge others for the right to use their varieties. In this way, individual breeders will have the private incentive to continue or expand their innovative activities.

PVRs in Australia are protected by the *Plant Variety Rights Act 1987*. The Act was amended in 1990-91 'in response to public demand to provide better protection for plant breeders of horticultural varieties and implementing Plant Variety Rights to cover all genera of plant species' (DPIE 1990).

Administration of the PVRs Registrar is undertaken by the Plant Variety Rights Office together with the Plant Variety Rights Advisory Committee which includes grower, breeder, consumer and industry representatives. In 1990-91, there were 132 applications for PVRs registration (28 per cent from Australian breeders) of which 64 were approved.

Australia became a member of the International Union for the Protection of New Plant Varieties in 1989. Membership allows Australian breeders to apply for protection in other member countries.

The Plant Variety Rights Office participated in drafting a revised Internation Union of New Plant Varieties Convention and ratifying the Act at a diplomatic conference in Geneva in March 1991. Amendments are being prepared to the Australian legislation primarily as a result of the revision of the Convention. They include "provisions for extending breeder's rights to cover the harvested material and essential derivation" (Plant Variety Rights Office 1991).

J2 Current horticultural research

Publicly funded horticultural R&D costs Australian taxpayers in the vicinity of $40 million a year (Fitzpatrick, Gregory and Minnis 1991). In addition, individuals, companies and industry organisations contribute funds to horticultural R&D appropriately $5 million in 1990-91 (see Table J1).

The public and industry R&D funds are distributed between a number of organisations, including CSIRO, State Government agencies, tertiary institutions and private research organisations. These organisations obtain funds directly from the Commonwealth and State Governments, and indirectly through the Horticultural Research and Development Corporation (HRDC), the Rural Industries Research and Development Corporation (RIRDC), the Grape and Wine Research and Development Corporation, and the Australian Horticultural Corporation.

Table J1: **Industry contributions to horticultural research institutions, 1990-91**

Institution	*Funding*
	$ million
Horticultural Research and Development Corporation	2.6
Rural Industries Research and Development Corporation	0.2
Grape and Wine Research and Development Corporation	1.3
Honey Research and Development Council	0.2
Dried Fruit Research and Development Council	0.5
Australian Horticultural Corporation	0.1
Total	4.9

Source: MC, Sub.102, p.9.

In 1991, the CSIRO reviewed its future role in horticultural research (Fitzpatrick et al. 1991). Part of the review was a survey of Australia's horticultural research capacity. In total, the equivalent of 362 professional full-time researchers were reported. The distribution of those researchers among institutions is shown in Table J2. In addition, the survey examined the distribution of researchers between commodity groups (see Table J3) and research activities (see Table J4).

Table J2: **Publicly funded Australian horticultural research, 1989-90**

	Budget	*Proportion of researchers*
	$ million	per cent
Victorian Department of Agriculture	8.5	23
CSIRO	9.5 a	20
Queensland Department of Primary Industries	na	17
New South Wales Department of Agriculture	5.4	12
Tasmanian Department of Primary Industries	na	8
South Australian Department of Agriculture	1.5	6
Western Australian Department of Agriculture	2.5 a	6
Tertiary Institutions	na	6
Northern Territory Department of Primary Industries	na	2
Total (number)		**362.1**

a Figures for 1990-91.
Source: Fitzpatrick et al. 1991, p. 48; State Departments of Agriculture (see Part B, Section 1.4).

Table J2 shows that the majority of publicly funded Australian horticultural research is carried out by State departments of agriculture and primary industries (74 per cent), with Victoria (23 per cent) and Queensland (17 per cent) having the largest number of researchers. The CSIRO employed 20 per cent of Australia's horticultural researchers, whereas tertiary institutions accounted for only 6 per cent.

The approximate level of State government funds spent on horticultural research is given in Table J2, although there is some uncertainty as to which expenditures should be classified as research (see Part B, Section 1.4).

Table J3 compares the number of researchers allocated to each commodity with the relative importance of each horticultural product. The table shows that the resources devoted to each product tend to match the relative importance of each commodity. The vegetable industry, however, is an exception because it accounts for 41 per cent of all horticultural sales but employs only 21 per cent of Australia's horticultural researchers.

Table J3: **Distribution of publicly funded horticultural researchers between commodity groups, 1989-90**

Commodity	*Commodity as a proportion of total horticulture* [a]	*Proportion of researchers allocated to each commodity*
	per cent	per cent
Vegetables	41	21
Ornamental/nursery	14	is
Grapes	13	12
Tropical fruit	9	10
Pome fruit	9	9
Stone fruit	2	7
Citrus	8	6
Nuts	1	3
Berries	1	3
Other	2	0
Multi-industry		14
Total (number)		**362.1**

a Figures show the gross value of each commodity as a proportion of the gross value of the horticultural sector.
Sources: Fitzpatrick et a]. 1991, p. 48.

Horticultural research in Australia examines problems that occur at most stages of a product's life (farm production, storing, packaging, transporting and processing). However, the bulk of publicly funded research resources tend to be allocated to overcoming problems at the farm level; the major research effort is devoted to plant improvement and production techniques - 50 per cent of researchers (see Table J4). The control of pests and diseases is undertaken by 41 per cent of researchers. The packaging, storage and transport sectors employs only 9 per cent of all horticultural researchers.

Table J4: **Distribution of publicly funded horticultural researchers between research activities, 1989-90**

	Proportion of researchers
	per cent
Production techniques	30
Plant improvement	20
Pests	15
Post-harvest disinfection	14
Disease	12
Processing/new products	5
Management	3
Transport	1
Total (number)	**362.1**

Source: Fitzpatrick et at. 1991, p. 48.

Historically the CSIRO has allocated its horticultural resources to basic and strategic research, whereas State agencies have focused on more applied or tactical research. The states have also been responsible for technology transfer or extension services to the rural sector.

CSIRO spent $9.5 million (including research support) in 1990-91 on horticultural research. Its research was centred on the Division of Horticulture with contributions from the Divisions of Entomology, Food Processing, Materials Science and Technology, Plant Industry and Water Resources. The Organisation provided nearly half the strategic research input in Australia for horticulture.

Even though there is little information available on the level of private R&D in the Australian horticultural sector it is likely that it does occur. The introduction of plant variety rights legislation has provided a stimulus to private investment in variety research (see Box J1). Private research is also encouraged by the Commonwealth Governments 150 per cent tax concession for research - in 1988-89, the food, beverages and tobacco industries qualified for $43 million in concessions.

J2.1 The Horticultural Research and Development Corporation

The VIRDC was established by the Commonwealth Government under *the Horticultural Research & Development Act 1987*, with the objective of improving the efficiency of Australian horticulture by identifying research priorities and arranging R&D activities. (The role and activities of the HRDC is discussed in detail in Chapter 7.) Funding of R&D by the Corporation is on the basis of the Corporation (on behalf of the Government) matching expenditure on a dollar for dollar basis up to 0.5 per cent of gross value of production (GVP) for a particular industry.

An industry may contribute funds to the FIRDC in either of three ways: through a statutory levy, established at the request of the majority within the industry/product group; a voluntary levy, whereby an industry organisation may wish to collect its own R&D funds by voluntary arrangement; or a voluntary contribution, funded by an industry, organisation, or an individual that wishes to undertake a specific R&D project.

Table J5: **Estimated industry support, through the HRDC, for R&D in relation to gross value of production, 1991-92 a**

Industry	*Industry GVP*	*0.5 per cent*	*Indus" contribution*	*Proportion of GVP*
	$'000	$'000	$'000	per cent
Citrus	242900	1215	450	.19
Apple & pear	290900	1455	425	.15
Stonefruit	138000	690	117	.08
Apricot	28000	140	na	na
Cherry	17400	87	na	na
Nectarine	17400	87	na	na
Peach	50900	254	na	na
Plum and prune	24300	121	na	na
Avocado	23300	117	100	.43
Mango	15700	78	36	.36
Banana	181300	907	108	.06
Berry	32000	160	42	.13
Pineapple	40700	204	22	.05
Table grapes	52400	262	104	.20
Macadamia	22000	110	56	.25
Almond	14400	72	38	.26
Mushroom	78800	394	201	.26
Potatoes	393400	1967	800	.20
Tomatoes	170600	853	168	.10
Onion	88200	441	39	.04
Other vegetable	597200	2986	654	.11
Cut flowers	244000	1220	244	.10
Nursery products	200000	1000	370	.19

a Figures are estirnates for 1991-92.
b Industry GVP values are for 1989-90.
Source: HRDC, Sub.47, p.15.

The HRDC had a total budget for R&D projects of just over $2 million (the sum of government and industry funds) in 1989-90, its first complete year of operations. This budget increased to $5.2 million in 1990-91, of which 74 per cent was supported by voluntary levy and voluntary contributions and only 26 per cent from statutory levies. The HRDC's research program for 1991-92 involved a total expenditure of about $8 million to assist over 300 projects - an average of $27 000 per project.

Most horticultural industries receive assistance from the HRDC and. almost all have considerable scope to increase their level of funding to the 0.5 per cent limit for Commonwealth matching grants (see Table J5); only avocados and mangoes are anywhere near the limit. For example, in 1991-92 the citrus industry is to contribute $450 000 or about 0.2 per cent of the industry's GVP. It is entitled to receive research grants of up to $1.2 million, which it could achieve by increasing HRDC contributions by $750000.

At the time this report was published, the HRDC was considering a proposal to fund a specific research program into post-harvest technologies for horticulture. The funding of $400 000 was to be matched by funds from a group of private organisations and public research agencies. Research would concentrate on post-harvest handling, storage, packaging, transport and delivery technologies.

J2.2 The Rural Industries Research and Development Corporation

The RIRDC is a statutory corporation of the Commonwealth Government with a charter to facilitate the growth of new rural industries and existing smaller industries, and to address multi-sectoral issues through the organisation and funding of R&D. The Corporation has the discretion to fully fund a specific project or contribute funds to an industry sponsored research program.

The RIRDC, in its submission, said that it co-operates with the HRDC wherever possible, but emphasised the different responsibilities of the two organisations:

> The HRDC role is primarily with established horticultural products from which it can raise levies or contributions and fund R&D with dollar for dollar Commonwealth assistance. RIRDC, on the other hand, has a more flexible charter to establish new rural industry sectors, unconstrained by existing growers, market channels, etc. It allows emerging or smaller sectors to fund supporting R&D on terms more generous than dollar for dollar. This funding flexibility is more important where emerging sectors have little or no production and growers are prepared to contribute well above the 0.5 per cent GVP limit to establish a new sector. (Sub.104, p.4)

In 1992-93, the RIRDC is to spend a total of $13 million on rural research, of which approximately $1.7 million will be allocated to horticultural product research (ie, cashew, coffee, tea, tropical fruits and wildflowers). In addition, research is to be undertaken on general rural problems that overlap with the horticultural sector. Research is planned for pest and disease problems ($900 000) and the processing, packaging and distribution sectors ($320 000).

The Dried Fruits Research and Development Council and the Honey Research Council operate under the auspices of RIRDC as specified in the *Primary Industries and Energy Act 1989.* Both Councils receive compulsory grower levies which are matched by Commonwealth Government funds (see Table J1).

J2.3 Grape and Wine Research and Development Corporation

The Grape and Wine Research and Development Corporation operates under similar arrangements to the HRDC. The Corporation collects industry research funds through a compulsory levy which are then matched by Commonwealth Government funds. Total planned expenditure for the Corporation in 1992-93 is $1.9 million. The Corporation's priority areas for the grape industry are product quality, production efficiency, economic evaluation, resource protection, pest management and technology transfer

J2.4 Co-operative Research Centres

In 1992, three horticultural-based consortiums made bids to be recognised as Co-operative Research Centres (CRC) - post-harvest technology, tropical horticulture and international floriculture. Only the international floriculture proposal was accepted by the CRC Committee.

The CRC for international floriculture is to begin formally in mid-1993. Funding from the CRC program of $700 000 was provided for 1993-94 which will increase to $1.3 million for the following six years. Participants in the program include the University of Melbourne, Monash University, the Institute of Plant Sciences, Calgene Pacific and Biotec Plants. The aim of the group is to research longer-lived flowers as well as the form and fragrence of flowers.

J2.5 The Australian Horticultural Corporation

The Australian Horticultural Corporation has the power to undertake market research studies using industry levy monies and funds obtained from the Commonwealth Government through the HRDC. So far the Corporation has commissioned a national trade and consumer study for the nursery industry and a consumer survey of the domestic fresh fruit and vegetable market. The Corporation has also developed a database with information for participating industries that covers Australian production and distribution patterns, and industries in competitor countries.

J3 Geographic distribution of horticultural R&D

The Bureau of Rural Resources provided evidence which shows a relatively large number of small horticultural research institutions are located throughout Australia. In 1989, the Bureau compiled a list of all Australian centres that conduct rural research. Of the total of 493 centres, about 87 (or 18 per cent) carried out horticultural R&D.

Table J6 highlights the dominance of State agencies in horticultural R&D - State centres accounted for 58 of the total of 87. A relatively large number of State centres are located in Queensland and Western Australia.

Table J6: **Sites supporting horticultural R&D in the States and Territories, by various research organisations, 1989**

	State	*CSIRO*	*Higher education*	*Other*	*Total*
New South Wales	8	1	4	1	14
Victoria	8	2	3	1	15
Queensland	15	1	3	2	21
Western Australia	11	0	0	1	12
South Australia	4	1	4	2	11
Tasmania	8	0	3	0	11
Northern Territory	4	1	0	0	5
ACT	0	1	0	0	1
Total	**58**	**7**	**17**	**7**	**87**

Source: BR11k, Sub.7, p.10 and CSIRO, Sub.D137.

In Australia there are 20 universities and colleges which teach specific horticultural courses, and of these 17 undertake research activities. Table J2 indicated that there were 21 full-time horticultural researchers employed in tertiary institutions, which implies that on average there were only 1.2 professional researchers per educational centre.

Table J7: **Distribution of professional staff at research facilities dedicated to horticulture, 1989**

	Number of Dedicated sites	*Total profession staff*	*Range of staff per staff* [a]	*Average number of staff per site*
New South Wales	10	52	0-9	5.2
Victoria	6	92	9-33	15.3
Queensland	13	44	1-12	3,4
Western Australia	8	7	0-3	0.9
South Australia	7	46	1-20	6.8
Tasmania	4	12	0-8	3.0
Northern Territory	2	2	0-2	1.0
Australian Capital Territory	0	0	-	-
Total	**50**	**255**	**0-33**	**5.1**

a Some research sites do not have permanent staff present throughout the year.
Source: BRP, Sub.7, p.12.

Of the 89 research sites which undertook horticulture R&D in 1989, about 50 were dedicated solely to horticulture. Table J7 shows the number of professional staff that were employed in the 50 centres. Victoria had the highest concentration of R&D staff, with its 6 sites having an average of 15.3 professional researchers per site. Western Australia had very low staffing levels with an average of 0.9 professional staff dedicated to horticulture at its 8 facilities.

APPENDIX K: HORTICULTURAL PROMOTION

K1 Background

Grower representatives of the horticultural sector often suggest product promotion as a means for increasing industry revenue from both the domestic and export markets. They argue that promotion can be used to change the demand and/or price of products to the advantage of growers.

Promotion can be defined as the provision of information to consumers about the qualities and prices of a product or product class with the intention of increasing sales revenue. Horticultural promotion covers media advertisements (TV, radio, magazine, newspaper, billboards and trade journals), provision of point-of-sale information, recipe sponsorships and cooking competitions.

Industries regularly request government assistance to carry out promotion campaigns governments can provide statutory powers to levy industry members and/or public monies. Agricultural industries argue that because their products are generally homogeneous and/or cannot be readily differentiated between producers, and are produced by a large number of growers, it would be difficult for the individual producer to promote his own product. This situation gives rise to an 'under-promotion' of the industry's products, since the benefits of any promotion carried out by one producer are shared by other producers which encourages individual growers to 'free-ride' on the promotion contributions of others. This potential market failure may cause an industry to seek government intervention to compel all producers to pay for promotion.

If the effects of a promotion campaign could be readily measured then the decision by a government to intervene to overcome a market failure would be straightforward. A decision could be made to provide government assistance if the estimated benefits of a promotion campaign outweighed the costs. Benefits may accrue to producers and sellers of the promoted product through increased prices and/or sales. Consumers may benefit if they are provided with new information about a product's characteristics or information about a new product. Likely costs include the expenses incurred in undertaking the promotion and the cost to domestic competitors of any lost sales.

K2 Current horticultural promotion

The majority of government assisted promotion is undertaken by the Australian Horticultural Corporation (AHC (see Table K1). The AHC allocates approximately three quarters of levy collections to the direct promotion of its participating industries products. In 1990-91, for example, industries participating in the AHC spent about $1.7 million on domestic promotion and $0.2 million on export promotions. The AHC, from its direct allocation of $1 million from the Commonwealth Government for sector-wide programs, spent $0.1 million on domestic promotion and $40 000 on export promotions.

Table K1: **AHC promotion expenditure, 1990-91, $1000**

	Domestic promotion	*Export promotion*
Levy funds		
Apples & pears	1243	205
Citrus	328	73
Nashi	97	8
Nursery	10	3
All member industries	1677	288
Commonwealth funds		
Sector-wide programs	99	40
Total AHC	**1776**	**328**

Source: ABC 1991 (Annual Report)

Domestic promotions organised by the AHC involved magazine, television and point of sale advertising. The AHC has developed a campaign called 'For Goodness Sake' to raise the profile of the horticultural sector. AHC export promotions have concentrated on point-of-sale promotions.

The Australian Dried Fruits Board, which operates under AHC legislation but is a separate entity, generates funds through a grower levy and export charges. The Board's 1991-92 budget allocated over $1 million for export promotion activities.

The Commonwealth Government has allocated $2 million to the citrus industry to promote fresh Australian oranges and juice. The campaign, which began in November 1992, will promote a 'grower seal of approval' for Australian produce.

In July 1992, the Minister for Primary Industries and Energy announced a pilot promotion plan for Australian agricultural exports. The plan is to cost $6 million over 2 years and involves the promotion of Australian produce in one Asian market. If the promotion is successful the Commonwealth Government will "provide a further two million dollars over two years to support a more broadly-based, industry-funded campaign" (Button and Crean 1992).

Most State Governments encourage horticultural promotion through the provision of funds and levying powers to state based organisations.

In 1991-92, the Queensland Fruit and Vegetable Growers spent $3.5 million on promotion which was raised through commodity levies. Their campaign links advertising for individual commodities using the theme 'the Queensland Sun in Every One'.

In Victoria, the strawberry and tomato industries have recently implemented marketing orders, while the wine grape industry is considering it. These marketing orders contain provisions for the levying of growers for promotional purposes. The Murray Valley Citrus Marketing Board, which covers New South Wales and Victorian growers, will collect $400 000 in levies for promotion in 1992-93. In 1991-92, the Victorian Government granted $15 000 to the wine grape industry, $10 000 to the potato industry and $10 000 to the flower industry to undertake promotion campaigns.

In NSW, the MIA Citrus Fruit Promotion Marketing Committee undertakes domestic promotions for the MIA citrus growers. The power to collect promotion levies is also held, by the Central Coast Citrus Marketing Board and the NSW Dried Fruits Board, but not used.

Promotion of primary products in Western Australia has been undertaken since 1985 by the Primary Products Promotion Council which is a joint initiative between the State Government and the local fresh food industry. Western Australian primary producers and allied industries provide the majority of funds for the operation of product promotions, with Government funding ($80 000) and membership fees contributing to overheads.

In South Australia, about $100 000 worth of levies per year are collected for horticultural promotion purposes. The main contributor is the citrus industry which spends $70 000 per year through the Citrus Board of South Australia.

The provision of nutritional information about horticultural products is undertaken by a range of statutory and voluntary organisations. Some of the more important organisations are the National Heart Foundation, the Australian Nutrition Foundation, the Commonwealth Department of Health, Housing and Community Services, State Health Departments and Foundations, and State Cancer Societies and Councils.

K3 The promotion objective

Quilkey (1986, p.45) outlined the economic theory of primary product promotion. He said that a successful promotion should alter the own-price elasticity[1] of demand and the income elasticity of demand[2] of the product. The desired elasticity changes will be unique to each product and dependent on its promotability. Elasticities should be measured beforehand and estimates made of expected changes.

1 The own price elasticity of demand is the percentage change in the quantity demanded in response to a one per cent change in price, assuming other factors do not change.

2 The income elasticity of demand is the percentage change in quantity demanded divided by the percentage change in income which brought it about.

The objective of horticultural promotion from the perspective of an industry organisation, is to increase it net revenue of its member. The Industries Assistance Commission (IAC 1976, p.25) summarised the various goals of a promotion campaign:

- to achieve an increase volume of sales or to minimise a decrease in sales while maintaining a constant price;

- to achieve an increased price or to avoid a price decrease while maintaining sales volume; and/or

- to reduce the sensitivity of buyers to price increase; (ie, to make demand 'less elastic'. Buyers will be less likely to decrease their consumption of a product when its price is increased if the promotion favourably differentiates it from its competitors).

K4 Promotion as an investment

For most businesses, product promotion is a normal commercial design undertaken without the need for government support. Private firms undertaking promotion have the incentive to ensure that funds invested in promotion are as profitable as funds invested in other sales stimulants or cost reduction activities.[3]

The decision by a firm to promote is based on a n assessment of a number of factors. For example, a firm producing soft drinks will need to consider the degree to which its brand of soft drinks can be differentiated from substitutes, the price of substitutes, the cost of the promotion, and the size of the market.

It is generally easier to organise the promotion of branded rather than generic products. A company which sells a branded product, and controls the product's supply, is in a relatively good position to determine the profitability of promotion once it knows the sales response, since it knows its profit margin per sale. Thus by promoting a product under a brand name a company overcomes the 'free-rider' problem because it can capture most of the benefits from increased levels of advertising.

Processed products are usually sold under brand names because processing enables a form to differentiate its product. This is an important issue for the horticultural sector because many of its products are sold in a processed form. For example, 95 per cent of graphs, 67 per cent of peaches, 61 per cent of oranges, 39 per cent of apples, and 24 per cent of apricots are sold as processed goods. The greater the proportion of a commodity that is sold in a processed from, and the more complex the processing, the weaker is the argument for government assistance to overcome a 'free-rider' problem.

[3] A profit-maximising goal of the private firm would be to establish a total promotional budget such that the marginal profit from the marginal promotional dollar just equals the marginal profit from using the dollar in the best non-promotional alternative.

K5 Measuring the effects of a promotion campaign

When an industry is compelled to contribute funds to a promotion through a compulsory levy it is generally not possible for an individual firm to opt out if dissatisfied with the investment of those funds. Consequently, it is important that the industry organisation is aware of the costs and benefits of conducting a promotion so that it can decide to repeal the levy, or redirect the expenditure of funds, if the interests of its members are not being satisfied. Similarly, if a promotion is publicly funded then taxpayers are entitled to know what is being achieved. With horticultural promotion, however, it is very difficult and expensive to quantify benefits and costs; hence tax and levy payers are largely uninformed.

Quilkey (1986) explained that to undertake a promotion evaluation requires information about prices, consumers, producers, markets and product characteristics:

> The knowledge of households which is required to identify the way in which households with a myriad of characteristics seek out their satisfaction … constrained by their budget (of income, capital and time) is intimate, extensive and likely to be costly. Since time series of cross sections are likely to be the instrument for data acquisition, the expense of empirical economic research [of promotion] is likely to escalate to heights not contemplated by the scientists and administrators who appraise projects and dispense research funds. (p.47)

Measuring the effectiveness of a promotion campaign is difficult because sales are often affected by many factors other than promotion. For example, the promotion of apples may coincide with a decrease in the price of substitute products (eg, oranges and bananas). In this case, the promotion campaign may be effective in reducing the substitution of oranges and bananas for applies, but a positive relationship between advertising and sales may not be established. Other factors that influence the perceived effectiveness of promotion include:

- data on promotion usually refer to money expenditures and cannot readily take account of variations in the quality or technique of promotion;
- the response to promotion may be diffused over time (some promotions have long-lasting effects and the total response may be underestimated; others may bring sales forward in time, rather than increase them so that the total response may be overestimated;
- sometimes costs which should be charged against promotion appear only as part of general overheads;
- promotion outlays may be planned on the basis of sales forecasts which take into account influences other than promotion, (eg, a planned price reduction) thereby generating a statistical relationship between promotion and sales which does not necessarily indicate causality; and

- agencies that organise a promotion campaign are likely to cast their results in the most favourable light possible.

The AHC said that it does review the effectiveness of promotion campaigns:

> Measuring the performance of the domestic programmes has been high on the list of the Corporation's priorities. This has included tracking studies, the evaluation of advertising effectiveness through domestic consumer research programmes and measuring the performance of specific advertisements. In 1992 the Corporation will have access to supermarket sales data which can be linked to specific advertising, promotion and in-store activities as a further measure of campaign effectiveness. (Sub.24 p.27)

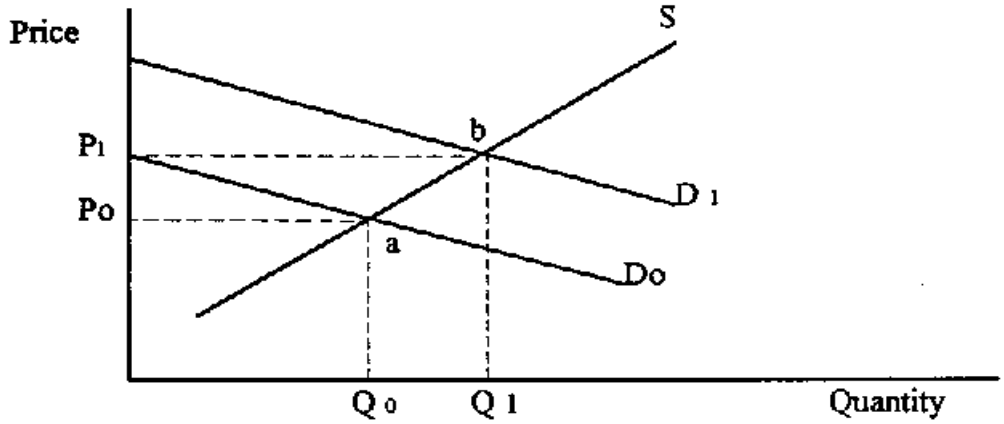
The AHC uses consumer awareness surveys to measure campaign effectiveness. For example, in 1990 the AHC conducted a nashi promotion campaign and surveyed consumers before and after scheduled promotion. The survey asked consumers if they were aware of the new product known as a nashi. Before the survey, 12 per cent of the sample were aware of nashies, while 23 per cent of people knew of the product after campaign. Interestingly, before the promotion commenced 6 per cent of people were aware of a nashi promotion campaign, compared to 12 per cent of people after the actual campaign! The AHC concluded that " these results highlight the fact that the campaign was successful".

Whatever the usefulness of surveys of this type, they do not give information on the effect of promotion on changing the consumers' willingness to pay (ie, it does not measure changes to the own-price elasticity of demand or income elasticity of demand). What this example does show is the difficulty an industry has in determining the appropriate budget for promotion – it is likely that the cost of determining the full effectiveness of the nashi promotion would have out weighted the actual cost of the advertising ($75 000).

While quantifying the effectiveness of promotion is difficult, some qualitative effects of promotion on industry profits can be readily observed with the aid of a diagram. In Figure K1, the aggregate demand function for a commodity which is sold both domestically and on export markets is labelled D_0. The supply function is labelled S. The price elasticity of demand is a quantity-weighted average of the price elasticities of the domestic and export demand functions. Initially the equilibrium price is P_0 and the equilibrium quantity is Q_0.

Successful promotion, either on the domestic market, the export market, or both, shift-s the aggregate function to D_1. The increase in producer surplus is equal to the area P_0abP_1. Promotional expenditure has to be deducted from this area to obtain a measure of the profitability of the promotion.

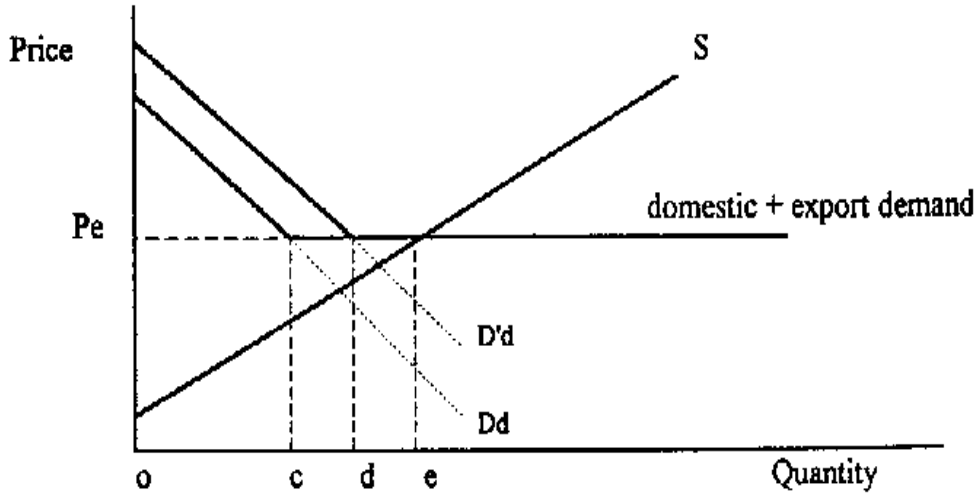
Figure K1: **The effect of domestic promotion on demand and producer surplus**



The key parameters affecting the size of the producer surplus increase are the effectiveness of the demand to promotion (ie, the size of the demand shift), the price elasticity of demand and the price elasticity of supply. In general, for a given horizontal shift in demand, the increase in producer surplus is inversely related to the elasticities of demand and supply.

A limiting case occurs when the export demand function is perfectly elastic (see Figure K2). In this case the aggregate demand function becomes perfectly elastic and the price level falls to the export parity level. An increment of promotion on the domestic market, which shifts domestic demand from D_d to D'_d, will merely divert product (equal to the amount cd) from the export to the domestic market without any increase in price or producer surplus. The industry would be worse off by the amount of the increase in promotional expenditure.

Figure K2: **The effect of domestic promotion when the product is exported**



K6 Promotable products

Parish (1963) identified eight product and market characteristics which give a general indication of a product's promotability:

- the existence of an opportunity to differentiate the product from competing products;
- the presence of important 'hidden' qualities in the product (ie, not recognised by consumers);
- the association of powerful emotional buying motives with the product; the existence of a favourable demand trend;
- the presence of many potential new customers;
- a fast turnover of buyers; frequent product changes; and frequent price changes.

Parish concluded that "on these criteria, the most likely candidates for successful promotion are commodities with a high income elasticity of demand, and those which lend themselves to processing into new forms!' Estimates of the income elasticity of demand for most unprocessed horticultural products are low. This suggests that the a priori case for the generic promotion of fresh horticultural produce is not strong.

The short-run and long-run elasticities of supply are another important determinant of the success of a promotion campaign. If a product is supply elastic, then possible producer benefits from promotion are low. This factor was identified by Quilkey (1986):

> ... it would be a mistake for an industry to concentrate exclusively on the demand side of the market when establishing its promotional policy. Consideration must be given to the prospect that supply conditions are not static and that shifts in supply may alter the expected outcomes from a particular product and market segmentation strategy. When elasticities of demand are altered by promotion, the relative sizes of producer surplus will depend on supply conditions in the markets for primary products as well as on the demand conditions which prevail. (p.47)

For example, the campaign to promote the domestic consumption of fresh orange juice, if successful, would cause demand to increase and/or prices to rise. But this could prompt processors to redirect citrus that was planned for export or concentrate production into the production of fresh juice. This would increase the supply of fresh juice and place downward pressure on its price. Thus the effects of the campaign may be diminished or even nullified.

K7 Welfare effects of promotion

Users of horticultural products (processors, distributors and retail consumers) will be affected by a promotion campaign. A proportion of the costs of a promotion campaign will be incurred by consumers as will the benefits from any improvement in demand efficiency. The proportions in which the costs and benefits are shared between producers and consumers depend on the relative price elasticities of supply and demand for the product. It is generally held that producers will bear most of the costs of and obtain most of the benefits from promotion when demand is elastic and/or supply is inelastic.

Benefits accrue to consumers when promotion provides them with information that reduces imperfections in the market. A potentially useful promotion would give consumers information on price, food preparation and presentation, and/or nutrition. The IAC (1976), commenting on the welfare effects of promotion for consumers, said:

> Consumers who already possess adequate knowledge about the product and are operating in an efficient market gain no benefit from promotion, but could be faced with a higher price reflecting the cost of promotion. On the other hand, consumers whose knowledge of the product is improved by promotion and whose purchases therefore become more discriminating, may benefit. (p.28)

The benefits to Australia of export promotion of particular horticultural products depend on two factors: the ability of promotion methods to increase or support demand for the product in consuming countries and, additionally, the ability of Australian suppliers to appropriate a sufficient part of the resulting benefits to cover their promotion costs.

If Australia possesses only a small share of the world market for a particular commodity and if there is no substantial and promotable uniqueness attached to the Australian product, the benefits from promotion will accrue largely to foreign producers and the benefits to Australian producers may not be sufficient to cover the costs of promotion.

The ultimate goal of promotion is to give a firm or an industry an advantage over its competitors. But government assistance to product-specific horticultural promotion usually involves support for one group of farmers at the expense of others. Australian horticultural producers in aggregate are unlikely to benefit because consumers are unlikely, in an affluent society, to significantly increase aggregate consumption of horticultural products as a result of promotion. The IAC (1976) concluded:

> The possible adverse effects of producer-financed generic promotion of horticultural products on the domestic market do not imply that the Commission favours direct government intervention in this field. The issues are not sufficiently clear cut; nor would it be easy to devise effective and sensible methods of government regulation of such promotion. However, some degree of government responsibility is involved. This responsibility might be met in two ways. Government could assist in the dissemination of information on the profitability of promotion by encouraging and assisting in monitoring and evaluating promotion. Second, Government could encourage producer organisations to examine seriously methods by which they themselves might reduce wasteful competition on the domestic market. (p.38)

APPENDIX L: AUSTRALIAN INSTITUTIONAL ARRANGEMENTS

This appendix examines institutional and regulatory factors subject to the influence of Governments in Australia. The terms of reference ask about those which impede, or have the potential to impede, the development and international competitiveness of horticulture and horticulture-based industries. These include statutory marketing authorities, marketing orders, price negotiating committees, legislation affecting competition, food quality standards and quarantine requirements.

Some other measures (for example tariffs) influence the level of import competition on the domestic market or are directed at improving the efficiency of domestic industries and providing incentives for export activities (for example Export Market Development Grants). The Commission received considerable comment on many of these in participants' submissions.

A multitude of other State laws, regulations and assistance programs affecting horticulture also exist. These cover such matters as land use, water use and drainage, chemical use, plant protection, transport and legislation which determines how enterprises go about their business. However, the Commission received very little comment on these by participants.

Certain taxation, social and environmental interventions are discussed in Appendix I.

The principal arrangements in Australia for the horticultural sector, and the sections of this appendix in which they are discussed, are listed below. The purpose of this appendix is to present background material to some of the discussion in Chapter 3, rather than give a comprehensive description of all Australian institutional arrangements.

Commonwealth Government	**State Government**	**Local Government**
Statutory marketing authorities (L1.1)	Statutory marketing authorities(L1.1)	Land use
Trade practices regulations (L2)	Arbitration Acts (L2)	Rates
Prices surveillance (L2)	Food standards (L3)	
Tariffs	Interstate quarantine	
Food standards (L3)	Pest control and chemical use	
Sales tax	Water use and drainage	
Export quality control (L4.1)	Marketing orders (L1.2)	
Export incentives (L4.2)	Weights and measures	
Taxation		
Quarantine		
Anti-dumping procedures		

L1 Statutory Marketing Arrangements

In addition to the Australian Horticultural Corporation (AHC), a number of statutory marketing authorities (SMAs), supported by either Commonwealth or state legislation, impact on the operations of many horticulture activities and the marketing of horticultural products. Participants in this inquiry, including SMAs, addressed the objectives and powers of other SMAs operating in individual horticultural industries as well as the role of the AHC.

Apart from the legislation concerning SMAs, legislation in each State provides for pricing and marketing of horticultural products. State Departments of Agriculture provided details of SMAs and other marketing arrangements operating in their respective State.

L1.1 Overview of Statutory Marketing Authorities

Currently 13 SMA which impact on horticulture activities operate in Australia three supported by Commonwealth legislation and 10 by State legislation. All are engaged in promotion and market research and development. A summary of their other powers is provided in Table Ll.

The objectives and rationales for statutory marketing arrangements vary between product groups, reflecting conditions in different markets (eg, whether production is sold for processing or for final consumption) and the characteristics of the product (eg, whether it is perishable or amenable to storage). A common thread running through these arrangements is the recognition that growers, by virtue of their numbers, geographical diversity, and irregular production patterns, may face difficulties in the absence of statutory backing.

Many of the rationales advanced for statutory marketing arrangements centre on a desire to correct perceived failures in market processes. Some, however, derive from other social and/or assistance motivates. The justification for statutory marketing arrangements are generally put forward by the beneficiaries, that is, primary producers, their organisations and SMAs themselves. The most common objectives put forward are:

- Countervail the market power of merchants, processors and other intermediate buyers, and to increase returns to growers;
- Stabilise prices, production and/or grower incomes;
- Provide market information;
- Develop markets and undertake research;
- Obtain economies of size and scope in marketing;
- Establish grade standards and quality controls; and
- Provide industry assistance.

Table L1: **Commonwealth and State statutory marketing authorities - general powers**

Powers to:	*Vest or acquire produce*	*Set prices*	*Pool or equalise returns*	*License or regulate exports*	*Control production*	*Implement levels*	*Set quality standards, monitor quality*
Commonwealth							
Australian Horticultural Corporation	No	Yes[l]	No	Yes[2]	No	Yes	Yes
Australian Dried Fruits Board[31	No	Yes[l]	No	Yes[4]	No	Yes	Yes
Australian Honey Board[51	No	Yes[l]	No	Yes	No	Yes	Yes
New South Wales							
Dried Fruits Board of NSW	No	No	No	No	No	No	Yes
Murray Valley Citrus Marketing Board[6]	No	Yes[7]	No	No	No	No	Yes
Central Coast Citrus Marketing Board	Yes[8]	Yes[9]	No	No	No	No	Yes
Wine Grape Marketing Board	Yes	Yes	Yes[10]	No	No	No	No
Victoria[61							
Victorian Dried Fruits Board	No	No	No	No	No	Yes	Yes
Queensland							
Queensland Fruit and Vegetable Growers[l1]	Yes[12]	Yes	No	No	No	No	Yes
South Australia							
Citrus Board of South Australia	No	Yes[13]	No	Yes	Yes[14]	No	Yes
SA Dried Fruits Board	No	No	No	Yes	No	No	Yes
Western Australia							
Dried Fruits Board of WA	Yes	Yes	Yes	Yes	No	No	Yes
Potato Marketing Authority	Yes	Yes	Yes	Yes	Yes	No	Yes

Notes
[1] Applicable to exports only, however not used by the AHC.
[2] The Corporation can set restrictions on export licences with respect to price, quality, packaging, form of consignment, commissions, carriage or insurance.
[3] Operates under the umbrella of the AHC
[4] The Australian Dried Fruits Board determines annual exports to individual countries and appoints overseas agents.
[5] The Australian Honey Board will cease operation on 30 December 1992 and the industry will then join the ABC.
[6] Murray Valley Citrus Marketing Board also operates in Victoria.
[7] Murray Valley Citrus Marketing Board may recommend minimum prices for processing and for wholesale.
[8] Citrus, except lemons, is vested in the Board and is divested upon payment of a levy.
[9] The Board has power to set prices, but these have not been enforced.
[10] The Board has power to equalise returns, but has not used this power.
[11] Fruit Marketing Organisation Act provides for the organisation of fruit marketing of certain fruit and vegetables and constitutes the Committee of Direction of Fruit Marketing trading as Queensland Fruit and Vegetables Growers and the Cannery Board (now privatised as Golden Circle Limited).
[12] The Committee issues directions on the handling/marketing of fruit and vegetables. While it can direct fruit and vegetables to be sold through the Committee, this power has not been used.
[13] The Board sets minimum prices for processing fruit.
[14} The Board can set producer delivery volumes or sale volumes or prohibit harvesting.

L1.2 Marketing Orders

In some cases prices or other terms of sale may be regulated through marketing orders. The Minister for Agriculture in NSW can make a marketing order under *the Marketing of Primary Products Act 1983*. It is made after receipt of a petition from producers and following subsequent public discussions and a poll of producers. Marketing orders can be used for purposes such as fixing minimum prices and terms and conditions of sale, imposing levies and administering payments of collected funds on activities such as promotion. Similar Marketing Orders have been established in Victoria under the *Agricultural Industry Development Act 1990* but without the power to fix prices.

Powers that can be exercised through marketing orders are limited. They cannot be used to vest a product or limit production. Further, they can only operate for 4 years, after which Ministerial approval and a poll of producers is again required.

L2 Legislation covering trade practices, pricing and contractual arrangements

There is Commonwealth legislation covering trade practices and pricing, and State legislation which can cover certain aspects of contractual arrangements between sellers and buyers.

The potential for the exercise of market power is regulated in Australia predominantly by the Trade Practices Commission. It has the responsibility for maintaining surveillance over such activities as mergers, take-overs, exclusive dealing and price fixing agreements and, where appropriate, regulating industries with the aim of ensuring that markets are competitive.

Take-overs and mergers are also regulated by the National Companies and Securities Commission and by the Treasurer, on advice from the Foreign Investment Review Board. Rural properties under $3 million, and other businesses with total assets under $5 million, are exempt from the operations of the Board. Between $3 million for rural properties ($5 million for other businesses) and $50 million, an acquisition must be notified but is not examinable. Very few horticultural properties would fall within the ambit of the Board. Some food processing operations may be valued at more than $50 million, but the Board does not make public details of individual proposals.

The competitive environment of horticultural industries could be affected by the monitoring activities of the Prices Surveillance Authority (PSA) and various State government prices bodies. The PSA monitors horticultural prices, and there have been some inquiries into processed horticultural products.

Trade practices legislation

The Commonwealth's Trade Practices Act seeks to regulate restrictive trade practices by corporations including those of buyers and sellers of primary products. However, it specifically exempts from its application any activity supported or endorsed by Commonwealth, State or Territory law. This includes the operations of horticultural S~ constituted under Commonwealth and State legislation.

Many statutory marketing arrangements are exempt from the Act by virtue of s.51 of the Act and provisions in State or Territory legislation. Due to the 'shield of the Crown', powers of statutory marketing arrangements could be exempt from the application of the Trade Practices Act even if s.51 were not to apply.

Compulsory levies collected from SMAs to fund activities such as the provision of market information, and market development and promotion, do not breach the Act by virtue of s.51.

Arrangements, which would not otherwise be sanctioned by the Act, can be authorised if it is judged by the Trade Practices Commission that their public benefit outweighs their anti-competitive effects. Assessment is made on a case-by-case basis. For example, arrangements directed at maintaining recommended prices can be authorised (if they involve 50 or more parties) provided they are voluntary and are judged to be in the public benefit. Such an exemption has been given to wine grape growers where, collectively, they have determined indicative prices at which individual growers deliver to wineries. Arrangements cannot be authorised if they are judged to be not of public benefit or involve horizontal arrangements such as price agreements between growers.

'Misuse of market power' provisions offer some protection to entities, including growers, if there is misuse by corporations of their power in particular markets.

Trade Practices (Primary Products Exemptions) Regulations have been created under section 172 of the Act to exempt certain organisations and bodies which perform functions in relation to the marketing of primary products. The Primary Products Exemption regulations are available to exempt agreements between growers and buyers of non-statutory bodies such as co-operatives where the Trade Practices legislation does not specifically endorse those activities. As a matter of policy, exemptions have been limited to anti-competitive agreements and some exclusive dealing arrangements. The exemptions have a life of up to five years, but can be renewed. For an exemption to be approved under the regulations, the activity must either promote stability in production and marketing of primary products or enhance export marketing. The regulations have not been used extensively. There have been exemptions under the regulations in the past, including some for horticulture.

Exemptions by means of specific Commonwealth Government regulation can be made to allow conduct relating to particular marketing practices which may otherwise have been unlawful under the Act.

Prices Surveillance Authority

The PSA was formed in 1983 as part of the Government's Prices and Incomes Accord. Under its Act, the PSA has broad powers to investigate, monitor and recommend action on prices for the supply of goods and services by a range of organisations in any market in Australia, upon request or approval of the Treasurer[1].

The PSA takes into account three specific factors in performing its functions. These include the need to: maintain investment and employment, and the impact of profitability on these; discourage abuse of market power in price setting; and discourage wage/price flow-ons beyond the bounds of centralised wage fixing.

The PSA acts on consumer complaints or Ministerial direction. The Authority in 1985 reported on 'Fruit Juices' and in 1986 on 'Food and Groceries'. It has recently held an inquiry into instant coffee.

Arbitration

As in many other industries, growers of horticultural products can enter into contracts as a means of protecting their respective interests. These contracts can cover conditions of supply by growers and conditions of acceptance by buyers (eg, quality and delivery timing etc), pricing and unforeseen circumstances. There are arbitration Acts in each State which are often included in a contract as a means of resolving disputes. The Commission understands that, subject to the agreement of both parties, the Acts can still apply, even if the relevant clause is not included in a contract. However,

[1] The Act is limited only by Commonwealth constitutional powers and the range of suppliers includes: Commonwealth authorities; foreign, trading, or financial corporations; and organisations engaged in interstate or overseas trade.

arbitration under the Act can be as expensive as litigation. Alternative arrangements involving agreed mediation procedures are often included within contracts. This is becoming more common in many other industries in response to the cost of litigation and arbitration procedures.

L3 Food standards and labelling

There is a panoply of regulations on food standards, labelling requirements and quarantine requirements, both at the State and Commonwealth level which apply to horticulture. These have the purpose of achieving objectives other than international competitiveness. However, they influence competitiveness both domestically and internationally. Many of the regulations which applied to processed horticultural products were reviewed in the Industries Assistance Commissions report on Food Processing (IAC 1989c). Since then, many advances have been made in standardising regulations across States and there have been many reforms of the regulations as they apply to imports and exports.

In a communique in May 1992, the Heads of Government of the Commonwealth, States and Territories announced that, as part of the mutual recognition process of achieving microeconomic reform, a final agreement had been signed to introduce legislation to eliminate regulatory impediments to the national markets in goods and entry to occupations.

State Food standards

State government regulations affecting horticulture relate to food standards, health and hygiene, weights and measures, labelling and consumer protection. Most apply to processed products rather than fresh products. There have been some recent reforms of the scope of State government regulations.

Food standards remain under the control of State Governments. Although the Food Acts in each State and territory are similar in their objectives and major features, there are substantial differences. As a consequence, producers marketing products nationally have been required to incur additional labelling and packing costs in order to meet each State's requirements.

National Food Standards

In October 1990 a number of reforms were agreed to by the heads of all governments at the special Premiers' Conference on Commonwealth-State relations.

The basic principles of the reforms were:

- to consolidate responsibility for domestic food standards development with a minimum number of decision layers; to ensure uniformity between jurisdictions; to establish objectives for food standards; to promote the co-ordination of domestic and international food standards;
- and to ensure open and publicly accountable arrangements which would allow input from interested parties.

The reforms principally apply to all food and processed food products, including horticultural products prepared for sale to final consumers and processed food products. In 1990 a National Food Authority was established with functions that include:

- developing and reviewing national food standards;
- co-ordinating the surveillance of food available in Australia in consultation with States and Territories;
- developing codes of practice for industry on matters that may be included in standards; developing food education initiatives in co-operation with States and Territories;
- co-ordinating action to recall food in co-operation with States, Territories and the Federal Bureau of Consumer Affairs; developing assessment policies in relation to imported food; and advising the Minister on matters related to food.

The Food Advisory Committee acts as a forum to resolve problems that result from the application of the principles of mutual recognition of regulations in individual States in food and food related areas. It also assures that mutual recognition procedures do not undermine the objective of achieving national food standards.

Operation of the National Food Authority

The National Food Authority (NFA) has adopted a prescriptive approach to food regulations, providing a description of what constitutes a particular type of food additive, and how it is packaged and labelled, rather than what is not allowed on the grounds of food safety. This can have the effect of excluding new types of food even though they may be quite safe to eat.

The NFA has a close working relationship with the Australian Quarantine and Inspection Service (AQIS) to minimise inconsistencies between import and export regulations covering food and horticultural products. Australia is a participant in international food standards setting through Codex Alimentarius Commission. The NFA is involved in the Committees on Food Additives and Contaminates, Food Labelling, and Nutrition and Food Hygiene, and in the Codex Commission itself.

In 1992 the NFA undertook a review of the policy for setting food standards and issued a draft report in December 1992. The draft recommendations made by the Authority which are particularly pertinent to this inquiry are:

- that the Authority investigate the need for and the practicality of requiring labelling of unpackaged foods in certain cases. (Recommendation 1)
- that the NFA continue to treat domestic and imported food in a consistent manner (Recommendation 40)
- that in a standard by standard review, the NFA consider which foods should continue to be regulated by vertical (or commodity or compositional) standards and which foods could be regulated by horizontal or generic standards. (Recommendation 8)

L4 Export interventions and assistance

The government intervenes in the export of horticultural products indirectly through the powers bestowed on Commonwealth SMAs in respect to marketing (see Section Ll) and directly through the operations of quality control of exports and government supported programs which may, or are designed to, improve international competitiveness or to assist or encourage exports.

L4.1 Export quality control

Government controls of exports take three forms: licensing of who is permitted to export; quantitative restrictions on exports; and quality controls over exports.

Comprehensive quality controls apply to most horticultural exports. These controls are separate from the regulations discussed in Section L3 which apply to the marketing of horticultural products for Australian consumption. Export quality controls are administered either directly by the AQIS, or through self-regulatory Approved Quality Assurance arrangements entered into between AQIS and individual companies, or under the Australian Horticultural Quality Certification Scheme introduced by the AHC (see Chapter 5).[2]

Concerns about export quality controls have been raised by participants in this and in some previous Commission inquiries into fresh and processed food industries. They have claimed that export quality controls are both inappropriate for particular target markets and costly to comply with. Most complaints have come from producers of highly processed foods who have said that the export quality controls have restricted their ability to export.

[2] Some Commonwealth statutory marketing authorities have powers to determine quality standards for the export of processed food products under their control; for instance, those applied by the Australian Wine and Brandy Corporation.

There appear to be four reasons for regulating the quality of food for export.

The first is to meet requirements negotiated with or imposed by overseas governments. Many of these governments make it a condition of entry into their markets that processed foods meet certain standards and some require that certain processed foods be inspected and certified by the exporting country's government as a condition of access to their markets.

Second, Australia has obligations under various international conventions to which it is a signatory (eg, the International Plant Protection Convention).

Third, Australia has a moral obligation not to export dangerous or unhealthy food, eg the Code of Ethics for International Trade in Food.

Fourth, export quality controls may improve an industry's prospects in export markets if the contravention of a foreign country's import requirements by just one Australian firm could result in the whole industry being penalised by the foreign government. An inspection service can reduce such risks by identifying and prohibiting from export any goods which contravene the requirements of importing countries. It could also help to assure importing countries that prompt remedial measures would be undertaken if there was a breach of their requirements.

These reasons are reflected in the stated role of AQIS in relation to export food standards, which is to "safeguard Australian primary industries and improve the prospects for marketing of their products by providing: ... inspection services which ensure that products are safe, wholesome, accurately described and in compliance with the requirements of importing countries" (DPIE 1988, p.1).

Since 1 July 1991, AQIS has been restricted to phytosanitary, public health and trade description issues of exports as well as any specific requirements of overseas government authorities. From that date, AQIS ceased mandatory export inspection for commercial aspects of quality. If an exporter requires non-mandatory documentation relating to quality or condition, it can be obtained from AQIS (or from other commercial operators). There has also been a policy of full cost recovery from users of AQIS services since 1991. Charges are made for inspection, certification and registration.

L4.2 Government supported assistance programs

Several Government supported programs are designed to assist and encourage exports and to improve the international competitiveness of industries. Industries eligible under these programs include horticulture. In addition to export incentives, the ways in which the Commonwealth

Government is intervening in agriculture include the provision of marketing education through the Marketing Skills Program (MSP) and the encouragement of innovation through the Innovative Agricultural Marketing Program (IAMP). A third program, the Rural Industry Business Extension Service (RIBES), provides assistance for improving the efficiency of business operations, including marketing. The Programs all have a particular emphasis on export activity. The Government has also recently announced a separate series of measures to assist food exports.

Export incentives

There are several export incentive arrangements which provide assistance to industry generally and under which benefits are available to the horticulture sector.

The Export Finance Insurance Corporation (EFIC), Australia's official export credit agency, provides finance and insurance services to exporters at concessional interest rates. Insurance cover, for example, is provided for trade in markets which are high risk due to various commercial, economic or political causes. No estimate is available about the extent of assistance to horticulture under the scheme. However, EFIC's main facility is export credit insurance and exports of 'food' (excluding wheat) worth $661 million received this form of assistance in 1990-91. This represents 16 per cent of the total value of exports which received assistance.

Austrade, a statutory body of the Australian Government, provides assistance through trade displays and missions, market intelligence, co-ordination of project opportunities and the provision of feasibility plans. Austrade wrote an export strategy for horticulture in 1986 which was reviewed and revised in 1991.

The principal assistance scheme administered by Austrade is the Export Market Development Grants (EMDG) scheme. Under the scheme, taxable cash grants are paid on the basis of eligible expenditure on export promotion. EMDG grants to the horticultural sector (not including wine) amounted to $6.9 million in 1989-90. The largest individual amounts went to apples and pears $2.7 million, onions $1.1 million and cabbages $0.9 million. Total EMDG grants in that year to all industries were $162 million. The AHC has been among the recipients of EMDG grants, receiving $241000 in 1990-91.

The International Trade Enhancement scheme (ITES) is administered by Austrade and provides low cost, repayable finance for export projects. Offshore set-up costs, travel, promotion, advertising and salaries are supported by funding under ITES, which has a budget of $80 million for the four years to 30 June 1994. Funding is repayable either as a loan or in the form of a royalty. Projects must generate minimum net foreign exchange earnings of at least $20 million over the first 5 years of the project and there is a mandatory 20:1 minimum export earnings ratio. There are various selection criteria, including the applicant having export experience and an international business plan. Firms that are not eligible to claim under the EMDG Scheme are eligible to apply for ITES support. Horticulture is eligible for ITES assistance but it is not a priority sector. Inquiry participants did not comment on the Scheme.

Marketing Skills Program

MSP commenced operation at the beginning of 1989. The Program had been foreshadowed in the Minister for Primary Industries and Energy's 1988 statement on 'Policies for Growth'. The Minister said that under the Scheme courses in international marketing would be provided to 'expose industry representatives to modern marketing techniques and stimulate a more innovative approach to marketing primary products' (p.74).

Skill development programs are approved for funding under which tertiary education institutions and consultants provide programs to company representatives, growers and students to develop skills in export marketing. The programs are provided through 13 training centres in tertiary institutions, and 33 projects have been funded with about half of these still in progress. Under the scheme $5 million was provided over four years to 1991-92. In the 1992 Budget funding of $6.2 million over the next four years was approved.

Horticulture has been a major beneficiary under the scheme. Projects involving that sector have received 40 per cent of funds which far exceeds the amount received by any other sector. Tle Program in its early stages concentrated on new and developing industries, such as avocados, mangoes and flowers. The emphasis within horticulture has been on 'developing quality assurance schemes and organisational structures to bring growers together into export groups to facilitate continuity of supply and sufficient financial resources to undertake promotional activities' (DPIE background paper on MSP). Food processing has accounted for a further 14 per cent of funds.

Innovative Agricultural Marketing Program

IAMP was established in 1986 to encourage innovative development of products in primary industries. The Program resulted from the Government's Economic and Rural Policy statement of that year and is jointly administered by Austrade and DPIE. The primary objective of the Program is to increase export sales of rural-based products, particularly in processed or manufactured forms. The Scheme aims to enhance the competitiveness of rural sector growers, processors and marketers and to assist firms in realising commercial opportunities.

Beneficiaries of the Scheme must provide 50 per cent of project costs and LAMP funding is repayable when projects achieve sales success. These provisions are enforced, but over the long term. There is a three year limit of $900 000 on IAMP funding for particular projects, other than in exceptional circumstances.

The Program was initially funded with $25 million over five years. The continuation of the Program to 1996 has recently been approved by the Government. Funding of $25 million is to be provided over the five years to June 1996 and revised guidelines were introduced from January 1992.

Horticulture has been a significant recipient under the scheme. About a third of total grants have gone to horticulture. In 1990-91, about $500 000 was provided to the fruit sector and just over $400 000 to the flowers and plants sector out of total grants of slightly more than $4 million.

Rural Industry Business Extension Service

RIBES was announced by the Minister for Primary Industries and Energy in 1991-92. The stated objective of the program is to advance the international competitiveness of agriculture and related industries by improving their access to professional business and marketing support services. There is to be particular emphasis on assisting businesses and industry groups which have an export or value-adding orientation.

A Board appointed by the Minister for Primary Industries and Energy has provided advice to the Minister on the development of guidelines and evaluation procedures. A secretariat within the Department of Primary Industries and Energy runs the Service. Amounts of $2 million per year for two years commencing in 1992-93 has been allocated for RIBES.

Under RIBES, projects are funded which involve the development, improvement or differentiation of products. Funding is, in general, limited to 50 per cent of the cost of facilitators and experts on the project. The scheme does not extend to expenses such as capital and operating costs or scientific research.

Food Export Measures

In a joint statement released on 19 July 1992 it was announced that a range of measures will be introduced to increase exports of fresh and processed foods, particularly to Asia (Button and Crean 1992). The Government is to spend $12.7 million over 4 years to encourage greater efficiencies in food production, more co-operation between food producers, processors and marketers, and greater interest in international markets. The measures are:

- language and literacy training to improve the efficiency of the food processing workforce at a cost of $3.75 million;
- promotion of Australian fresh and processed food in Asia costing $5 million;
- a program to get food processing companies and their suppliers and marketers together to give them more strength on international markets at a cost of $800 000;

- an agreement between unions, management and Government for workplace bargaining on productivity improvements;
- creation of a Government task force to negotiate with Asian countries for greater access to their markets for Australian food products; improvements in the system of setting and enforcing food standards;
- increased access for the food processing industry to the International Trade Enhancement Scheme;[3]
- establishment of an Agri-Food Council to encourage the development and foster an export outlook of the food sector; duty free entry of certain inputs of the food processing industry.

The last point refers to a new Policy Item in the Customs Tariff which will be created to cover metal packaging material where these offer particular performance advantages for the food processing industry. It also refers to the extension to the food processing industry of concessional tariff arrangements which currently cover goods designed for use in the agricultural industry. The effect will be to enable the food processing industry to import more of its equipment duty free.

3 ITES is administered by Austrade and offers low cost, repayable finance to support export marketing activities such as offshore set up costs, travel, promotion, advertising and salaries. It is largely directed towards applicants with experience in exporting and which need assistance to expand their international business activities. ITES funded projects cannot be claimed under EMDG, but ITES participants can continue to receive EMDG grants for export promotional activities not supported by ITES.

APPENDIX M: OVERSEAS INTERVENTIONS

The terms of reference specify that the Commission assess the methods used in selected other countries to support horticultural exports. In fulfilling this requirement the Commission has focused on countries which are significant exporters of horticultural products and compete directly with Australian exporters.

M1 Export assistance in competing countries

Some of the mechanisms used in competing countries assist exports in general, while others are targeted at assisting particular export activities. Where particular industries are targeted, the assistance provided can be either direct or indirect. Indirect assistance may be provided by way of market promotion or support of general market intelligence. Direct assistance may be provided by export grants or incentive programs which might apply anywhere along the production and distribution chain. Measures which protect domestic markets can also be used by exporters if they are sufficiently well organised or regulated, to get a higher return from their exports than those exports receive in the market on which they are sold. This sometimes enables exporters to marginally cost price exports, which could be regarded as export support, or even to export at below marginal cost through price pooling arrangements.

Details of export programs (or lack of them) in selected countries with which Australian exporters of horticultural products compete are provided below.

Argentina

Argentina's climate and soil types give it a natural advantage in the production of many agricultural commodities, including horticulture products. As the agricultural sector is one of the few in which Argentina is internationally competitive, the Government has taxed agricultural exports and has a system of export licensing to support macroeconomic and industrial import substitution policies. It has, however, provided incentives for export promotion and provided tax rebates to encourage increases in exports. Argentina has also protected its agricultural sector by the imposition of high tariffs, inspection schemes and various import registration systems.

As a consequence of taxing arrangements, Argentina's export performance has been inhibited. In recent years, with the support from the World Bank and the International Monetary Fund, the Government has liberalised import protection regimes and is withdrawing many of its export promotion and tax rebate arrangements.

Argentina is a major exporter of horticultural products and competes with Australia, for example in the Northern Hemisphere apple and pear markets. It is understood that there are no statutory export marketing controls.

The large multi-national trading houses that operate in other agricultural commodities such as grains and sugar are largely non-existent in horticulture. The largest multi-product/multi-national companies in horticulture would include Del Monte and Chiquita, which had their foundations in the Central American banana business, and Dole which had its foundations in Hawaiian pineapples.

Brazil

The major horticultural based export from Brazil on to the world market is orange juice. Exports of orange juice in 1990 exceeded US$ 1000 million.

Some policies directed at reducing Brazil's hyper-inflation have impacted on agricultural production, including horticulture. Thus, it would be expected they would also impact on exports. For example, the recent economic plans have reduced subsidised credit and placed a freeze on domestic prices. Brazil has several subsidy programs to support agricultural exports, mainly in processed form. These take the form of providing subsidised export credit and tax exemptions.

Brazil protects a number of horticultural industries on the domestic market by way of tariffs and other import restrictions. High import duties and import restrictions apply to almonds and other nuts. Imports of apples, pears and fruit and vegetable preparations are subject to restrictive import licensing. These arrangements could enable exporters to price differentiate between domestic and export markets and enable their cross subsidisation from domestic to export sales or marginal cost-pricing of exports.

Canada

Canada has price stabilisation programs for a number of products including apples, cherries, peas and beans. Under the Agricultural Stabilisation Act payments are made to producers when the average price of nominated products in a given year falls below 90 per cent of the average price in the preceding five years. Other programs which also could be considered to assist exports include subsidies on crop insurance and drought relief

Chile

Chile's basic agricultural policy objective is to expand exports and to replace imports with domestic production. Chile has had a progressive devaluation of the peso which has promoted exports generally. Various programs are available to individual enterprises to facilitate exports, although they are not identifiable as assistance to horticulture as such. For example, the cut flower producers and exporters through two programs: 'stamp and seal tax exemption' and export rebates. There is also a tax drawback arrangement linked to the value of exports. Under this arrangement, exporters receive a tax rebate of 10 per cent for exports up about US$ 10 million and a further rebate of 5 per cent for additional exports of up to about US$4 million.

The Ministry of Agriculture, supported by the National Institute of Agricultural Research, has developed over the last decade a series of applied research programmes for seed and animal improvement to increase yield and to introduce the concept of greater efficiency at the farm level. The Agricultural Development Institute has been the Government's extension arm for small farmers. The Chilean Development Corporation, with the help of its Research Institutes, develops basic data and information for technology transfer and marketing purposes.

Foundation Chile has been set up as an independent foundation with matching grants from the Government of Chile and IT&T (the US Corporation) and devotes resources to research and quality. Foundation Chile and the Catholic University are the two major suppliers of services to improve quality in the Chilean fruit industry.

Although Chile has around 100 fruit exporters, six control over 60 per cent of the trade and five of these are trans-national firms that feed their parent country market. There are some 8000 fruit growers in Chile but only 1600 can be considered significant producers. Several of the foreign export firms also are involved in growing fruit. Saudi Arabia's fruit imports are largely derived from their own fields in Chile and significant volumes of the US trade are controlled by US interests. The Unifruco Company, which has significant Chilean horticultural interests, is a South African based organisation.

European Community

In the European Community (EC) a general Common Agricultural Policy supports prices of many agricultural products. Imports are limited by tariffs and countervailing duties. This results in supplies of many agricultural commodities which are surplus to EC requirements. These surpluses are either destroyed, made unfit for human consumption or exported. To enable export of the surplus, exporters are able to receive variable export rebates to bridge the price differences between the EC support prices and those available on the world markets. Export rebates apply to many horticultural products (apples, apricots, cauliflower, eggplant, table grapes, lemons, mandarins, oranges, peaches, pears, tomatoes and nuts).

Domestic production subsidies are available for a wide range of processed horticultural products. Export rebates also apply to processed products that do not receive production subsidies.

A number of specific schemes also exist within the EC. Two schemes that have been announced recently have been generic export promotion programmes funded by the EC for citrus and apples. It is understood that the combined allocation to these two promotions is in excess of $10 million.

The Canned Fruits Industry Council of Australia said that in the case of canned peaches and canned pears in the EC, production subsidies paid to processors under a complex quota system administered by member countries and subject to the payment of minimum prices to growers. The subsidy represents between about 20 and 30 per cent of the fob value of these products. The Council also said that an export refund is also payable to processors on the sugar content of canned peaches and canned pears exported from the EC.

The EC also invested almost $10 million between 1984 and 1990 in encouraging the formation of producer groups and associations in member countries. This EC arrangement consists of 'aid to encourage farmers to join together to implement the economic process through groups or associations which would concentrate, supply and adopt production to market requirements'.

There are also a number of schemes on a country basis where marketing support is provided. For example, the Food from Britain campaign, of which fresh produce is a major component, is a generic campaign funded by the United Kingdom Government.

In the Netherlands practically all Dutch fruit and vegetables are sold at auctions under the 'Dutch auction system' under which prices start high and come down until a bid is received. These auctions are run by co-operatives of growers who offer their products for sale exclusively through the auctions. This means that exporters first have to buy their Dutch products at auction before they can sell them to their clients. Another feature of the auction system is that it is a highly sophisticated quality rating system (based on regulation) which is the result of regular and thorough quality control. Levies for marketing activities are collected through the auction system.

The Winemakers Federation of Australia commented:

> ... in the EEC ... it's not just the EEC that provides assistance in their horticultural and agricultural plan but also from individual countries themselves, so quite often there is a double - sometimes even a triple - even provincial government assistance, so you might find three tiers of assistance going into a particular industry. It's very, very hard to identify. (Transcript, p.972)

Malaysia

In general, there are no direct export subsidies for agricultural products. Malaysia seeks to increase exports of value-added processed products as opposed to primary products. Tax relief has been used to encourage investment in food processing and other agricultural operations which target both the domestic and export markets. Low-cost government credit is available to exporters of most agricultural products. There is also a 5 per cent tax allowance on all agricultural exports.

New Zealand

New Zealand is a significant exporter of horticultural products to markets in which Australia also competes. There are no significant direct government supported subsidies for the export of horticultural products, other than the normal support for trade in general.

New Zealand governments during the 1980s and 1990s have significantly lowered assistance to agriculture, including horticulture. There has been greatly reduced funding of advisory services, taxation concessions have been reduced and concessional interest arrangements have been removed.

There are three statutory authorities in New Zealand with an influence on horticultural exports.

The New Zealand Apple and Pear Marketing Board was established in 1948. Its principal function is to acquire and market apples and pears grown in New Zealand, as well as those that are imported. It is the sole export marketing authority for apples and pears and is also responsible for distributing all apples and pears to the retail trade within New Zealand. The Board takes title to the fruit and acts for the grower in the market place. In 1990-91 the Board marketed the equivalent of 20.7 million cartons of apples and pears.

The New Zealand Kiwifruit Marketing Board was established in 1989 and has similar statutory controls to that of the Apple and Pear Marketing Board but it does not control the marketing of fruit in the New Zealand domestic market or in the Australian market. However, it does take title of the fruit in all other export markets. Total exports in 199091 exceeded 60 million trays.

The performance of the Kiwifruit Marketing Board was reviewed in 1991 in accordance with the regulations under which it operates. The review was generally supportive of the operations of the Board, although a number of recommendations were made many of which related to cost efficiency. One recommendation was that the marketing operations be changed so that the Board has the same degree of control over the Australian market as it has over other markets.

The Horticulture Export Authority was established in 1987 to promote the effective export marketing of horticultural products (with the exception of apples, pears and kiwifruit). A major function of the Horticulture Export Authority is to develop long term marketing strategies for those product groups which choose to utilise the Authority services. The Authority is governed by *the New Zealand Horticulture Export Authority Act 1987*. The Act has recently been amended to add extra conditions to the granting of export licenses and to give the Authority the power to refuse to grant a licence.

Box M l: **Kiwi-fruit marketing in New Zealand**

The production of kiwifruit for the export market which began in the early 1970s expanded rapidly to 230 000 tonnes in response to high export returns and government assistance, particularly tax concessions available in the period from 1972 to 1982. In the period 1977 to 1988 kiwifruit was export by companies operating under licences granted by the New Zealand Kiwifruit Marketing Authority. Exporters handled and shipped kiwifruit on a commission basis for individual growers. The Authority co-ordinated marketing operations, promotion and packing and set fruit quality standards. It was able to control the marketing strategy by means of the threat of delicensing an individual company or the creation of a marketing board.

At the time the New Zealand industry was expanding, increases in planting were occurring in the United States, France, Italy, Chile and Japan in response to the favourable returns and in the case of the US and EC, development and marketing subsidies. In the period 1982 to 1988, the world wide increase in supply caused the market returns to fall by 30 per cent. As a result, the competition between NZ exporters forced some to exit and others to rationalise.

At the request of growers, the Kiwifruit Marketing Board was established in 1989. It was given powers to procure and distribute to all export markets except Australia. The domestic market is not regulated.

The growth in the kiwifruit industry in the 1970s and early 1980s was due to a new high value product returning high profits to early participants. The large increase in production was a response to these returns and encouraged by government investment subsidies. The licensed exporting arrangements appeared to have suited the industry's development. However, the high marketing costs imposed by the quality and packaging requirements of the marketing authority was sustainable only while high returns were available. Increases in supply in New Zealand and overseas placed downward pressure on export returns and reduced returns to growers. It would appear that the previous arrangement encouraged licensed exporters to compete for crop procurement and to maximise revenue rather than to invest in overseas marketing. The decision on the part of growers in seeking the establishment of a marketing authority reflects the need for strength in the market place and the lack of appropriate incentives in the previous licensing system. The growing and marketing of kiwifruit are now integrated.

Source: Zwart and Moore 19%.

South Africa

Exports of fresh and processed fruit and vegetables from South Africa totalled over US$600 million in 1990.

The South African Government exercises control over the production and marketing of many horticultural industries and horticultural products through Statutory Marketing Authorities (SMAs). SMA exist for citrus, deciduous fruits, died vine fruits, bananas and potatoes. These SMAs have

acquisition powers and are the sole sellers on both the domestic and export markets. This enables the SMAs, with the support of import licensing and quantitative import quotas to cross-subsidise exports from revenue obtained from sales on the domestic market. Import permits and/or import quotas apply to dried fruits, bananas, citrus, peaches, nectarines, plums, prunes, grapes, walnuts, cherries and some processed foods such as tomato concentrates and alcoholic beverages. They also enable the setting of high domestic prices and the deduction of levies from producer incomes to finance or to cross subsidise export losses.

It is understood that statutory controls regulate the industry in South Africa. There are two major agricultural export organisations - the South African Co-operative Citrus Exchange Limited (or Outspan) and Unifruco Limited (Cape). The two organisations recently announced that they would rationalise their interests in Europe so that financial services, data processing, quality control and technical and logistical services would be jointly managed by a combined service company. The two companies jointly export nearly 65 million cartons of fruit annually and this is expected to grow to 100 million cartons by 1995.

It has been reported that the marketing arrangements could be changed following a Government decision to appoint an independent committee to investigate whether agricultural control boards should be abolished.[1] The decision follows a report by a Board on Tariff and Trade which recommended that the statutory powers of control boards be abolished, with farmers left to market their produce as they choose.

The Canned Fruits Council of Australia said that processors of canned peaches and canned pears receive considerable assistance from the South African Government. This has taken the form of loans at concessional interest rates to the major canning conglomerate, Langeberg; profit underwriting; and the deliberate progressive devaluation of the rand.

Thailand

Thailand has not generally subsidised agriculture except for small quantities of improved seed and fertiliser and the capital of irrigation projects. Exporters benefit from some subsidised credit and some tax rebates. The credit is available at about 3 to 4 per cent below market rate. It is only available when evidence is shown that it will facilitate export sales.

1 Australian Canefarmer, July 1992

Turkey

Turkey's export of horticultural products totalled more than US$850 million in 1990. This was mainly raisins, citrus, tomato products, dried apricots, olive products and dried figs.

Exports of raisins are taxed but other exports are eligible for export credit programs, tax relief incentives, and transport and export subsidies. The Government also provides support to horticulture via fertiliser subsidies.

United States of America

The US has a number of programs to assist and subsidise exports of agricultural products; horticulture and horticultural products are eligible for some of these. A description of the major programs for which horticulture and horticultural products are eligible is provide below.

- Marketing Promotion Program (MPP)

  The MPP was created in the 1990 Farm Bill by consolidation of the pre-existing Targeted Export Assistance (TEA) program and Foreign Market Development Program which were designed to help exports by funding promotion activity in overseas markets. The TEA program was initiated in 1986 to fund promotion programs. The objective was to offset the adverse effects of foreign subsidies, other countries' import quotas or other 'unfair' trade practices abroad by promoting exports of high value products (such as wine, fruits, vegetables and citrus). The TEA program included export subsidies, tax rebates on exports, financial assistance on preferential terms, financing for operating losses, assumption of costs and expenses of production, processing or distribution, a differential export tax or duty exemption, a domestic consumption quota or any other methods ensuring the availability of raw materials at artificially low prices.

  The TEA program operated through providing tradeable commodity certificates (from Commodity Credit Corporation inventories) to reimburse select non-profit commodity and regional organisations for eligible expenses incurred in the promotion of US agricultural products in specific markets.

  The MPP, unlike the former TEA program, allows consideration of commodity groups other than specific 'target' commodities. Target commodities included high value products such as horticultural and tropical commodities.

  The funding allowed under the MPP for recent years has been about US$200 million. On average, 50 per cent of the funding has been allocated to horticultural and tropical products. About 70 per cent of funding was distributed towards the European and Japanese markets.

- Export Incentive Program

  Export Incentive Program was established in 1985 under the Food Security Act of 1985, and assists private US companies in branded promotions for specific commodities, including California and Arizona citrus, processed sweet corn, walnuts, prunes, vegetables, cranberries and almonds. Total payments have been less than US$2 million (mostly one-off grants).

Because of the large size of production of most horticultural products in the US, most of the product based statutory marketing organisations are State based. Examples include the Washington Apple Commission, the California Tablegrape Commission and the California Avocado Commission. These organisations are active in both the domestic market and internationally in supporting marketing activities by the private sector. Most have been in existence for a considerable time and have gained recognition internationally and with the private sector, which has helped build the confidence of buyers. They are funded by statutory levies paid by producers.

Significant support is also provided by the US Government to the State based marketing organisations through the MPP (formerly the TEA program) as shown in Table M1.

Table M1: **TEA/MPP funding of US produce export promotion, $US million**

	1986	*1987*	*1988*	*1989*	*1990*	*1991*	*Total*
California/Arizona Citrus Industry	8.5	10.5	10.5	11.2	9.0	13.7	63.4
California Raisin Advisory Board	6.3	9.8	9.8	10.7	12.5	7.0	56.1
California Walnut Commission	9.0	7.0	6.5	7-3	8.0	8.0	45.8
Florida Department of Citrus	4.6	7.0	7.0	5.4	9.9	5.3	39.2
California Prune Board	4.0	4.5	5.5	5.8	7,5	7.0	34.3
NW Horticultural Council (apples)	1.9	1.5	2.0	2.9	3.8	4.3	15.9
NW Horticultural Council (pears)	03	0.4	0.5	0.8	0.9	0.9	3.8
California Grape Commission	0.4	0.4	0.8	1.8	2.3	3.3	9.0

Notes: From the US$13 7 million allocated in 1991 to the California/Axizona citrus industry, Sunkist received US$10.7 million and Dole US$13 million.
Source: AHC, Sub.24, p.82.

The 1986 budget of the TEA program included US$38 million for fresh fruit and vegetables, dried fruit and nuts, out of a total budget of US$11.0 million. By 1991 the produce industry received US$67 million from the total allocation to US$200 million. The link between unfair trade practices and TEA funding has been watered down with the MPP programs. The change to MPP in 1990 is likely to mean that-more commodities will have access to funds and more export markets will become eligible.

Up to 80 per cent of the export promotion budgets of non-profit bodies, such as commodity promotion boards, may come from MPP funds. For private companies up to two thirds of eligible promotion costs can be reimbursed through the Export Incentive Program component of MPP, reducing to 50 percent by 1992.

M2 Regulatory impediments to imports by overseas countries

A number of countries to which Australia already exports horticultural products or have a potential to export have mechanisms which restrict, limit or prevent imports both from Australia and other countries. These restrictions are imposed for a number of reasons. They include protection of domestic industries, preferential treatment to trading partners, prevention of the entry of potential pests and diseases, consumer protection and saving of foreign exchange.

These restrictions take various forms. They include: tariffs, dumping/countervailing duties, quotas, import licensing, import prohibition, calendar restrictions, phytosanitary regulations, marketing/packaging/labelling regulations, differential taxation treatment, local content arrangements, advertising regulations and domestic production subsidies. These measures are not uniform across horticulture and horticultural products.

Canada

The tariff rates on horticultural products entering Canada vary widely. There are several specific rates on vegetables which have alternative ad valorem rates of 'not less than' 5 to 20 per cent. Straight ad valorem rates on other vegetables range from Free to 22.5 per cent. Rates on fruit range from Free to 15 per cent and there are also some items subject to only specific rates. Cut flowers and plants are mainly either Free or 10 per cent. Imports of a variety of fresh fruit and vegetables are prohibited or controlled, for example imports of potatoes are prohibited except from the US and grapes have to come from approved vineyards.

Canada is Australia's second largest market for canned fruit and Australia has been concerned for some time about the increasing differential between the tariff levied on US and Australian imports which is as high as 6 per cent. Representations have been made and the matter is now being pursued in the Uruguay Round.

European Community

The member countries of the EC have a common tariff and common quarantine restrictions against imports. Tariffs on imports of vegetables into the EC range up to 50 per cent. On fruit imports the rates range up to 26 per cent plus an 'agricultural levy'. The tariff on cut flowers and nursery products are lower and vary from Free to 20 per cent. Lower rates apply to a large number of African, Caribbean, Pacific, Mediterranean and Arab countries with which Australia competes.

The AHC reported that the EC maintains a 25 per cent tariff on stonefruit products from Australia even though Australia is a counter-seasonal supplier. The EC also increases the tariff on oranges from 4 per cent to 20 per cent in mid-October which effectively precludes the southern Australia Valencia crop from being marketed in Europe.

In addition to tariffs there is a complex set of non-tariff restrictions such as countervailing duties under the Common Agricultural Policy. Member countries also have their own protective arrangements. Under these imports of specified produce are banned, or price or quantitative restrictions applied for specified times each year.

Hong Kong

Fruit, vegetables, honey, cut flowers and nursery plants are not subject to import duty in Hong Kong. Australia is an off-season supplier of many kinds of horticultural products.

India

Import duties in India are high. Most fruit and vegetables are dutiable at a basic rate of 65 per cent. Cut flowers and nursery plants are dutiable at a basic rate of 60 per cent. Moreover, there is an additional 'auxiliary' duty of 45 per cent. Currency controls also restrict entry. A cash deposit must also be lodged at a bank by importers equal to 150 per cent of the value of the imports from the time of ordering goods until they are cleared by customs.

Indonesia

Imports of fruit and vegetables into Indonesia are mainly dutiable at 30 per cent, with dried vegetables dutiable at 10 per cent. Cut flowers and nursery plants are dutiable at Free or 20 per cent.

For some time there have been stringent import licensing restrictions. The market was partially opened in 1990 when grapes, citrus, apples and pears were allowed entry under quota. In the following year, tariffs were reduced and the import monopoly of the two state trading houses was lifted. Licensing still remains, although Australia is now in the general licensing category and not in the most restrictive category which limits imports to state trading companies.

All imports valued in excess of US$5000 are subject to pre-shipment inspection by an approved agency in Australia, SGS (Australia) Pty Ltd.

Japan

The tariffs on vegetable imports into Japan range up to 35 per cent, but are commonly 5 or 10 per cent. Fruit is more highly assisted with rates up to 50 per cent, and 10 per cent being the most common rate. For some products, different rates apply at different times of the year. Cut flowers and nursery plants are free of duty. Import quotas apply to peas and beans. The import quota on oranges was eliminated in 1991.

Quarantine remains the biggest obstacle to increased exports to Japan, with coddling moth and fruit fly being the main fear of the Japanese. Australia is permitted to supply vegetables that do not contain seeds and green bananas, pineapples and certain oranges. Although Japan has endorsed in General Agreement on Tariffs and Trade negotiations the harmonisation of phytosanitary measures based on scientifically justifiable principles and guidelines, its requirements are more consistent with a 'nil risk' approach to quarantine. Negotiations with Japan continue and there has been some success in that Tasmania has been recognised as a area free of fruit flies thus enabling exports of berry fruits and cucurbits from there to be made to Japan. In April 1992 agreement was reached on the export of Australian lemons to Japan.

Malaysia

Malaysia commonly imposes composite tariffs (ad valorem plus specific rates) on fruit and vegetables. On fruit the tariffs are high. This is partly intended to protect domestic producers by limiting substitution towards temperate fruit. The issue has been raised in trade talks with Australia concentrating on gaining entry for apples, pears, citrus and grapes. The tariff rates on cut flowers and nursery products are lower and are nearly all 5 per cent.

New Zealand

Australian horticultural products have been allowed free access to the New Zealand market under the terms of Australia New Zealand Closer Economic Relations Trade Agreement since 1 July 1990. Quarantine restrictions still apply, and entry of fruit, vegetables, plants and seeds is restricted to specific ports and airports where inspection can be carried out.

Philippines

Vegetable imports by the Philippines are mainly dutiable at 30, 45 or 50 per cent, and fruit and cut flowers at 45 or 50 per cent.

Quarantine is the main restriction on increased trade with the Philippines, particularly since 1988, when new regulations were introduced. Only fresh fruit from Tasmania and vegetables which are not fruit fly hosts can be imported into the country. Bilateral negotiations and technical visits have so far been unsuccessful in re-establishing the trade.

Republic of Korea

Tariff rates in the Republic of Korea for horticultural products range from Free to 50 per cent, with rates of 30 common for vegetables and 50 per cent common for fruit. However, imports of fruit and vegetables, with the exception of onions, potatoes and asparagus, are prohibited under Korean quarantine law. The Australian Quarantine and Inspection Service (AQIS) is holding discussions with Korean authorities in an endeavour to have Australian produce admitted.

Korea's concern is about the existence of coddling moth and oriental fruit fly. Korean legislation has provision for area free certification for particular pests. However although it has been pointed out that in Australian territory oriental fruit fly exists only on Christmas Island and that island is subject to full quarantine control, the representations have so far been unsuccessful.

Australia has included fruit in the market access negotiations with Korea as part of the Uruguay Round.

Singapore

Nearly all fruit, vegetables and cut flowers can enter Singapore free of duty. The only exceptions are melons and pawpaws which are dutiable at 60 per cent or at an alternative specific rate. Plants growing in soil are prohibited imports on quarantine grounds.

Taiwan

Tariffs and quotas restrict entry into Taiwan. Most tariff rates on imports into Taiwan are in the range 30 to 50 per cent. An import licence is required in some cases and a deposit of 10 per cent of the value (including insurance and freight) of the intended imports must be lodged within 14 days of the approval of the licence. Ibis import licensing arrangement, and administrative guidelines, are major impediments.

Taiwan introduced a ban on imports of fruit and vegetables from all countries except the United States in 1987. The ban has since been eased but Australia's access to the Taiwan fresh fruit market remains heavily restricted. Australia has open access for only 8 types of fruit (cherries, nectarines, apricots, kiwifruit, avocados, strawberries, figs, pears). Apples are restricted to 63 tonnes per year. Representations have been made on several occasions.

Thailand

Thailand has a high rate of duty on imported fruit and vegetables, commonly 60 per cent. Some products have an alternative specific rate (levied on weight) which is imposed if the revenue is higher than 60 per cent.

In addition to these high tariff levels, quarantine restrictions have presented difficulties to the export of fruit, particularly citrus and grapes, to Thailand. Tle Australian Government was advised in 1991 that the ban on the import of citrus had been lifted and that if a plant quarantine treatment protocol could be negotiated then the import of Australian citrus would be allowed. Representations have been made and AQIS is now pursuing the matter directly with the Thai authorities.

United States

The US has a variety of duty rates levied as ad valorem, specific or a combination of both. The ad valorem rates on vegetables and fruit both range up to 35 per cent. Most ad valorem rates are considerably less than this highest rate. On cut flowers and nursery products the rates are either specific or ad valorem with the highest ad valorem rate being 8 per cent.

Marketing orders are used to regulate horticultural imports. Domestic producers are protected by the marketing orders which specify conditions such as size, standards and import periods. This system facilitates imports from the Southern Hemisphere during the US off-season.

Import permits are required for the importation of most plant and plant products for quarantine reasons. There have been quarantine restrictions on the import of Australian berries, 'easy peels', nashi and citrus. However, agreement has been reached on the import of Australian strawberries and nashi, and in May 1992 following protracted negotiation an agreement was reached on the import of Australian citrus.

The Hawaiian macadamia industry has claimed that Australian macadamia nuts have been dumped in the US. The US International Trade Commission has issued a notice instituting an investigation of the competition affecting the US macadamia industry.

APPENDIX N: AUSTRALIAN CITRUS INDUSTRY

The citrus industry is Australia's third largest fruit industry. It illustrates many of the issues and difficulties faced by all horticultural industries. This case study examines the factors and, in particular, the institutional arrangements, which affect the industry's viability. It includes:

- *an illustration of, and explanation for, the large number of industry and statutory organisations in the citrus industry;*
- *a description of the factors which influence success in the citrus export market and of those which cause difficulty;*
- *an analysis of the differing views concerning the usefulness of the Australian Horticultural Corporation to the citrus industry; and*
- *an outline of the extent to which the industry has benefited from government assistance.*

N1 Background

Over the last five years, citrus production has averaged about 600 kilotonnes (see Table N1) and contributed 20 per cent to the total value of horticultural production. In 1989-90 output of 610 kilotonnes consisted of valencia oranges (56 per cent), navel oranges (27 per cent), mandarins (6 per cent), grapefruit (5 per cent) and lemons and limes (5 per cent). In 1989-90, the gross value of production for all citrus was approximately $235 million.

Table N1: **Australian production and consumption of citrus, 1986-87 to 1990-91, kilotonnes**

	19 86-87	*1987-88*	*1988-89*	*1989-90*	*1990-91*
Fresh domestic	224.1	198.0	231.0	226.0	208.0
Processed domestic	356.4	338.0	252.0	348.0	324.0
Exports	54.3	53.0	32.0	36.0	46.0
Production	634.8	589.0	515.0	610.0	578.0
Imports					
Fresh	9.3	9.1	13.9	12.0	3.8
Processed [a]	3.7	1.3	16.3	5.3	5.9

a Kilotonnes of total soluble solids
Source: ABARE 1992a, p.22

There are three major sectors within the citrus industry - growers, processors and converters. Fruit is graded after harvest and sold either for the fresh market or, if of a lower quality, to processors. Most processed fruit is sold as orange juice, either to the fresh juice market or to converters as orange juice concentrate. On average, over the past five years, the distribution of the annual citrus crop has resulted in 56 per cent of citrus production being processed, 37 per cent being sold fresh to the domestic market and 7 per cent being exported as fresh fruit (ABARE, Sub.D 111, p. 18).

The Australian Bureau of Agricultural and Resource Economics (ABARE) estimated that total citrus production will increase to approximately 675 kt in 1992-93, while the gross value of that crop will rise by less than 2 per cent.

In recent years the proportion of processing fruit directed to the fresh juice market has increased markedly. The rapidly increasing market for 'fresh style' 100 per cent Australian orange juice has been reported to require somewhere between 40 and 50 per cent of the domestic supply of orange juice. Approximately 80 per cent of this growth has been new citrus consumption rather than substitution of other citrus products (Irish 1992). The increase in demand for fresh juice has been supplied in part by citrus that would otherwise have been used in the concentrate orange juice market and from the overall growth in citrus production. Imported frozen concentrate orange juice, which sets the floor price for domestic concentrate cannot, by definition, be used as fresh Australian juice. Hence, fruit directed to the new fresh Australian juice market commands a significant premium above the fruit directed to the concentrate market.

In 1989-90, there were approximately 2 600 citrus growers (with an estimated value of agricultural operations of over $20 000) located throughout Australia (see Table N2). South Australia, Victoria and New South Wales accounted for 85 per cent of growers and 89 per cent of citrus production.

Table N2: **Citrus grower numbers and production, by region, 1989-90**

	Number of growers	*Proportion of growers*	*Proportion of production*	*Production per grower*
	number	per cent	per cent	tonnes
Murrumbidgee Irrigation Area	463	17	30	395
Murray River	248	9	12	295
Rest of New South Wales	183	8	6	200
Victoria	410	16	12	178
South Australia	925	35	29	191
Queensland	185	7	10	329
Western Australia	200	7	1	31
Total	2614	100	100	

Source: ABARE 1992a, p.20

There are considerable regional differences in the production of citrus per grower (see Table N2). In 1989-90, production per grower ranged from 395 tonnes in the Murrumbidgee Irrigation Area (MIA) to 178 tonnes in Victoria and 31 tonnes in Western Australia. Production per grower in Australia is generally smaller than in many competitor countries. For example, in Brazil the average production per grower is about 810 tonnes. Even so, ABARE, in a comparison of the Australian and United States citrus industries, found that Australia does not have a cost disadvantage because of small farm sizes. A summary of ABARE's comparison of the cost of producing oranges in Australia and the United States is provided in Appendix H.

Chart N1: **Australian citrus regions**

N2 Industry structure

The most important influence on the pattern of citrus production in Australia (see Chart N1) has been the land development policies of Australian governments in the last 80 years. Governments have encouraged production in various regions through the provision of irrigation works and the settlement of soldiers on farms after both world wars. For example, after the First World War public irrigation provided the basis for large-scale soldier settlement along the Murray River and its tributaries, the MIA of New South Wales and the Gayndah / Mundubbera region of Queensland.

The geographic dispersion of citrus production in Australia has resulted in a relatively large number of organisations being established to represent the various interests of those involved in the industry (see Chart N2).

Mr Irving, of the Australian Horticultural Corporation (AHC), commenting on the number of organisations representing the citrus industry, said:

> ... there are something like 16 significant entities within that national association of which something like five of them are statutory organisations. If I were starting with a clean slate I would not have anything like that. They fall all over each other and they duplicate. (Transcript, p.40)

The Murray Valley Citrus Marketing Board commented:

> The Australian Citrus Industry is highly fragmented with growers, packers, exporters and processors frequently at odds on industry matters. It is imperative that these currently disparate groups become more closely coordinated as a total industry if sustainable export markets are to be developed and a more stable domestic trading environment is to be achieved. (Sub.63, p.1)

Mr Edmonds, of the Australian Citrus Growers' Federation, said:

> ... the industry is never going to reach its full potential unless we coordinate better. While consultation can continue I hope that somewhere along the line some teeth are used to ensure that does happen... . 1 guess that's one of the main reasons we got involved in the AI-IC at the beginning, to try and coordinate the industry better. (Transcript p.602)

Although most citrus regions were established decades ago, there has been little pressure to reduce the number of local interest groups and marketing boards. The continued existence of a large number of groups can, in part, be explained by the different circumstances facing each region.

At present, an important distinction between regions is the profitability of citrus production. In 1990-91, for example, net farm cash income in Queensland was $107 793, compared with less than $20 000 in the southern regions (see Table N3).

The differences in income between Queensland and the southern regions can be explained by three factors. Firstly, compared with Queensland, the southern states produce a mixture of horticultural produce on relatively small farms. The average farm size in Queensland is 23.2 hectares, whereas the average farm size for the rest of Australia is about 17.7 hectares. Queensland also produces 65 per cent of Australia's mandarins, which are a relatively high priced crop.

Secondly, the Queensland citrus industry produces higher yields than the more established southern states. In 1990-91, average yields for Queensland, in terms of tonnes per harvested hectare, were 139 per cent higher for valencias and 113 per cent higher for mandarins than the combined average of the southern irrigated regions (ABARE 1992a).

Thirdly, Queensland producers gain an advantage from harvesting earlier than other producers - oranges are harvested earlier the further north they are grown (see Chart N3). Queensland growers are able to sell their new season navels and valencias on the fresh domestic and export market before the bulk of the Australian citrus crop becomes available, thus earning higher prices. Producers in the southern irrigated citrus regions are relatively more reliant on receipts from fruit used for processing into orange juice and generally receive lower prices.

Chart N2: **Australian citrus industry organisational chart**

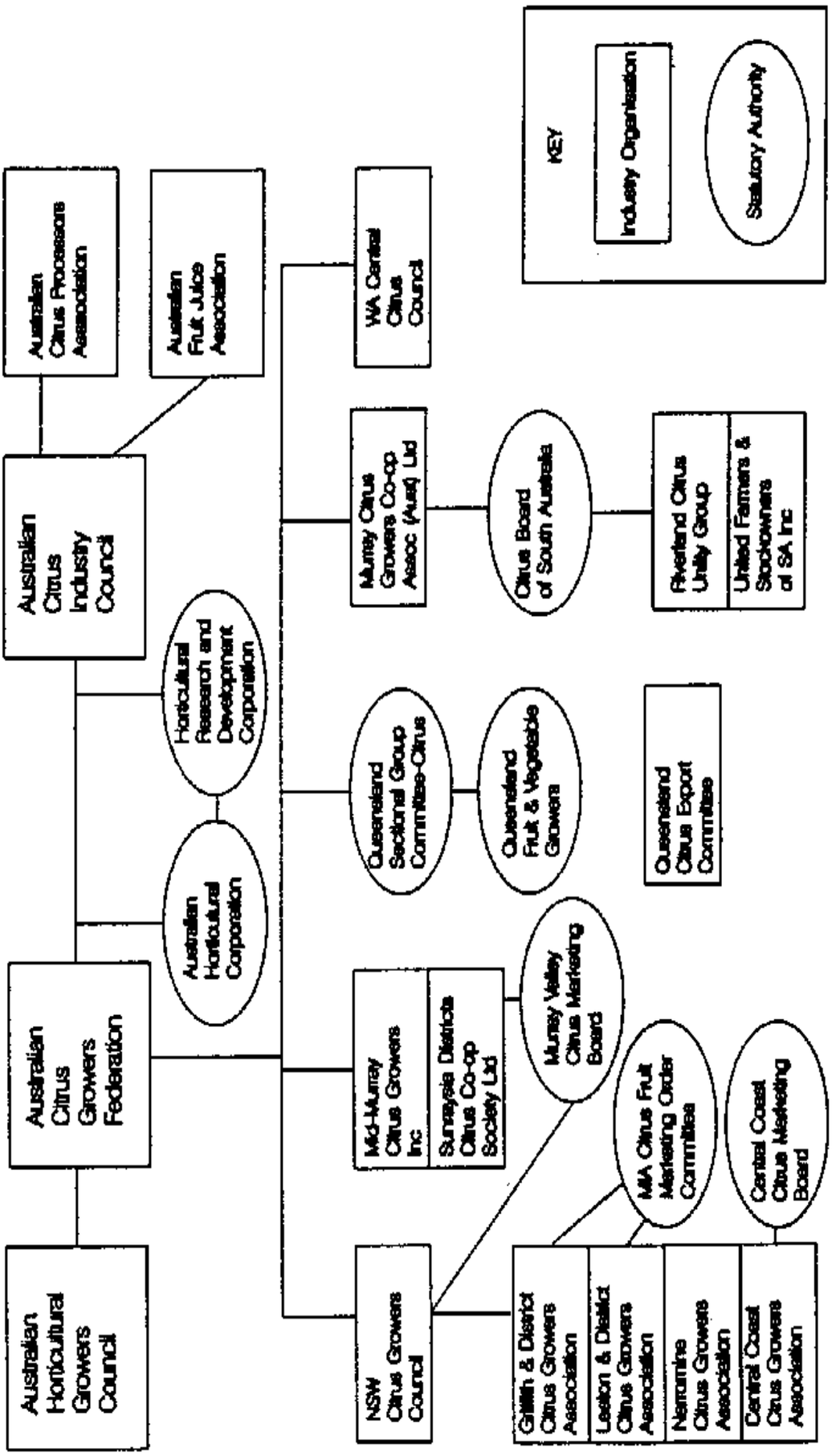
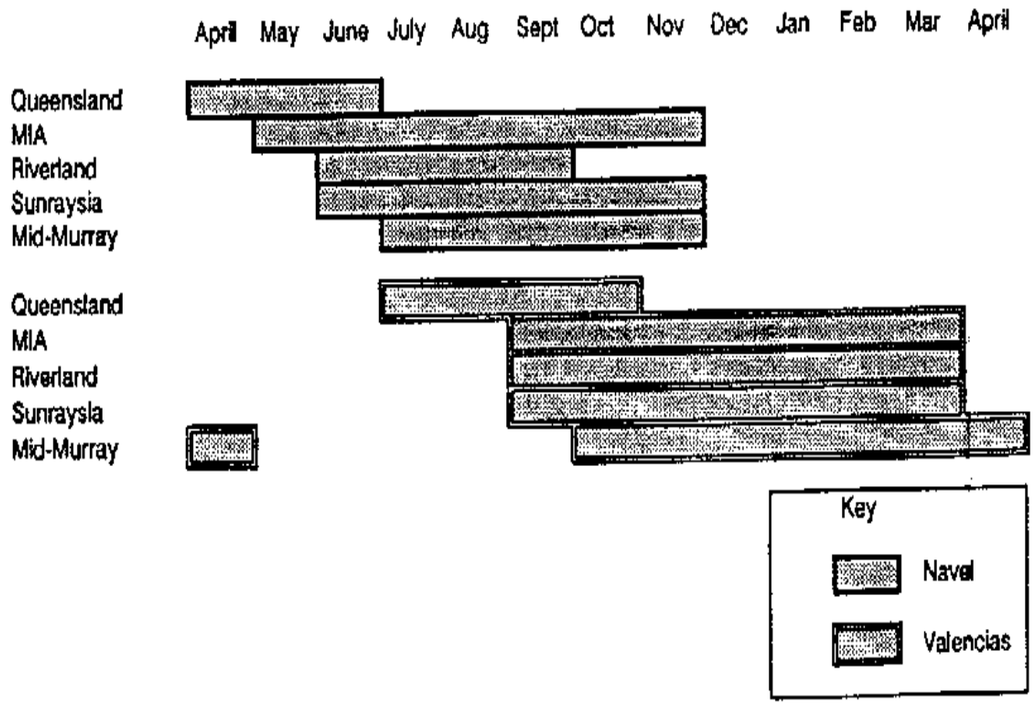


Table N3: **Australian citrus industry, selected physical and financial estimates, by region, average per farm, 1990-91**

	Riverland	*Sunraysia*	*MIA*	*Queensland*	*All regions*
Estimated total population	880	598	463	185	2309
Orchard and vineyard area (hectare)	15.6	16.5	21.9	23.2	17.3
Area harvested (hectares)					
Navels	2.3	2.9	2.5	2.6	2.6
Valencias	5.5	4.7	10.5	2.2	5.5
Lemons	0.4	0.2	0.3	0.7	0.4
Mandarins	1.0	0.8	0.1	7.6	1.0
Grapefruit	0.3	0.5	0.3	0.3	0-3
Total	9.5	9.1	13.7	13.4	9.8
Yield per harvested hectare (tonnes)					
Navels	21.6	23.4	27.6	43.8	24.5
VaIencias	25.5	25.1	20.0	55.4	24.0
Lemons	32.2	35.2	26.1	26.7	29.1
Mandarins	22.5	24.1	7.6	40.0	31.4
Grapefruit	24.8	39.5	19.9	30.9	30.5
Labour used (weeks)	128	142.9	121	336	147
Components of investment returns ($)					
Total cash receipts	65666	104071	70190	325379	97402
Total cash costs	60029	85433	58346	219585	78778
Farm cash income	5637	18638	11844	107793	18624
Farm business profit	-27704	-12828	-29422	56752	-16931

Source: ABARE 1M, p.42

Chart N3: **Seasonal differences in Australian orange harvests**



Regional divisions in the citrus industry are reinforced by the existence of five regional marketing boards (see Chart N1):

- Murray Valley Citrus Marketing Board
- Citrus Board of South Australia
- Queensland Fruit and Vegetable Growers
- MIA Citrus Fruit Promotion Marketing Committee
- Central Coast Citrus Marketing Board (NSW)

The Murray Valley Citrus Marketing Board was formed in 1990 by the New South Wales and Victorian Governments. The Board is funded by levies from 698 registered producers and its role is to provide marketing services and market information to growers and packers in the region.

The Citrus Board of South Australia represents 920 growers and has the power to collect levies for research and promotion, and prepare market intelligence and statistics. The Board commented on the number of statutory authorities:

> There is the potential for one National authority for citrus or perhaps an authority which covers South Australia, Victoria and New South Wales. If the future of the AI-IC and State Authorities can be assured a range of industry activities could he amalgamated. The citrus industry is characterised by an abundance of groups and/or committees, mainly because clear areas of responsibility cannot be agreed.

The Queensland Fruit and Vegetable Growers is a statutory body consisting of eight commodity groups, including the Citrus Sectional Group Committee. The Committee, which also has statutory status, has expressed opposition to the formation of a national body in the shape of the AHC:

> ... it has caused a dissension in the industry where Queensland is often pitted against the other states because the conditions under which the industry operates in Queensland are completely different from the conditions under which the industry operates in the other states.
>
> The other major disadvantage of Al-IC membership is that it has duplicated the role of our own state body in many areas. The Queensland citrus industry for many years has been an organised and coherent industry operating under the leadership of the Citrus Sectional Group Committee. It has responsibly run promotion programmes, research and development programmes and collected levies from all growers in order to fund these and the agri-political aspects of the organisation. (Sub.22, p.4)

The MIA Citrus Fruit Promotion Marketing Committee organises domestic promotions of MIA citrus and the collection of market information. The Central Coast Citrus Marketing Board is responsible to citrus growers in the region around Gosford in New South Wales. The Board collects and distributes market intelligence.

N3 Australia in the international context

The value of citrus exports in 1989-90 was $28 million, comprising oranges $24.4 million, mandarins $2.4 million, and lemons, limes and grapefruit $0.9 million. In 1989-90 the major export destinations were Malaysia 28 per cent, Singapore 25 per cent, New Zealand 16 per cent, Japan 9 per cent and Hong Kong 3.6 per cent. Australia accounts for less than 1 per cent of the annual international trade in all citrus products.

Most Australian citrus is consumed domestically (see Table N4). Over the last five years, exports of each citrus crop have rarely exceeded 10 per cent of domestic production.

Table N4: **Citrus exports as a percentage, of production, 1986-87 to 1990-91, by volume**

	1986-87	*1987-88*	*1988-89*	*1989-90*	*1990-91*
Navel oranges	10.5	11.1	4.4	5.0	na
Valencia oranges	8.5	9.3	8.0	6.8	na
Mandarins	7.4	8.6	5.1	5.0	6.7
Lemons and limes	7.3	2.8	2.7	3.1	2.5
Grapefruit	1.8	3.0	0	0	0

na not available
Source: ABARE 1992a, p.21

Several features of the Australian citrus industry suggest that it has the potential to increase export sales:

- large geographic spread enabling a relatively long supply season;
- geographically close to large Asian markets, with the possibility that other markets will reduce trade barriers (eg, United States, Japan);
- large Northern Hemisphere markets which can be supplied by the Australian citrus industry during periods when the Northern Hemisphere cannot produce popular varieties; and
- Australian citrus juice has good colour which is a desirable characteristic.

However, the report of the Commonwealth-State Citrus Advisory Group (1991) identified a number of impediments to increased citrus exports:

- fruit fly (Japanese legislation identifies Australia as having endemic fruit fly);
- other quarantine pests and diseases;
- strong international market penetration by the United States resulting in a market preference for United States fruit;
- high freight costs;

- an inappropriate mix of varieties with a need to change from Valencia to the varieties demanded by the market;
- insufficient differential between returns on exports and returns from domestic sales; and
- a large proportion of fruit is purchased in bulk on a per tonne basis by southern states packing houses, masking market signals to individual growers.

There are 61 licensed exporters of citrus, of which the three largest (undertake two thirds of all exports. The Commonwealth-State Citrus Advisory Group criticised government export programs for increasing the number of exporters, rather than the volume of exports:

> At present, export programs operated by Austrade and other Government bodies are aimed at encouraging new players to come into the game. The Marketing Skills Program encourages new people to try exporting and Export Market Development Grants phase out after 8 years meaning that the existing, established and mostly performing exporters get no support, while new exporters, solely by virtue of the grants, are able to undercut their established Australian competitors in the battle for market share. This leads to a destabilisation of the market and long-term difficulties in expanding total Australian market share. (1991, p.22)

One example of co-operation within the citrus industry is the recent shipment of citrus to the United States through a single company known as 'Riversun'. The company comprised the main citrus exporters from the Riverland region in South Australia. The company marketed its product under a single brand name and negotiated lower freight rates through the use of charter shipping rather than conference shipping.

In its submission, ABARE discussed the problem of low juice yields from Australian citrus. About 40 per cent of Australian citrus is used to produce frozen concentrated orange juice, but it takes between 25 and 40 per cent more fruit to produce one tonne of concentrate than it does in the United States.

In 1988, the Industry Assistance Commission (IAC 1988a) examined the issue of minimum pricing arrangements for citrus. The Commission argued against the use of these arrangements because they were masking price signals to growers and encouraging inefficient growers to remain in the industry at the expense of efficient producers. Even so, the Commonwealth-State Citrus Advisory Group (1991) recently recommended that State marketing boards coordinate their minimum pricing powers:

> The Group noted that the citrus marketing authorities in South Australia, Victoria and New South Wales have varying pricing powers for citrus. In recent times there have been inconsistencies in the supply and demand estimates by these authorities and in the prices set by them. The Group recommends the authorities make renewed efforts to coordinate supply and demand estimates and then coordinate their policy and price setting activities. (p.25)

N4 Does the AHC benefit the citrus industry?

The citrus industry was one of the first industries to join the AHC in 1988. In 1991-92, the industry contributed $763 347 in levies (charges and interest) and export license fees, of which $440 903 was spent on domestic promotion, $30 575 on export promotion, $28 508 on market development and $103 216 on administration costs. The AHC citrus levy is currently set at $1.75 per tonne or 3.5 cents per box of citrus. The citrus industry had an operating surplus with the AHC for 1991-92 of $99 615 and a cumulative surplus of $428 625.

The AHC (Sub.24, p. 18) said that its specific role in the citrus industry is to:

- undertake market research to establish consumer needs;
- rebuild a national varietal profile through to the consumer level;
- implement a quality assurance service for the domestic and export markets;
- provide product handling and merchandising support to retailers on the domestic market; and
- coordinate market access initiatives to the United States and restricted Asian markets.

A major role of the AHC is to 'encourage, assist, facilitate, promote and coordinate the export of Australian horticultural products'. The AHC has the power to regulate citrus exports; conditions may be applied to particular destinations concerning price, quality or characteristics, presentation, documentation, exporters' fees, and commissions and freight. Specific export trading powers - exercisable with the permission of the Minister - would permit the AHC itself to export citrus products to one or more export markets. The AHC also has the power to operate as a 'single-desk' seller whereby it would be the sole exporter to a particular market.

At present, the AHC licences citrus exporters and places some conditions on export trade. For example, only Class 1 and Class 2 citrus is permitted for export. Citrus exports going to Hong Kong, Singapore, Malaysia, Philippines, New Zealand, the Middle East, East Africa and Japan must be sold under 'forward sale' conditions - price and delivery terms must be organised with the buyer before shipment. So far the AI-IC has not sought to use its trading powers to export citrus.

The use of AHC powers has caused some conflict within the citrus industry. The divisions reflect the differences in the current fortunes of those in the industry. Grower representatives in the southern states emphasised the need for increased regulation to improve the viability of the citrus industry. For example, the spokesman for the Citrus Board of South Australia said that Australian citrus exporters are competing with each other internationally to the detriment of Australian growers:

> The number of licences wouldn't worry me if there was some way that the activities of the 99 exporters was being coordinated I mean there have been shipments - ships that have gone to South-East Asia, where there have been as many as 28 individual Australian citrus exporters represented on that one ship.

> What the growers wanted was the AHC to do something about those 28 people going up there.... The AHC supposedly has the power to set prices. Now, that hasn't been done and I think that is what the industry was expecting it to do. It's the growers' money that is being traded with; it's the growers' money that is being used to fund the trips of the 28 sellers to South-East Asia. (Transcript, p.576)

Mid-Murray Citrus Growers Inc said:

> The major complaint by our industry, has been the as yet failure of the AM, to be able to effect the necessary controls over our multitude of exporters. Namely, to prevent the destructive marketing practices aimed at expanding market share, at the expense of the total industry and growers. (Sub.35, p-10)

The Australian Citrus Growers' Federation, which represents all citrus growers, commented:

> For citrus growers, initially perceived advantages focussed on export regulation and control. Other advantages were seen as the ability to raise universal levies to fund promotion of export and domestic citrus and citrus products, action on export market access, and the opportunity to coordinate those and other functions on a national basis.
>
> Disadvantages include growers' dissatisfaction with perceived failure to achieve goals (notably export controls) and a degree of discord arising from on-going opposition to citrus industry involvement from some quarters, particularly the State of Queensland. (ACGF, Sub.33, p.3)

The Queensland Citrus Sectional Group Committee argued for the termination of the AHC:

> Under the existing arrangements, the Queensland citrus industry takes the view that the performance of the AM has not generated a return on Queensland industry and government funds, and questions the justification for continuation of government funding. (Sub.13129, p.3)

The Australian Joint Citrus Exporters Ply Ltd said:

> We believe the AHC is mainly seen by those citrus growers who support it as a conduit for government to provide additional financial assistance to the industry (which the AHC has utilised to secure the grower's ongoing participation), and also as an organisation which will undertake activities for growers which they should be prepared to do themselves. (Sub.88, p.8)

N5 Government assistance

The citrus industry receives a variety of forms of government assistance.

In 1990, in response to the downturn in the citrus industry, the Government decided to provide the AHC with additional citrus marketing funds of $2 million. In November 1992, the Minister for Primary Industries and Energy launched the Australian Orange Juice Label which aims to promote the consumption of fresh Australian orange juice.

In 1990-91, the Commonwealth Government, through the Horticultural Research and Development Corporation, allocated $250 000 to citrus research and development. The industry had a statutory research levy of $1.00 per tonne in 1992 which has risen to $1.25 for 1993.

Citrus exporters can also qualify for Commonwealth Government assistance through the Export Market Development Grants scheme, the Rural Industries Business Extension Service, the Marketing Skills Program and the Innovative Agricultural Marketing Program.

A tariff applies to imports of citrus juice. In 1991-92, the ad valorern tariff was 18 per cent with a preferential rate of 13 per cent for developing countries. Ibis rate of duty will be gradually reduced to 5 per cent (zero for developing countries) by 1996.

Citrus also receives assistance from the differential sales tax arrangements for fruit and vegetable juice products. Lower sales tax is payable if there is compliance with local content and minimum juice content rules. When beverages contain 25 per cent or more Australian, New Zealand or Papua-New Guinean fruit juice, they are subject to a rate of 10 per cent. If they contain less than 25 per cent fruit juice, sales tax is 20 per cent, regardless of source. Moreover, if beverages are made from fully imported juice from countries other than New Zealand or Papua New Guinea, they are subject to a 20 per cent sales tax regardless of the proportion of juice.

Measured assistance to the citrus industry

The Commission assessed the nominal and effective rates of assistance to the citrus industry, in 1990-91, at 19 and 37 per cent. Effective rates of assistance give an indication of the net effect of government interventions and allow comparisons of the relative incentives provided by those interventions to use resources in different activities. In 1990-91, dried vine fruits (70 per cent), citrus (37 per cent) and wine grapes (33 per cent) were the most highly assisted horticultural commodities - the average effective rate for horticulture was 11 per cent. The Commission expected the effective rate of assistance for citrus to decline to 9 per cent by 1996.

The Commission's measure of 37 per cent effective assistance to the citrus growing industry in 1990-91 does not incorporate the assistance provided by the sales tax differential on juice. Although the differential sales tax arrangements have the potential to provide high levels of assistance to the industry, difficulties associated with quantifying that assistance have led to its exclusion from the assistance estimates. Tariffs on citrus juice have traditionally been the major form of output assistance included in the Commission's estimates of assistance to the citrus industry. In 1990-91, the latest year for which assistance estimates are available, the general tariff rate applied to imports of citrus juice was 21 per cent, while imports from developing countries were subject to a 5 per cent margin of preference.

When measuring assistance afforded industries by tariffs on competing imports the Commission usually uses the general tariff rates. If developing countries are large suppliers and the level of preference is greater than any cost disability associated with the developing country imports, such imports not only displace general source imports but also displace domestic production as converters select the least cost supply. In this case the use of the general tariff rate leads to an over estimate of assistance.

A review of frozen concentrate orange juice imports over the last few years shows that the majority of citrus juice imports have been sourced from countries with access to developing country preferential rates, and particularly Brazil. This information, and the knowledge of developments in the industry that the Commission has gained through this inquiry, has led to a review of citrus growing assistance estimates and consideration of the appropriateness of applying the developing country preference tariff rate for citrus juice rather than the general tariff rate for measurement purposes. While the general rate can lead to an overestimate of assistance, the preferential rate can underestimate the level of assistance - particularly if imports from certain developing countries are only competitive as a result of the preferential rate.

The Commission's estimates of assistance for citrus growing have traditionally been based on the assumptions that growers allocate oranges between the fresh and processed markets on the basis of their respective returns and that these returns were affected by the general tariff rate applying to citrus juice. Accordingly, there would be a tendency for net returns from these markets to equalise over time.[1] The tariff on citrus juice was therefore assumed to have affected the prices received by growers for fresh as well as processed fruit. Whilst the Commission has acknowledged that the extent of flow-on to the fresh fruit market is uncertain it was assumed, for assistance measurement purposes, that the assistance provided by the tariff on orange juice was fully reflected in increased prices paid for oranges supplied to the fresh fruit market.

An alternative approach for measuring the assistance to citrus from the tariff on citrus juice is to assume that the developing country preferential tariff is the operative rate and that this rate sets a floor price for all citrus, whether directed to the fresh fruit, fresh juice or concentrate juice market. Fresh juice and fresh fruit could command a premium above this assisted floor-price. Estimates based on the floor price and the preferential tariff rate could be considered to reflect the lower bounds of the assistance to citrus provided by the tariff on citrus juice. In 1990-91, for example, nominal and effective rates of assistance to citrus would fall to 5.5 per cent and 9.7 per cent, respectively.

1 The opportunity for growers to equalise returns between the two markets will depend on a number of factors including the substitutabilty of fruit. Fruit directed to the processing market is generally of a lower quality than fruit directed to the fresh fruit market. Evidence provided during this inquiry suggests that growers are making efforts to increase the proportion of oranges which are sold in fresh markets. This has become evident by the increasing proportion of non-bearing areas of fresh market citrus varieties (such as navels and mandarins) that have been recorded in recent years (ABA-RE, Sub.D11.1)

The methodologies outlined above establish the maximum and minimum levels of assistance to citrus that could be provided by the tariff on citrus juice. However, the following discussion suggests that when local juice available for. blending with imported juice is in short supply, the assistance afforded the citrus industry by the local content sales tax concession will increase assistance significantly above the maximum level of assistance that can be provided by the tariff.

Sales tax concession on juice

The sales tax concession for Australian fruit juice effectively lowers the wholesale price of Australian fruit juice products relative to imports. Hence, as a result of this concession, demand for Australian juice should increase. The extent of any price premium to growers arising from this increase in demand will depend on whether the domestic supplies of juice are sufficient for processors and converters to satisfy the local content requirement. If they are, then the 10 per cent sales tax is the operative rate and the price of domestic juice will be determined by the landed duty paid price of imported juice.[2]

However, if domestic juice for blending is in short supply and converters need to increase purchases of locally produced juice to be eligible for the lower sales tax rate then domestic fruit will command a higher price. In this instance the 20 per cent sales tax rate determines the wholesale price of juice and the maximum price premium for domestic juice. The local content requirement would not produce a price premium in periods of excess domestic supply because competition would dissipate any rents. However, growers may still gain through increased sales of otherwise surplus or inferior fruit.

An indication of the level of assistance that could be provided by the sales tax arrangements can be gained comparing two scenarios for production of 100 per cent orange juice. One is where a converter elects not to meet the local content requirement and 100 per cent of the juice is imported. In this case sales tax is payable at a rate of 20 per cent and the wholesale price for juice will depend upon the cost of imported juice and the cost of preparing retail packs (for example materials such as bottles and labels) and the wholesale margin. The wholesale price in this situation may be expressed as:

$$W = (1 + X) (I + M) \qquad (1)$$

Where: W = the after tax wholesale price per unit;

X = sales tax rate as a proportion of the wholesale price;

1 = the landed duty paid cost of a unit of reconcentrated orange juice; and

M = costs to prepare retail packs plus the wholesale margin.

2 Data collected by the Australian Taxation Office are too highly aggregated to indicate whether the 20 per cent sales tax rate applies to any orange juice.

The second scenario is where the 25 per cent local content requirement is met and the lower sales tax rate of 10 per cent is paid. This situation can be expressed as:

$$W = (1+Y)(0.75I + 0.25D + M) \quad (2)$$

Where: Y = the concessional sales tax rate as a proportion of the wholesale price; and

D = the cost per unit of local juice.

The maximum assistance that could be provided to local juice is given where the wholesale price in scenario one just equals that in scenario two. That is where:

$$(1+X)(I+M) = (I+Y)(0.75I + 0.25D + M) \quad (3)$$

Substituting the prevailing sales tax rates for X and Y the equation is expressed as follows:

$$1.2\ (I+ M) = 1.\ 1\ (0.75I + 0.25D + M) \quad (4)$$

which yields a maximum price that could be charged for local juice of.

$$D = 1.36I + 0.36M \quad (5)$$

From equation (5) it can be seen that the level of assistance that could be provided by the local content sales tax concession depends on the landed duty paid price of imported juice, the cost of containers and the wholesale margin. The landed duty paid price of the equivalent of a litre of reconstituted juice was around 45 cents in 1990-91 and 42 cents in 1991-92. If the cost of containers and labels were of the order of 35 cents per 2 litre pack and if, for simplicity, the wholesale margin were assumed to be zero the sales tax concession could have increased the price of domestic juice by up to 50 per cent above the landed duty paid price of imported orange juice in 1990-91. In 1991-92, the maximum price wedge between the landed duty paid price of imported juice and domestic juice would have been 5 1 per cent.

The extent to which the assistance from the local content sales tax concession can be utilised depends on whether the supply of Australian juice is sufficient to meet demand for blending with imports. The supply of domestic juice is largely determined by the supply of citrus. If all of the assistance from the sales tax concession is passed back to the growers in the form of higher fruit prices then the maximum assistance from the sales tax concession can be estimated. If the assistance had been fully utilised in 1990-91 and even if the minimum level of assistance to citrus were assumed to be provided by the tariff, then the nominal rate of assistance to citrus would have increased by 52 percentage points to 58 per cent and the effective rate of assistance to citrus would have been over 150 per cent. These estimates are well above the preceding estimates of minimum and maximum assistance from the tariff arrangements.

The proportion of Australian oranges used in the production of orange juice varies from season to season. The main factors influencing use are the seasonal variations in domestic supply and the world price of frozen concentrated orange juice. For example, imports made up less than 7 per cent of total

available juice in 1987-88, but accounted for more than fifty per cent of the market in 1988-89. In the ten year period 1981-82 to 1991-92, the domestic price received by growers for fruit sold for processing was lowest in the year 1987-88 and highest in the year 1988-89. Because assistance under the sales tax concession is sensitive to world price movements, there is the potential for the sales tax concession to provide high and fluctuating levels of assistance.

The recent increase in demand for fresh Australian juice, together with the phased reduction of tariff rates, may also impact on the supply of domestic juice available for blending with imports. Firstly, the phased reductions in tariff assistance are likely to lead to an expansion in demand for orange juice and favour its supply from imported rather than domestic sources. Secondly, the increased demand for fresh Australian juice means that higher quality domestic fruit will be directed to the fresh juice market at prices significantly above the import parity price of orange juice - much of the fresh juice market is supplied under contract. This means that less domestic product will be available for blending with imported juice and will ensure that the price of domestic juice is determined by imports. llus, the extent to which the discriminatory sales tax provides assistance to the citrus industry is likely to increase in the future.

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