Government Horticulture Services

1937. Industry needs are clearly focussed on:

(a) **more responsive diagnostic services**, supported by problem solving and applied research where necessary;

(b) more responsive approaches to **quarantine**;

(c) support for **new variety development**, identification and certification for PVR purposes;

(d) **post harvest improvement**, including packaging and development of new varieties with better post harvest attributes;

(e) **information access** (involving where necessary skilled intermediaries) and assistance in its use (extension);

(f) research supportive to the development of **new procedures to meet overseas quarantine and general access requirements.**

1938. A key concern is that government activities in these areas are excessively fragmented. Therefore we interpret the industry's first preference is to have one point of access to the full range of these services. This is certainly of relevance to the proposed NHC site:

(a) sufficient land is available;

(b) if the Home For Horiculture and the wholesale market go ahead, it will become the focus for growers, support industries and consumers.

1939. However if the wholesale market does not go ahead, there will be much less attraction to growers to come to NHC. The relevance of the NHC site is then restricted to land availability and possibly to "Home For Horticulture" gardens. In these latter circumstances, other locations may be more attractive.

1940. The main NHC focus of consumer and general public as opposed to industry needs will be on government services involved in information, testing and education. This points to the potential benefits of relocating the Burnley Garden Advisory Service to NHC.

Advanced Horticultural Research Facilities

1941. Even if the full NHC proposal goes ahead and it becomes the focus for government services to horticulture listed above, there are divided views about the relevance of Wantirna as the site for an advanced horticultural research facility. The industry sees a need for this and has a preference for its juxtaposition to diagnostic and other applied R&D facilities if they are to be located at NHC. However DARA research managers are concerned about the viability of a more limited "horticulture research institute" as opposed to a larger "plant research institute".

1942. An alternative could be to develop a horticulture research institute as an add on to VCAH eg a satellite of VCAH on the Wantirna site, upgrading VCAH research and higher degree capabilities.

1943. We conclude that the NHC site is relevant and the space is available. However ultimately decisions on what to locate where will involve much broader public policy issue than this study seeks to address.

XX POTENTIAL BENEFITS FROM NHC

2001. An attempt has been made to estimate potential benefits for each sector that might be expected from the establishment of the proposed National Horticulture Centre.

2002. The estimation of potential economic benefit is always difficult and largely a matter of judgement and conjecture. It has been particularly difficult in this present situation due to:

(a) the lack of reliable and internally consistent output data and the limited availability of sectoral value added statistics;

(b) the conceptual nature of the issues at stake.

2003. We have judgementally assessed likely benefits as percentage improvement in current output as a result of strengthening of key success factors and/or removal of barriers identified in the previous chapters. Where possible, this has been done in two stages:

(a) in total;

(b) where the major impact could be attributed to the establishment of the NHC.

Amenity Horticulture

2004. This is the sector where there is least obvious and immediate financial benefit from NHC since its input needs are reasonably well met at present.

2005. We have assessed the total potential benefit as 1 percent and the benefit attributable to NHC as only 0.1 percent of its output value estimated at $1 billion (being the 1982 value adjusted to March 1990 prices). This suggests a potential annual benefit from NHC of $1 million to this sector.

Home Gardening

2006. The benefits here (as also for Amenity Horticulture) will primarily relate to non-tangible issues like increased participation and outdoor activity, pleasure, therapy and visual and social quality of life generally. Such increased participation will certainly result in increased inputs.

2007. Our analysis suggests 1 percent per annum as a reasonable expectation of NHC generated contribution on a total input value of $225 million, that is an annual money benefit of the order of $2 million.

Cut Flowers

2008. For cut flowers, a more systematic and sustainable approach to benefit estimation is possible.

2009. The economic benefit has been assessed as an increase in production value likely to be achieved in Australian domestic and overseas markets as a result of establishing the NHC. Productivity improvements will also be important to the sector if the projected growth is to be sustained but are difficult to quantify.

2010. The increase in total Australian domestic sales from A$161 million to A$250 million by 1995 as forecast by ABARE is substantial (55 percent increase), although the Victorian sales growth rate is not quite as large (A$50 million to A$75 million, an increase of 50 percent), as cut flower exports and imports will have less influence in Victoria **(Exhibit 7.1)**. We have suggested even higher targets for domestic consumption of cut flowers, that is a doubling of consumption by 1994/95, if the industry is to be able to exploit its export potential and meet consumer quality expectations.

2011. However, it is the export of Australian native flowers from Western Australia and New South Wales, and the cut flower imports into the Sydney and Brisbane markets, which will develop in the short term. These are potentially missed opportunities for the Victorian trade.

2012. The Market, Export, Quarantine and Promotions Workshops along with industry interviews, established as priorities the access to and availablility of reliable industry data, maintenance of quality, suitable wholesale markets, reliable transport and promotion. These key elements were assessed in terms of the percentage increase which could be achieved if the NHC project proceeded. These increases have been based on the best informed judgements and seen to be icreases "over and above" the industry's own estimated expansion.

2013. Whilst the NHC project will create a focus for horticulture, it is the NHC induced linkages between the market place and grower, the market place and research worker, the market place and support industries as well as the market place and educational training which will create the additional future benefit to the sector. It is a multiplier effect created through improved infrastructure and industry culture. To achieve the benefits, all of the indicated NHC grower attractions and consumer public attractions will be essential. It is a case of "all or nothing".

Specific Benefit Ascribable to NHC

Data

2014. The opportunity for the development of a reliable market data bank will add to the short term prospects in the domestic market and help substantially in expanding the export market for new varieties such as bulb flowers and protea.

2015. Detailed production information and the analysis of this data under Australian conditions will accelerate productivity and price competitiveness. A consolidated resource at NHC could provide a "Centre of Excellence" which is market driven.

Quality Assurance

2016. The NHC wholesale market should quickly lift quality in the sector through direct competition at the wholesale level. This would lessen the dependence on imposed Quality Assurance Programs planned for introduction into the sector. The immediate benefits would be in improved buyer confidence.

Post Harvest

2017. Criticism of product handling, packaging and post-harvest treatment generally have been levelled at the sector both in the domestic and export markets. Buyer confidence would be improved and product deterioration and losses reduced if more applied research and more active extension programs were undertaken amongst growers, wholesalers and exporters. A centralised site such as NHC should quickly address these issues.

Transport Consolidation

2018. Both interstate and export consignments could be consolidated at the NHC site into unit loads. Whilst this aspect may be slow to develop, it is often the only opportunity for a number of smaller growers to remain price competitive and reach an optimum economy of scale. The NHC site is central to the majority of the sector and convenient for Melbourne distribution whether undertaken through wholesalers or the proposed wholesale market complex.

Wholesale Market

2019. NHC will provide an immediate benefit to the trade in providing growers with an expanded opportunity to sell their cutflowers. The limitations could be that the responsibility is placed on the grower to deliver to NHC as opposed to other outlets. However the product is more readily assessed at the time of transfer of ownership. The benefits are more likely to outweigh the negatives in the short to medium term.

Promotion

2020. The short term benefit from NHC would be achieved through public and trade access to the complex as well as from specific promotions. These activities are likely to be additional promotions to those already undertaken and planned by the sector.

Assessment of Potential Benefit

2021. In Chapter VII, we assessed the total potential market opportunity by 1994/95 as:

(a) $50 million increase in domestic sales (see paragraph 720);

(b) $8 million increase in export sales (Exhibit 7.1).

2022. Assuming 65 percent of this is added value (Exhibit 4.1), total added value potential is $38 million.

2023. We have assessed the percentage increase in current output value for each of the major areas likely to be affected as a result of NHC, ie:

(a) market data;
(b) production data;
(c) data evaluation;
(d) quality assurance;
(e) wholesale market and transport including export;
(f) promotion.

2024. Conservative estimates of contribution specifically and potentially attributable to NHC as added sales value are set out in **Exhibit 20.1.**

Exhibit 20.1

Potential Benefits to Cut Flowers Sector in Victoria

Key Success Factors	1988/89 Production Value $ Million PA (including exports)	Improvement Per Annum in Production Value Short Term (2 to 5 yrs)	Long Term (6 to 10 yrs)
Market Data)		0.3%	0.5%
Production Data)		0.1%	0.2%
Data Evaluation)		0.2%	0.5%
Quality Assurance)	$51M	0.3%	0.3%
Post Harvest)		0.3%	0.4%
Transport)		0.2%	0.5%
Wholesale Market)		0.5%	0.7%
Promotion)		0.5%	0.5%
		2.4%	3.6%

2025. This suggests a contribution at 1988/89 prices from NHC of 2.4 percent or $1.2 million per annum increase in production value (domestic and export) in the short term rising to 3.6 percent or $1.8 million per annum in the longer term, producing additional annual net revenue to the industry of $1.2 million rising to $1.8 million per annum ie conservatively a 3 percent increase over what may be achievable without NHC. This represents additional added value of $0.8 million rising to $1.2 pa (assuming Added Value is 65% of Production Value for nurseries as indicated in Exhibit 4.1).

Ornamentals and Other Nursery Products

2026. We have estimated the potential benefits to the "ornamentals and other nursery products" sector (**Exhibit 20.2**) in a similar manner to those for the cut flower sector.

Exhibit 20.2

Potential Benefits to Ornamentals and Other Nursery Products Sector in Victoria

Key Success Factors	1988/89 Production Value $ Million PA (including exports)	Improvement in Production Value Per Annum Short Term (2 to 5 yrs)	Long Term (6 to 10 yrs)
Applied Research	)	0.2%	0.7%
Training & Education	) $98M	0.3%	0.7%
Promotion	)	0.5%	0.5%
		1.0%	1.9%

2027. Based on the current value of the ornamentals and other nursery products sector of $98 million, an increase of the order of $1 million in annual production value may be expected in the short term from improved applied research, promotion of current products and consumer education. In the longer term an annual value increase of up to $2 million may be expected from the added benefits of new product development, trialling and demonstration. This represents increased added value of $0.65 million rising to $1.30 million per annum (assuming that Added Value represents 65% of Production Value for nurseries as indicated in Exhibit 4.1).

Fruit and Vegetables

2028. Benefits to the fruit and vegetables sectors from NHC will generally be less direct than for the home gardening, cut flower and ornamental sectors. They will derive essentially from:

(a) the concentration of temperate fruit tree propagators in the NHC catchment area who will benefit directly from access to NHC facilities;

(b) the potential impact of NHC in reducing fragmentation of such a diverse industry.

2029. The potential benefits are likely to be very limited if NHC scope is restricted to "Home For Horticulture" and wholesale flower market facilities.

2030. Extension of NHC facilities to include technical support and plant research facilities on the one site as discussed earlier can be expected to improve the attractive power and relevance of NHC to the fruit and vegetable sectors.

2031. Under this "full range" of facilities scenario for NHC, analysis of the potential benefits from the establishment of a centre at Wantirna that could address key success factors or barriers within the fruit and vegetable industry shows that the greatest benefits can be derived from

(a) servicing knowledge related needs;
(b) improving marketing and distribution;
(c) promotion of food safety and nutrition.

2032. Knowledge related benefits can flow both to

(a) the fruit and vegetable industries;

(b) the consumers.

2033. Information through extension, private consultant or rural supplier requires improved access. These providers source their information in a variety of ways. A central database, library, resource base for information relating to horticulture generally would at the same time provide enormous benefits to the fruit and vegetable industry.

2034. Data on new varieties, integrated pest management, potential markets and market niches for the new varieties and a great deal of other business related information needs to be assembled and integrated in such a way that horticultural operators can gain access to sufficient information to make the necessary business risk decisions to take up a new, change a current or move out of an old enterprise. This information needs to be prepared to some degree to allow access by the 2,600 Victorian (or 14,000 Australian) horticultural operators, many of whom do not have the time or necessary skills.

2035. Breeding and evaluation programmes for a number of berryfruit and vegetables are currently being undertaken at other sites. Whilst it is acknowledged that these programmes are best carried out in the producing area, there is a potential PVR role for Wantirna. The rigorous testing and evaluation programme required before patent approval and the security necessary to safeguard patentable material could potentially be provided by a secure growing and testing area at the site.

2036. Whether applied research should be undertaken for fruit and vegetables at NHC depends largely on the outcome of the Baker Review and the eventual roles of Burnley, Knoxfield, Frankston and to some extent Toolangi. Clearly production aspects of citrus, stone and pome fruit, table and dried fruit, and some processing vegetable research are best conducted in or near the principal growing areas which are located in the Northern part of the state. Post harvest research has traditionally been carried out at Knoxfield. Production related research into berryfruits and vegetables should be undertaken in the Southern part of the state where most production occurs.

2037. Quality assurance is a common requirement for all horticulture and most production, post-harvest handling and marketing systems have similar requirements. NHC could provide a significant potential benefit as the central facility for quality assurance for horticulture in Victoria and possibly in Australia.

2038. NHC will be well placed to handle the promotional aspects of food safety and nutrition to the consumer. Australian dietary and health surveys have shown a higher than expected incidence of raised cholesterol levels, obesity and high blood pressure in adolescents and a lower than ideal fruit and vegetable intake. As well as an NHC role in improving grower responsibility for chemical use and promoting the adoption of improved methods to reduce food safety risks, there is an important role for consumer education in nutrition.

Assessment of The Potential Benefits

2039. Potential increases in current value of fruit and vegetable production which can be expected from the establishment of the NHC are small in percentage terms but quite large in total **(Exhibit 20.3)**.

Exhibit 20.3
Potential Additional Economic Benefits From NHC in Victoria

	Production Value (including export) PA Victoria ($ Million) 1988/89	1994/95	Benefit Source and Assessed Potential Resulting % Increase in Production Value: Knowledge Related	Quality Assurance	Promotion	Applied Research	Potential Additional Production Value $ p.a.
Pome fruit	65	63	0.2%	0.4%	0.5%	0.5%	1.04
Stone fruit	38	41	0.4%	0.5%	0.5%	0.5%	0.72
Citrus	27	32	0.2%	0.4%	0.4%	0.3%	0.35
Table Grapes (1)	29	NA(2)	0.2%	0.2%	0.3%	0.2%	0.26
Nuts and Berries	10	NA(2)	0.4%	0.2%	0.5%	0.5%	0.16
Kiwifruit	NA(2)	NA(2)	-	0.1%	0.4%	0.2%	NA
Potatoes	72	70	0.2%	0.1%	0.1%	0.1%	0.36
Other Vegetables	131	135	0.5%	0.4%	0.5%	0.8%	2.881
	372	341(3)					5.77 (4)

Notes:
(1) Dried and wine grapes have been excluded as not being directly relevant to this study.
(2) Inadequate disaggregated data for Victoria.
(3) Excludes grapes, nuts and berries and Kiwi fruit.
(4) Excludes Kiwi fruit.

Source: ATA Analysis.

2040. While these gains are extremely difficult to quantify, it is expected that the principal increases would come from increased domestic consumption of fruit and vegetables through consumer education and a heightened awareness of the nutritional aspects of good diet and the willingness of producers to meet the consumers' wants for safe attractive products. It is not expected that initiatives at NHC would have as significant potential to enhance export earnings from fruit and vegetables as from cut flowers and nursery products.

2041. Potential % increases in production value expected from the establishment of the above facilities at NHC were assessed for each of the four identified sources (knowledge related, quality, promotion, research) by applying the sum of assessed potential percentage increases to present production value.

2042. The short to medium term gains indicated by the analysis may be of the order of $5.8 million per annum or 2 percent of forecast 1995 annual revenue. This represents an increase in added value of $3.1 million (assuming Added Value is 53% of Production Value as indicated in Exhibit 4.1).

Horticultural Inputs

2043. No attempts have been made to assess separately the benefits to suppliers of goods and services to the industry. As these will be generated as a result of industry ouput increases, separate estimates could result in double counting.

2044. There will however be real benefits to suppliers from NHC in the improved opportunities to produce, educate about the use of and sell their products, quite apart from those that derive from any improved sectoral activity.

Transport

2045. Clearly a wholesale flower market with a key export role at NHC offers both new market and cost management opportunities in the transport of cut flowers particularly to interstate and export markets. We are however unable to quantify these.

Summary of Benefits

2046. The results of the preceding analysis are summarised in **Exhibit 20.4.**

Exhibit 20.4

Potential NHC Generated Benefit

Per Annum 1990 Prices

Sector	Forecast 1994/95 Victoria Production Value	Added Value	NHC Potentially Generated Additional Value Production Value Victoria	Added Value
	$M	$M	$M	$M
Amenity Horticulture	1,039(1)	N/A	1.0	N/A
Home Gardening	225(1)	N/A	2.0	N/A
Cut Flowers	84(2)	54(5)	1.2 - 1.8	0.8 - 1.2
Ornamentals	144(3)	94(5)	1.0 - 2.0	0.7 - 1.3
Fruit and Vegetables	380(4)	201(6)	5.8	3.1
Estimated Total Values	1,872	N/A	11.0 to 12.6	N/A

Notes:
(1) Table 4.2.
(2) Exhibit 7.1.
(3) Exhibit 8.1.
(4) Exhibit 20.3: total adjusted to include 1988/89 production value for table grapes ($29 million) and nuts and berries ($10 million) as no forecast data was available for these products. No recent Victorian production data is available for Kiwi fruit.
(5) Assumes added value as 65% of production value (Exhibit 4.1).
(6) Assumes added value as 53% of production value (Exhibit 4.1).

Source: C&LC and ATA Analysis.

2047. In addition to these benefits that we have attempted to quantify, there are, as indicated in paragraph 2006, very large potential social, recreational and educational benefits can be expected from the NHC "Home For Horticulture" and associated facilities. These cannot be quantified but must not be overlooked.

Conclusion

2048. We conclude that there are likely to be very significant quantifiable and non-quantifiable social, recreational and educational benefits to Victoria from the establishment of the NHC.

2049. Our analysis of the potential benefits that derive directly from increased production, productivity and added value suggests that these quantifiable benefits may represent $11 to $13 million per annum additional production value and possibly more than half of this amount in added value. This figure, given the uncertainties in the analysis involved, must be seen as an indicative figure on the assumption that all proposed NHC facilities are provided.

2050. Quite apart from the provision of the NHC facilities, better mobilisation of the industry is own resources will be essential if these potential benefits from NHC are to be achieved.

APPENDIX A

NHC CONSULTANTS BRIEF

CONSULTANTS BRIEF

- NATIONAL HORTICULTURAL CENTRE -

BACKGROUND

At present the Victorian horticultural industry is characterized by its diverse and fragmented nature and has not realized its full potential. In Victoria there is also strong public interest in the nursery and gardens aspects of the horticultural industry.

The Home for Horticulture Committee has promoted a proposal in various forms and forums for some eight years. The proposal includes gardens, education facilities and central facilities for horticultural organisations. It is intended to cater for the public's interest in horticulture and provide an opportunity for the promotion of horticultural produce.

The "Home for Horticulture Committee" has identified a potential site at Wantirna. The Melbourne and Metropolitan Board of Works currently has ownership of the site and has expressed renewed support for the development of the site in a way which services the public's interest in horticulture and the broader development of the horticultural industry.

The Victorian Government sees an opportunity to provide a focus for the horticultural industry by locating a range of public facilities, industry activities and Government service and research activities at the central site. Such a development to be known as the National Horticultural Centre would be compatible with a number of the State Government's economic and agricultural strategies. This broader National Horticultural Centre proposal and its relevance to Government strategies is outlined in Appendix II.

The National Horticultural Centre (NHC) is a proposal to combine a number of individual initiatives emanating from the horticultural industry into one central complementary development at Wantirna. Aspects which have contributed to the development of the concept are outlined in Appendix I.

The potential benefits of the proposal for Victoria and Australia will be a more co-ordinated, technically based horticultural industry. The proposal also services the strong public interest in the products of the horticultural industry.

OBJECTIVES

The primary objective of the Centre is to provide a national focus for the horticultural industry based in Victoria. In addition, a number of secondary objectives are envisaged for the horticultural industry which could substantially be met by a financially viable National Horticultural Centre:

1. Promote community interest in gardening and general environmental improvement and service community needs in this regard.

2. Establish a major recreation and tourist facility available to all Victorians and visitors to the State.

3. Promote the horticultural industry by displaying the diversity of horticultural products and services available in Victoria. The venture supports the release and promotion of new products thus encouraging innovation in the industry.

4. Provide industry with a focus and centre for its activities and enhance opportunities for consolidation, and encourage efficient resource use within the industry.

5. Promote export expansion by the increased industry co-ordination resulting from a central distribution and marketing facility.

6. Provide a focused location for the efficient provision of Government services to support the horticultural industry.

7. Increase technology development, quality control and adoption by industry by establishing a world class research facility at the site.

MISSION

The broad aim of the consultancy is to assess the financial viability of the concept and its component activities and develop, if appropriate, a strategy and structure whereby they can be drawn together on the one site at Wantirna. The location and design of the NHC will integrate with the surrounding Dandenong Valley Metropolitan Park. The potential components of the NHC are as follows:

1. Original Home for Horticulture Proposal
2. Horticulture Retail Facilities
3. Hospitality Facilities (Food and Beverages)
4. Education Facilities
5. Horticultural Industry Park
6. Wholesale Flower Market and Distribution Centre
7. Government Horticultural Services
8. Advanced Horticultural Research Facility

The major characteristics envisaged for each component are detailed in "Concept and Detailed Component Descriptions" (Appendix II).

The Home for Horticulture Committee's proposal which emphasised the gardens and nursery industry aspects was the substantial focus of an earlier consultancy report prepared by IBIS in 1988. A summary is included in Appendix III.

A large number of groups are, and will be involved in the development of the NHC and input from each group is to be sought by the consultants. The communication will need to be sensitive to the various interest groups and cognisant of the major changes that could affect both government and industry groups in the establishment

of the project. The Steering Committee will provide advice and direction on this issue as appropriate.

The consultants are required to identify priority components necessary for a viable NHC. Apart from normal aspects to be investigated in developing a business plan, the consultants should investigate the following:

1. The Original Proposal as Outlined in the IBIS Consultancy

The gardens and nursery display areas are central components in the expanded NHC concept. The original proposal has also in effect completed part of the initial work in identifying a site and preparing preliminary plans. The design components in the landscape architects, Green Dale and Wright Pty Ltd, master plan of the original proposal may be utilised in the expanded NHC proposal.

The NHC proposal will require a revaluation of the initial proposal and the restructuring of components to fit with the broader concept. The consultant is to determine which aspects are essential to the purposes of attracting public and industry interest. The consultancy is to establish the capital and maintenance costs of the essential components and likely income derived from visitors and industry contributions, and to conduct sensitivity analysis on income derived from visitors.

Suitable management arrangements are to be recommended and communication made with the Garden State Committee to ensure that their objectives are being met by the expanded proposal.

2. Horticultural Retail Facilities

A NHC will include retail facilities as an integral component to provide a substantive commercial focus. Retail facilities will assist in ensuring the commercial viability of the Centre. Although the commercial retail involvement has advantages for financial viability, this is not the primary reason for inclusion.

They may also provide a commercial display of the diversity of horticultural products grown in Victoria including nursery products, cut flowers, fruit and vegetables. The retail area is to be structured and managed to encourage the promotion of new initiative horticultural products.

The consultants' task is to identify the nature, size and cost of a retail facility suitable for the NHC concept and suggest at least one alternate commercial strategy for its development.

3. Retail Hospitality Facilities - (Food and Beverages)

This aspect of retail facilities is to be designed to meet the requirements of the public visiting the NHC and also assist in the promotion of Victorian horticultural products. The consultants' task is to identify the nature, size, cost and strategy for development of these facilities. Multiple use of other facilities at the site involving catering for private functions at facilities when available should be investigated if considered appropriate.

4. Education Facilities

There are a wide range of potential education functions which would benefit from an association with the NHC. The consultants are to liaise with groups involved in education to identify what educational opportunities could be made available at the Centre; this should include the area necessary for educational facilities and cross-linking with other components, particularly those available for multiple use.

5. Horticultural Industry Park

The park is for industry and commercial groups who would benefit from an association with the NHC. This would include horticultural industry associations and the diverse range of companies involved in horticultural exports.

The success of the NHC will in part be dependent on effective integrated management during both the development and maintenance phases of the Centre. The industry park will need to include a management and administrative facility for overall management of the Centre.

The consultants are to identify the optimum size of such a park and outline at least two development and financing alternatives.

6. Wholesale Flower Market and Distribution Centre

Key industry participants have shown interest in developing a wholesale flower market and export distribution centre at the site. The consultants are to discuss with this group their requirements, identify a suitable land area and suggest at least two development and financing alternatives.

7. Government Horticultural Activities

The establishment of a National Horticultural Centre provides a unique opportunity for the Government to integrate a number of service activities with industry. The Garden Advisory Service, Horticultural Extension Officers and Export Services could be made available at the site. The Garden Advisory Service could work with industry to provide a consultancy service to the public.

The consultants will be required to report on the desirability of making government services, and any others identified, available at the site of the NHC.

8. Establishment of an Advanced Horticultural Research Facility

Inherent in the concept of the NHC is the provision of research and development facilities and the encouragement of industry to adopt technology advances.

An option to be investigated by the consultants is the establishment of an advanced research facility at the site offering the possibility of collaboration between State Government, CSIRO, university and industry research. The

desirability and requirements of such a facility should be identified. Such a facility would provide an international reputation for the Centre and assist in promoting the concept of the National Horticultural Centre as the focus for the industry in Victoria and Australia.

OUTPUT

In developing a strategy and structure for the NHC, the consultants are required to identify all aspects necessary for the establishment of a viable Centre. The broad aim of the consultancy is to assess the financial viability of the concept.

The consultants are expected to prepare:

(1) **A FEASIBILITY STUDY** in the form of a report outlining the feasibility of the concept in broad terms. The report will need to consider the fragmented nature of the industry and the likely impact of this fragmentation on industry financial support for the establishment and maintenance of aspects of the NHC.

Specific advice is sought on mechanisms to ensure that government research and service activities located at the centre are relevant to industry needs and able to attract ongoing financial support from the industry.

The consultants will need to identify methods to be used in collecting this financial support.

(2) **INDIVIDUAL BUSINESS PLANS** for each component of the National Horticultural Centre as described in Appendix II; and

(3) **AN OVERALL BUSINESS PLAN** which integrates the essential components and identifies their size and sequencing necessary to fulfil the objectives of a viable National Horticultural Centre.

(4) **ALTERNATE LAND TENURE ARRANGEMENTS** which will identify options for making the land available to the various components of the NHC. The financial basis of these options will need to be explained in detail.

The business plans should include:

a. Incremental Analysis

Incremental analysis including sensitivity analysis is required to assess the costs and benefits of the components of the NHC concept against the objectives outlined above, with emphasis on the potential for:

- the transfer of technology developments
- the dissemination of quality control techniques throughout the industry
- improved marketing co-ordination especially for exports.

b. Time Lines

Advice is sought on time lines for the development of the range of component activities. Consideration should be given particularly to sequences which will serve to attract beneficial activities to the site within the shortest time frame and also serve to generate income.

c. Management Options

Advice is requested on the nature of the management structures which could facilitate the development and ongoing operation of the Centre in line with the overall objectives. The Government is not necessarily inclined to take a prominent role in the longer term management of the Centre apart from its own facilities. Therefore, a range of management options, including any necessary interim structures, are to be examined.

d. Funding

The immediate, medium and longer term funding options to be investigated will need to maintain a balance between minimising government financial commitment and achieving the overall objectives of the NHC. Details are required concerning the potential nature and level for cross-subsidization between the component

activities required for a viable Centre and effective mechanisms for implementation.

REPORTING AND COMMUNICATION

The consultants will report to the Chief General Manager, Department of Agriculture and Rural Affairs, and will be required to liaise with a Government Steering Committee comprising representatives from:

- Department of Agriculture and Rural Affairs
- Department of Conservation, Forests and Lands
- Department of Industry, Technology and Resources
- Department of the Premier and Cabinet
- Department of Management and Budget
- Melbourne and Metropolitan Board of Works
- DARATECH

The Steering Committee will manage and direct the consultancy. It will be convened by DARA as the lead agency and chaired by Brian Casey, Project Manager, Rural Policy and Marketing Division.

An industry consultative group, including representatives from the Garden State Committee and key industry participants will be established to assist the Steering Committee.

Syndication of the consultancy may be necessary due to the wide ranging nature of the concept, areas of expertise required and time limitations.

DARATECH staff have been actively involved in the development of the National Horticultural Centre concept and have expertise in both technical and commercial aspects of horticultural research and extension activities. DARATECH staff have also been involved in previous consultancies organised by the Government concerning the horticultural industry. The Steering Committee has arranged to provide the services of DARATECH staff to assist the consultants. The consultants are encouraged in the

preparation of their tender documents to discuss with DARATECH information and assistance that can be provided.

CONFIDENTIALITY

All material prepared in regard to this report is regarded as confidential. The Victorian Government retains the copyright for all documentation and ownership of data and other information prepared under this consultancy. The consultants should not use any material so prepared during or after the completion of this project for any purpose including publicity, without the expressed permission in writing of the Chief General Manager, Department of Agriculture and Rural Affairs.

TIME SCHEDULE

It is anticipated that the consultancy will commence on or about 1 February 1990.

Regular progress reports and 20 bound copies of the final report are to be presented to the satisfaction of the Steering Committee within a maximum period of three months from the date of commencement.

FEE ARRANGEMENT

A fee agreement is to be signed and submitted to the Chief General Manager, Department of Agriculture and Rural Affairs. Fee adjustment may be considered in the event of the scope of the consultancy being expanded by written direction of the Chief General Manager, DARA.

The agreed fee would include all direct and indirect costs including disbursement and reproduction costs, up to a maximum total of $80,000.

SUBMISSION

Submissions should include the following:

i. details of the organisation
ii. composition of the project team and their experience in similar work, including estimated input and hourly/daily rate for each member

iii. details of syndicated activities (if applicable)

iv. outline of proposed methodology

v. work schedule and completion targets

vi. total contract fees.

FURTHER INFORMATION

Initial inquiries can be directed to Mr Brian Casey, Chairman, Steering Committee (Telephone: 651-7513) or Dr John Raff, DARATECH Pty Ltd (Telephone: 820-0588).

Submissions should be forwarded to:

Mr Brian Casey
Department of Agriculture and Rural Affairs
6th Floor
166 Wellington Parade
EAST MELBOURNE 3002

by 5.00 p.m. on Monday, 18 December 1989.

NATIONAL HORTICULTURAL CENTRE PROPOSAL
CLARIFICATION OF CONSULTANTS BRIEF

A major factor in the development of the National Horticultural Centre concept has been a desire by Government to identify and implement strategies which will assist the horticultural industry to become more competitive internationally. To date, numerous market opportunities have been identified but the industry has had mixed success in consistently supplying quality products in demand by overseas markets.

Reasons for this limited success are to be identified by the consultants and the NHC proposal is to be evaluated on the basis of its potential contribution to improving the performance of the horticultural industry.

Many of the current difficulties in the horticultural industry have been well documented in existing reports. Specific attention in this consultancy is to be focussed on structural issues within the industry and government services provided to the industry, which would be positively influenced by the NHC proposal.

Following an assessment of the potential benefits of a central horticultural complex, the consultants are to undertaken a rigorous financial feasibility study of each component of the complex and the overall financial viability of the complex. The consultants' report is also to form the basis of a possible funding proposal for the NHC particularly in relation to potential Government funding. Details of the feasibility study requirements are outlined in the brief.

The relationships between the horticultural industry and government research and service activities will be a key factor impacting on the overall viabiility of the National Horticultural Centre concept.

The delivery of competitive products on international markets requires the integration of technology developments and services in production, storage, transportation and marketing. Recent developments such as the use of new technologies to produce proprietary varieties and the consumers' increasing demand for quality and product safety requires a close interactive relationship between industry and government activities.

A central theme behind the government's interest in the NHC proposal is to improve the efficiency and commercial relevance of government activities in the horticultural industry. The government is seeking close collaboration with industry in priority setting and funding of technology development and industry services.

The consultants' task includes advising the Government on research and service activities which could be relocated to the NHC site and the consequences of relocation in terms of the improved interaction with industry. The consultants will also need to consider the financial efficiencies to be gained from any relocation.

The Minister of Agriculture and Rural Affairs will release a major report on the management of research activities in DARA in February 1990. This report will be available to the consultants and the recommendations of the report are to be closely considered and where appropriate incorporated when developing structured options for the relocation of government activities to the NHC.

APPENDIX B

LIST OF WORKSHOP PARTICIPANTS AND INTERVIEWS

WORKSHOP PARTICIPANTS

Horticultural Industry Consultative Group

Ms Pat Feilman

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M J Schreuders Pty Ltd
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MONBULK 3795

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MONBULK 3793

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Victorian Manager
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ALTONA NORTH 3025

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TYABB 3913

Horticultural Industry Consultative Group

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TATURA 3616

Mr John Durham
President
Orchardists and Cool Stores Association of Victoria
PO Box 327
BACCHUS MARSH 3340

Mr Ray Barker
Mornington Peninsula Fruit Growers Association
PO Box 236
MORNINGTON 3931

Mr Silvio Favero
Member of Executive
Vegetable Growers Association of Victoria
Narre Warren and Cranbourne Roads
CRANBOURNE 3977

Additional Invitees to Workshops

Information, Testing, Research and Education

Ms Moira Schultze
Outer Eastern College of TAFE
Stud Road
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Mr Don McGlymont
Australian Airlines Cargo

Mr Martin Palmer
State Chemistry Laboratory
Department of Agriculture and Rural Affairs

Dr Craven
Department of Agriculture and Rural Affairs

Mr Dennis Richards
Department of Agriculture and Rural Affairs

Mr Graham Frith
Department of Agriculture and Rural Affairs

198A/JY

Information, Testing, Research and Education (Continued)

Mr Peter Merriman
Department of Agriculture and Rural Affairs

Mr Bob Sward
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Mr Leo Coolwyn
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Markets, Exports, Quarantine, Promotion

Mr Rod Kerley
Glenforce Investments Pty Ltd

Mr Alan Perkins
Apricot Flowers

Mr Colin Carter
Safeway Stores

Mr Bob Taylor
Nurserymens Association of Victoria

K Gadeneveld
Flora United

Mr John Lennie
Qantas Cargo, Victoria

Mr Alan Gange
Victorian Retail Fruiterers Association Inc.

Mr Scott Torcasio
Plantfast

Markets, Exports, Quarantine, Promotion (Continued)

Mr Peter Bahen
Melbourne Wholesale Fruit & Vegetable Market Trust

Ms Pat Sharkey
Department of Agriculture and Rural Affairs

Mr Karen Frankcom
Australian Horticultural Corporation

Mr Geoffrey Thompson
Victorian Fruit Exporters Committee

Mr Alan Soderlund
Plantmark Wholesale Plant Market

Mr Frank Hammond
Nurserymens Association of Victoria

Fruit and Vegetables Workshop

Mr Peter Hayes
Department of Agriculture and Rural Affairs

Mr Roger A Seller
139 Stumpy Gully Road
HASTINGS 3915

Mr S R Keenan
3/37-45 Bridge Road
RICHMOND 3121

Mr Stewart Dobson
Australian Blueberry Growers Australia

Ms Harsha Patel
Department of Agriculture and Rural Affairs

Mr Mick Gallace
Victorian Strawberry Growers Association

Mr Cliff Riesborough
OFCSA, Summer Fruit Section

APPENDIX C

PARTICIPATION IN GARDENING

Participation in Gardening

1. Aside from gardening being viewed as a purely functional activity (maintenance work and adding value to a property), many people enjoy gardening as a leisure activity.

2. AGB:McNair conducted a survey in 1987 for the Department of Sport, Recreation and Tourism, Canberra which investigated participation rates of individuals across Australia for various recreational activities. Gardening ranked the fourth highest recreational activity of the ten categories on which responses were canvassed. A breakdown of results by State is provided in **Exhibit C.1.**

3. People residing in Melbourne follow the same pattern as those figures listed for the total survey. Other capital city figures vary somewhat in participation percentages for recreational activities and do not strictly follow the ranking pattern outlined for all respondents.

4. Of the people surveyed, 44.8% listed gardening as a recreational activity. The percentage of people residing in Melbourne indicating participation in gardening as a recreational activity was 45.4%. This rate is slightly higher than that listed for the total sample and higher than figures for the other capital cities.

5. A breakdown of demographic details was not available for Melbourne. However, considering people surveyed in Melbourne followed the same recreational participation pattern as that shown for the total sample, it is reasonable to assume that demographic details would be similar. Breakdowns for the category "Gardening for Pleasure" by sex and age are therefore provided in **Exhibit C.2.**

Participation Rates by Capital City & State

(Activities done at home in last seven days)

Recreational Activity	Rank	Total*	Melbourne %	Sydney %	Brisbane %	Adelaide %	Perth %
Watching TV at Home	1	93.6	95.9	95.7	90	88.5	96.8
Reading	2	66.3	67.5	68.3	66.1	57.4	73.3
Listening to Music	3	65.4	67.1	67.7	63	65.9	70.4
Gardening for Pleasure	4	44.8	45.4	37.3	44.1	40.2	44.9
Entertaining at Home	5	30.3	33	31.5	27.2	33.5	31.4
Exercising, Keeping Fit	6	28.7	23.6	34	30.9	27.8	27.4
Art/Craft Activities/Hobbies	7	19.3	17.2	17.4	21.1	21.1	18.9
Playing a Musical Instrument	8	7.8	6.4	6.3	9	8.2	13.3
Swimming in Own Pool	9	6.5	4.4	7.6	13.2	5.2	1.7
Electronic Games and Computer Games	10	4.8	3.5	4.2	7.2	5.7	6.5

* - "Total" includes data for Tasmania, ACT and NT which are not shown.

Source: McNair Market Monitor - November 1987 - Recreation

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Exhibit C.2

Gardening for Pleasure

Participation Rates by Sex and Age

(Activities Done at Home in Last Seven Days)

	Males	Females
	%	%
Total	43.1	46.5
14 - 19 years of age	13.6	10.4
20 - 24 years of age	24.0	35.7
25 - 39 years of age	44.2	54.2
40 - 54 years of age	46.2	50.4
55+ years of age	65.1	54.6

Source: McNair Market Monitor - November 1987 - Recreation

6. Of the total sample of respondents who participated in gardening for pleasure, females are shown to have the highest participation rate (46.5%). It should be noted that these results reflect participation rates in gardening as a recreational activity, not the amount of time spent maintaining a garden.

7. Participation rates for males and females by age group are similar. The highest age group, for both males and females participating in gardening as a recreational activity is the 55 and over age group. This is not surprising given that the majority of retirees would fall into this group.

8. The second highest group participating in gardening for pleasure varies across the gender groups. Males aged 40 to 54 year of age comprise the second highest group (46.2%), whereas for females it is the 25 to 39 years of age group (54.2%).

9. Gardening participation rates by income group are provided in **Exhibit C.3.**

Exhibit C.3

Gardening for Pleasure - Participation Rates

By Income Group

(Activities Done At Home in Last Seven Days)

Income Group	Participation Rate %
Not Working/Earning under $10,000	45.2
$10,000 to $14,999	42.3
$15,000 to $19,999	42.0
$20,000 to $29,999	44.9
$30,000 or more	53.7
Not Stated	43.7

Source: McNair Market Monitor - November 1987 - Recreation

10. The greatest group participating in gardening as a recreational activity is the "$30,000 or more" income bracket (53.7%). Rates across other income brackets do not vary greatly. This indicates that all people, no matter what their level of income may be, enjoy gardening as a recreational activity.

Therapeutic Value of Gardening

11. The importance of gardening as a recreational activity is well established. However, only recently has the government identified the therapeutic value of gardening by the secondment of a social services officer to investigate this area of gardening. The officer will operate from the Garden Advisory Service at Burnley.

12. An example of the therapeutic value of gardening can be seen in the Kevin Heinze Garden Centre located at Doncaster. The Centre is based on a practical appreciation of gardening and involves groups of handicapped persons from special schools, adult training centres and other organisations who attend on a regular fortnightly basis.

13. People visiting the centre are encouraged to participate, to the best of their ability, in such activities as potting their own plants, digging, weeding, picking produce or flowers, watering, seed-sowing, making hanging baskets or craft items.

14. The Centre fosters a sense of achievement for people who may otherwise lead a restricted lifestyle, both physically and mentally, and emphasis is placed on the interaction of people.

Gardening Programmes, Services and Clubs

15. The level of interest in gardening can also be determined by looking at programmes which promote gardening as a leisure activity, provide information to gardeners or promote the nursery industry.

Victoria's Garden Scheme

16. The Royal Horticultural Society, in conjunction with the ABC, run Victoria's Gardens Scheme. Initial funding to set up the scheme was provided by AV Jennings. The scheme is now self-funding, revenue being generated from a $2 entrance fee per garden. This is an open gardens scheme where any interested member of the public can visit any garden listed in their programme for the season. The scheme has just completed its third season and has had an attendance rate of 160,000. Next season, 122 gardens will be open for viewing.

Adult Education

17. The Council of Adult Education ("CAE") has for many years offered gardening-related short courses. The range of courses has increased over the years, reflecting not only the diversity of interests in gardening but also the increased awareness of environmental issues and the importance of dietary nutrition (ie organic gardening, home grown vegetables, growing herbs). In 1989, the CAE ran 25 gardening-related courses, the majority of which were fully booked.

"Life Be In It"

18. "Life Be In It" in Victoria runs two seasonal programmes (autumn and spring) of garden visits per year. In 1990, nine visits were organised for the autumn calendar and twelve visits are planned for the spring calendar. Coach day trips give people the opportunity to visit historical and specialist gardens, parks, woodlands and specialist nurseries in the Melbourne outer urban area and country Victoria.

19. The Garden Days have proved to be very successful, with numbers of people wishing to participate exceeding places available.

20. Another Life Be In It gardening initiative is the national "Come 'n Try Gardening Program" co-ordinated out of Sydney. The programme is affiliated with 210 national nurseries (55 in Victoria) and its objective is to promote gardening and its benefits to the Australian community at large. the programme was launched some three years ago through a national thirty second community services announcement on television which is still aired from time to time at the discretion of the television stations.

21. Promotional products such as badges, key rings, posters, calendars, t-shirts, sloppy joes, banners, etc are available to be purchased by the nursery retailer for competition give-away purposes or for on-sale to the customer.

22. The program now has a national consumer newsletter contributed to and distributed by affiliated nurseries. Other incentives to purchase plants are the:

(a) VIP Gold Card, which entitles the purchaser to receive six free products over 24 visits/purchases at a particular nursery;

(b) Gift vouchers, redeemable at participating nurseries, are handed out by a group of real estate agents on the purchase of a residential property (this scheme operates in New South Wales only).

23. The programme is funded primarily by company sponsorships, mainly from the allied trade companies.

Garden Societies

24. The Royal Horticulture Society currently has 262 affiliated clubs and societies, which range from specific interest groups, eg orchids, bonsai, roses, to more general gardening interest groups. The number of affiliated clubs and societies has increased since 1982 by 42.

Garden Week

25. The popular "Garden Week" in Victoria is co-ordinated and organised by the Nurserymen's Association of Victoria. The show has been running since 1924, in one form or another, and attendance figures for March 1990 (70,000) were 20 percent up on the previous year. This increase has largely been attributed to greater media coverage and a new hands-on facility for children where they were able to pot their own plants and "get the feel" of gardening.

Garden Advisory Service

26. The Garden Advisory Service, based at Burnley, received approximately 16,000 home gardening-related enquiries in 1989. The Service has four full-time and two part-time staff, and a receptionist. The service is funded by the Department of Agriculture and Rural Affairs ("DARA") and had a total budget last year of $300,000 (this includes enquiries handled by district and regional offices of DARA).

27. Other areas indicating the level of interest in amateur gardening are the proliferation of gardening magazines available through newsagents (approximately 16) and the number of regular gardening columns in other home magazines.

28. Also, television and radio gardening programmes enjoy high ratings. The ABC radio talk back program on Saturday morning enjoys a rating of 15.9%, that is, of the potential radio listeners (707,250) in the 8.00am to 9.00 am time slot, 15.9% of them are listening to the talk-back gardening programme.

29. Burke's Backyard on Channel Nine is ranked number seven nationally and number nine in the Melbourne market (AGB:McNair Anderson, Survey 9, 1989). These rankings are based on the average audience for the total viewing population across all programmes and time slots. The number one ranked programme was National Nine News.

30. Rankings and ratings across demographic groups vary, and listed below in **Exhibit C.4** are details for the Melbourne viewing public.

Exhibit C.4

Burke's Backyard (5.00pm)

Demographic Details for Melbourne Viewing Public

	Ranking	Persons Viewed	Potential Viewing Public
Households	4	77,472	1,076,000
Total Population	4	139,272	3,316,000
Men 18+	2	57,648	1,201,000
Women 18+	5	59,952	1,249,000
16-39 Years of Age	3	52,800	1,320,000
40 Years of Age and Over	5	68,530	1,246,000

31. The rankings for each demographic group for Burke's Backyard are indicative of the shows relative average ranking against the other top twenty-three ranked shows, viewed from Monday to Sunday, 6.00am to 5.00pm. If rankings were taken for the particular time slot which Burke's Backyard is aired in, it would probably rank higher than indicated above.

32. Exhibit C.4 also indicates the popularity of Burke's Backyard with men. The show ranked number two for men 18 years old and over. Rankings across all groups are reasonably high, with no group ranking falling below number five.

APPENDIX D

FINANCIAL STATISTICS, NURSERIES AUSTRALIA 1986/87 AND 1987/88

FINANCIAL STATISTICS, NURSERIES AUSTRALIA
1986/87 AND 1987/88

Source: ABS Cat. No 7051.0: Value of Agricultural Commodites Produced in Australia
ABS Cat. No 7507.0: Agricultural Industries, Financial Statistics, Australia.

	Nurseries - 0195		
	1986/87	1987/88	Standard Error %
Items	$000	$000	
Sales from crops	163.3	177.5	17
Sales from livestock	1.9	2.4	37
Sales from livestock products	0.8	1.4	34
Rent and leasing revenue (other than land)	1.1	1.2	46
Other Miscellaneous revenue	10.3	16.0	44
Turnover	177.5	198.4	18
Less			
Marketing expenses	13.2	10.4	16
Purchase of livestock	1.2	1.1	60
Payments for seed	12.5	10.3	28
Payments for fodder	0.1	0.1	31
Payments for fertiliser	6.5	4.8	30
Payments for crop and pasture chemicals	2.9	3.3	18
Payments for vet supplies and services	0.2	0.1	35
Payments for electricity	2.8	2.5	19
Payments for fuel	6.0	5.1	19
Water and drainage charges	0.8	1.5	23
Payments to contractors	2.8	5.4	58
Repairs and maintenance	7.7	8.4	15
Renting and leasing expenses (other than land)	1.1	0.8	46
Other selected expenses	8.1	17.7	40

Nurseries - 0195

Items	1986/87 $000	1987/88 $000	Standard Error %
Purchases and selected expenses	65.9	71.4	21
Value added (b)	112.5	127.1	17
Less			
Rates and taxes	2.2	2.4	15
Insurance payments	2.8	3.9	19
Other expenses	7.4	9.6	21
Adjusted value added (b)	100.3	111.3	18
Less			
Wages, salaries & supplements	52.9	65.1	18
Gross operating surplus (b)	47.8	46.4	21
Less			
Interest paid	11.7	10.7	23
Land rent paid	2.3	0.8	60
Plus			
Interest, land received	1.6	2.4	25
Cash operating surplus (c)	36.9	36.6	23

Nurseries

This class consists of establishments mainly engaged in the growing of ornamental plants, plants for transplanting into gardens (such as seedlings or young fruit trees), bulbs, or flower or vegetable seed (except seed potatoes, or soybeans or dry field peas or beans for seed).

Exclusions/References

Establishments mainly engaged in:

(a) growing dry field peas or beans or soybeans for seed are included in Class 0181;

(b) growing seed potatoes are included in Class 0142; and

(c) growing forest nursery stock are included in Class 0304.

Primary Activities

Bulbs growing
Flowers growing
Fruit tree nursery operation
Lawn seed growing
Nursery farm operation (except forest)
Nursery stock growing n.e.c.
Ornamental plants growing
Seed, flower, growing
Seed, vegetable, growing (except seed potatoes, or soybean or dry field peas in beans for seed)
Seedlings growing
Turf growing
Vine stock nursery operation

APPENDIX E

DARA HORTICULTURE PROJECTS AND CURRENT FUNDING AT EACH RESEARCH INSTITUTE

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS
HORTICULTURE PROJECTS

CONTROLLING UNIT: Ag Engineering Centre, Werribee

PROJECT NUMBER: DME/003 (P/RAE) Total funds: $ 77,540
Horticultural Engineering

SUB-TOTAL THIS GROUP: $ 77,540

CONTROLLING UNIT: Ballarat District Centre

PROJECT NUMBER: DHE/159 (I/SBL) Total funds: $ 32,393
Improved productivity and marketing of fruit and wine crops.

PROJECT NUMBER: DHT/020 (I/SBL) Total funds: $ 43,502
Potato production and marketing.

PROJECT NUMBER: DHE/160 (I/SBL) Total funds: $ 24,556
Certified potato seed production

PROJECT NUMBER: DRD/033 (I/SBL) Total funds: $ 9,291
Chemical residues - Ballarat/Ararat

SUB-TOTAL THIS GROUP: $109,742

CONTROLLING UNIT: Benalla District Centre

PROJECT NUMBER: DHE/147 (I/SBN) Total funds: $ 58,368
Increasing economic returns from horticultural products in the North - East region - provision of efficient, integrated services.

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS
HORTICULTURE PROJECTS

PROJECT NUMBER: DHE/149 (I/SBN) — Total funds: $ 9,188
Increasing economic returns from horticultural products in the N.E. Region - development of effective crop protection recommendations

SUB-TOTAL THIS GROUP: $ 67,556

CONTROLLING UNIT: Bendigo District Centre

PROJECT NUMBER: DHE/098 (I/SBD) — Total funds: $ 0
Situation statement and strategy plan for the Premium Wine Grape Industry.

PROJECT NUMBER: DHE/052 (I/SBD) — Total funds: $ 19,414
Oenological extension and industry development work

PROJECT NUMBER: DHE/025 (I/SBD) — Total funds: $ 4,854
Victorian wine industry situation analysis

PROJECT NUMBER: DHE/166 (I/SBD) — Total funds: $111,938
Increased output and improved product quality of vineyards and wineries (Agric Strategy)

PROJECT NUMBER: DMS/115 (I/SBD) — Total funds: $ 0
Development and training of plant industry staff in Bendigo district

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS

HORTICULTURE PROJECTS

PROJECT NUMBER: DHE/102 (I/SBD) Total funds: $ 15,077
Co-ordination of specialist industry development and extension in the premium winegrape industry

PROJECT NUMBER: DMS/071 (I/SBD) Total funds: $ 13,965
Membership of Plant Production Committee of SCA.

SUB-TOTAL THIS GROUP: $165,248

CONTROLLING UNIT: Biometrics

PROJECT NUMBER: DRD/057 (D/SBS) Total funds: $ 56,335
Biometric Evaluation of Aspects of Chemical Residues

SUB-TOTAL THIS GROUP: $ 56,335

CONTROLLING UNIT: Chemical Standards

PROJECT NUMBER: SCC/040 (S/CCC) Total funds: $ 22,555
Chemical Standard Unit and Meetings

SUB-TOTAL THIS GROUP: $ 22,555

CONTROLLING UNIT: Colac District Centre

PROJECT NUMBER: DIS/007 (I/SCL) Total funds: $ 0
Seed Certification, Colac Geelong

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS
HORTICULTURE PROJECTS

PROJECT NUMBER: DHE/161 (I/SCL) Total funds: $ 22,953
Certified Potato & Seed Production.

PROJECT NUMBER: DHM/040 (I/SCL) Total funds: $ 64,245
Export onion development.

PROJECT NUMBER: DMM/142 (I/SCL) Total funds: $ 73,451
On demand advice

SUB-TOTAL THIS GROUP: $160,649

CONTROLLING UNIT: Commercial Operation Unit

PROJECT NUMBER: SCO/006 (D/OOS) Total funds: $ 6,552
To facilitate the secondment of Departmental officers to private agricultural consultants for short term assignments overseas.

SUB-TOTAL THIS GROUP: $ 6,552

CONTROLLING UNIT: East Gippsland Agriculture Centre

PROJECT NUMBER: DHC/016 (A/RBR) Total funds: $ 14,218
Diagnosis, investigation and survey of diseases of plants in Gippsland

PROJECT NUMBER: DHE/167 (A/RBR) Total funds: $ 25,002
Increased efficiency of vegetable production in Gippsland

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS

HORTICULTURE PROJECTS

PROJECT NUMBER: DHM/002 (A/RBR) Total funds: $ 21,805
Increased exports of vegetables produced in Gippsland

SUB-TOTAL THIS GROUP: $ 61,025

CONTROLLING UNIT: Food Research Inst, Werribee

PROJECT NUMBER: DII/001 (R/STI) Total funds: $403,451
Product and process development for the dairy, food and feed industry.

PROJECT NUMBER: DII/003 (R/STI) Total funds: $405,060
Development of meat and plant-based food products and development of shelf-life extension and packaging technologies for fresh food.

SUB-TOTAL THIS GROUP: $808,511

CONTROLLING UNIT: Gippsland Agriculture Centre

PROJECT NUMBER: DRN/031 (A/REI) Total funds: $ 53,340
Protection of high value cropping soil.

SUB-TOTAL THIS GROUP: $ 53,340

CONTROLLING UNIT: Hamilton District Centre

PROJECT NUMBER: DHT/018 (I/SHM) Total funds: $ 22,347
Marketing in green triangle.

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS
HORTICULTURE PROJECTS

PROJECT NUMBER: SCA/099 (I/SHM) Total funds: $ 0
Farm Financial Management -
Hamilton/Portland/Casterton

PROJECT NUMBER: SCA/104 (I/SHM) Total funds: $ 35,878
Farm Management Economics

PROJECT NUMBER: DHM/041 (I/SHM) Total funds: $ 9,305
Export Onion Development

SUB-TOTAL THIS GROUP: $ 67,530

CONTROLLING UNIT: Horticult'l Res Centre, Knoxfield

PROJECT NUMBER: DHO/023 (P/RHI) Total funds: $136,354
Proactive and reactive industry
development services to the vegetable
industries of southern Victoria.

PROJECT NUMBER: DRD/045 (P/RHI) Total funds: $ 7,594
Advisory support system to promote
minimum and appropriate use of chemicals
in horticulture

PROJECT NUMBER: DHM/028 (P/RHI) Total funds: $254,738
Selection breeding and evaluation of
new ornamental crops

PROJECT NUMBER: DHE/162 (P/RHI) Total funds: $ 51,461
Statewide industry services to horticulture

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS

HORTICULTURE PROJECTS

PROJECT NUMBER: DHO/022 (P/RHI) Total funds: $221,246
Proactive and reactive industry development services to the fresh fruit industries of southern Victoria

PROJECT NUMBER: DHE/143 (P/RHI) Total funds: $138,466
Provision of high-health-status nursery stock for the fruit industry.

PROJECT NUMBER: DHE/146 (P/RHI) Total funds: $176,967
Development of integrated production protocols for ornamental crops.

PROJECT NUMBER: DHM/026 (P/RHI) Total funds: $ 24,526
Selection of new vegetable cultivar to meet domestic and export market requirements

PROJECT NUMBER: DHE/145 (P/RHI) Total funds: $313,856
Tissue culture propagation, regeneration and genetic transformation of horticultural crop plants.

PROJECT NUMBER: DHM/025 (P/RHI) Total funds: $139,767
Selection and breeding of new fruit cultivars to meet domestic and export market requirements.

PROJECT NUMBER: DHP/015 (P/RHI) Total funds: $208,845
Improved packaging, handling and transport of horticultural produce for domestic and export markets.

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS
HORTICULTURE PROJECTS

PROJECT NUMBER: DHP/016 (P/RHI) Total funds: $311,181
Development of improved post harvest techniques for horticultural crops.

PROJECT NUMBER: DHP/017 (P/RHI) Total funds: $ 93,102
Development of post harvest handling methods for ornamental crops.

PROJECT NUMBER: DHM/027 (P/RHI) Total funds: $114,014
Identification and amelioration of conditions which affect post harvest quality of horticultural produce

PROJECT NUMBER: DHE/142 (P/RHI) Total funds: $155,601
New management techniques to improve the efficiency of fresh fruit production.

PROJECT NUMBER: DHP/018 (P/RHI) Total funds: $ 56,947
Development and monitoring of Quality Assurance procedures and management techniques to enable export markets to expand

SUB-TOTAL THIS GROUP: $2,404,665

CONTROLLING UNIT: I.I.S.R., Tatura

PROJECT NUMBER: DHM/009 (P/RII) Total funds: $ 93,458
To increase the export quality pockout of packham pears by finding the causes of and reducing occurence of russet and bumpiness disorder

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS

HORTICULTURE PROJECTS

PROJECT NUMBER: DHE/070 (P/RII) Total funds: $ 98,948
Control of long-tailed mesly bug in fresh and processing pears.

PROJECT NUMBER: DHE/100 (P/RII) Total funds: $ 40,889
Development of chemical and integrated pest control strategies to manage two-spotted mite on sensitive species such as WBC pears.

PROJECT NUMBER: DHE/015 (P/RII) Total funds: $ 4,910
To develop management practices for high density walnut trees in order to control the growth and to obtain early high yields.

PROJECT NUMBER: DHE/071 (P/RII) Total funds: $ 66,033
Increasing productivity in tomatoes and other vegetables in Northern Victoria by improving agronomy and varieties.

PROJECT NUMBER: DHC/012 (P/RII) Total funds: $ 8,222
Diagnostic service on entomological specimens for the horticultural industries.

PROJECT NUMBER: DHC/013 (P/RII) Total funds: $ 3,512
Provision of diagnostic and advisory service on plant diseases to improve disease control in irrigated crops in Northern Victoria

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS

HORTICULTURE PROJECTS

PROJECT NUMBER: DHE/157 (P/RII) Total funds: $ 17,598
Management and Chemical control of
Phytophthora or pome and stone fruits.

PROJECT NUMBER: DMS/006 (P/RII) Total funds: $189,428
Scientific support for horticultural
project, IISR Tatura

PROJECT NUMBER: DHE/083 (P/RII) Total funds: $ 68,600
Root Rot of Tomatoes in Northern Victoria.

PROJECT NUMBER: DHE/062 (P/RII) Total funds: $115,625
The control of tree Vigour and
productivity in high density orchards by
using irrigation management

PROJECT NUMBER: DHE/093 (P/RII) Total funds: $ 46,168
Selection of high yielding individuals
from the canning peach breeding program.

PROJECT NUMBER: DMS/065 (P/RII) Total funds: $ 8,409
Maintenance program IISR Tatura-horticulture.

PROJECT NUMBER: DMS/199 (P/RII) Total funds: $ 2,094
Field assistance at IISR-horticulture.

PROJECT NUMBER: DHE/092 (P/RII) Total funds: $ 9,087
Introduction of new varieties or species
of fruit crops to the Goulburn Valley.

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS

HORTICULTURE PROJECTS

PROJECT NUMBER: DHE/076 (P/RII) Total funds: $ 17,959
Management practices for sweet cherry orchards planted on Tatura Trellis.

PROJECT NUMBER: DHE/168 (P/RII) Total funds: $ 33,822
Development of a package for the amendment and prevention of soil acidity in low flow irrigated horticultural crops

PROJECT NUMBER: DMA/068 (P/RII) Total funds: $ 93,200
Administrative support for horticultural project, IISR Tatura

PROJECT NUMBER: DHE/073 (P/RII) Total funds: $ 13,573
Increased productivity and reduced cost of fruit production by developing the Tatura Trellis

PROJECT NUMBER: DHE/101 (P/RII) Total funds: $ 17,447
Training systems for Asian pears.

PROJECT NUMBER: DRS/042 (P/RII) Total funds: $ 93,860
Reduced accession under ferenmial horticultural crops.

PROJECT NUMBER: DHE/123 (P/RII) Total funds: $ 15,296
The effect of saline irrigation water on the productivity of pears in the Goulburn Valley.

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS

HORTICULTURE PROJECTS

PROJECT NUMBER: DMS/022 (P/RII) Total funds: $ 2,094
Design, ordering and construction of buildings, irrigation systems, farm machinery for horticulture section.

PROJECT NUMBER: DMS/122 (P/RII) Total funds: $ 2,094
Management of physical resources at IISR Tatura-horticulture.

SUB-TOTAL THIS GROUP: $1,062,326

CONTROLLING UNIT: Leongatha District Centre

PROJECT NUMBER: DRD/031 (I/SLN) Total funds: $ 37,288
Chemical residue extension

SUB-TOTAL THIS GROUP: $ 37,288

CONTROLLING UNIT: Marketing & Strategic Development

PROJECT NUMBER: PID/013 (E/CMK) Total funds: $122,005
Market research on agricultural products.

PROJECT NUMBER: PIS/012 (E/CMK) Total funds: $145,810
Regulation of the wholesaling of fruit and vegetables and some other types of farm produce.

PROJECT NUMBER: PID/014 (E/CMK) Total funds: $ 83,513
Export competition

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS

HORTICULTURE PROJECTS

PROJECT NUMBER: PIT/007 (E/CMK) Total funds: $ 0
Product targeting programs for export development

PROJECT NUMBER: PID/015 (E/CMK) Total funds: $236,371
Market development projects

PROJECT NUMBER: PID/011 (E/CMK) Total funds: $ 64,655
In-Store Promotions

PROJECT NUMBER: PIR/003 (E/CMK) Total funds: $146,539
Collection of price information at the fresh centre, preparation of reports and dissemination of data.

SUB-TOTAL THIS GROUP: $798,893

CONTROLLING UNIT: Melbourne District Centre

PROJECT NUMBER: SMM/002 (I/SML) Total funds: $ 0
Management of garden scientific support services.

PROJECT NUMBER: DHC/010 (I/SML) Total funds: $ 0
To provide an effective diagnostic and advisory service to all sections of amenity horticulture.

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS
HORTICULTURE PROJECTS

PROJECT NUMBER: DHE/061 (I/SML) Total funds: $132,669
Development and extension of soundly based technical advice to all sections of amenity horticulture.

PROJECT NUMBER: DMA/131 (I/SML) Total funds: $ 21,520
Clerical reception and general office duties concerned with the provision of nursery/ornamental industry services.

SUB-TOTAL THIS GROUP: $154,189

CONTROLLING UNIT: Ovens Res Stn, Myrtleford

PROJECT NUMBER: DHE/148 (P/RIT) Total funds: $ 20,617
Increasing Economic Return from Horticultural Products in the N.E. Region - Evaluation of Cultivars of Targetted Horticultural crops.

PROJECT NUMBER: DHM/037 (P/RIT) Total funds: $124,968
Improving Marketability of Horticultural Products from the N E Region - Development of viable New Horticultural Industries/Products.

PROJECT NUMBER: DHM/036 (P/RIT) Total funds: $ 29,367
Improving Marketability of Horticultural Products from the N.E. Region - Identification and Development of Key Market Opportunities.

SUB-TOTAL THIS GROUP: $174,952

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS

HORTICULTURE PROJECTS

CONTROLLING UNIT: Pastoral Research Inst, Hamilton

PROJECT NUMBER: DLE/364 (A/RPI) Total funds: $351,124
Pasture species - Herbage Plant Improvement - Victoria. Introduction, Selection, Breeding and Evaluation.

SUB-TOTAL THIS GROUP: $351,124

CONTROLLING UNIT: Plant Research Inst, Burnley

PROJECT NUMBER: DHE/014 (P/RPI) Total funds: $195,743
Management of Pests and Diseases of Ornamentals.

PROJECT NUMBER: DHC/009 (P/RPI) Total funds: $ 0
Diagnosis and advice on control of pests and diseases of berries, nuts and avocadoes.

PROJECT NUMBER: DHP/007 (P/RPI) Total funds: $139,081
Management of pests and diseases of berries, nuts and avocados

PROJECT NUMBER: DHC/014 (P/RPI) Total funds: $ 4,480
Diagnosis and advice on control of pests and diseases of stone fruit.

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS
HORTICULTURE PROJECTS

PROJECT NUMBER: DHE/020 (P/RPI) Total funds: $ 71,396
Management of pests and diseases of row crops.

PROJECT NUMBER: DHC/011 (P/RPI) Total funds: $ 2,240
Diagnosis and advice on control of pests and diseases of pome fruit.

PROJECT NUMBER: DGC/001 (P/RPI) Total funds: $ 39,940
Nematode identification, diagnostics, and collection

PROJECT NUMBER: DHC/005 (P/RPI) Total funds: $ 31,411
Diagnosis and advice on control of pests and diseases of ornamental plants.

PROJECT NUMBER: SCO/001 (P/RPI) Total funds: $124,050
Production of pathogen-tested potato germplasm for South-east Asia and the Pacific.

PROJECT NUMBER: DHE/010 (P/RPI) Total funds: $ 81,482
Establishment and maintenance of a national fruit variety foundation for virus-tested stonefruit and grapevine cultivars.

PROJECT NUMBER: DHC/006 (P/RPI) Total funds: $ 40,795
Service to the vegetable industry by diagnostic and advisory activities.

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS

HORTICULTURE PROJECTS

PROJECT NUMBER: DSP/013 (P/RPI) Total funds: $ 38,300
Disease screening and virus indexing of imported plant material.

PROJECT NUMBER: DHE/040 (P/RPI) Total funds: $155,855
Management of pests and diseases of pome fruit

PROJECT NUMBER: DLE/212 (P/RPI) Total funds: $ 37,236
Diagnosis and advice on control of pests and diseases of pasture and fodder crops.

PROJECT NUMBER: DHE/032 (P/RPI) Total funds: $ 71,736
Virus elimination from plant propagating material.

PROJECT NUMBER: DHE/156 (P/RPI) Total funds: $ 53,113
Control of phytophthora diseases of horticultural and ornamental crops with phosphorous acid.

PROJECT NUMBER: DHC/017 (P/RPI) Total funds: $ 20,845
Diagnosis and advice on control of pests and diseases of pome fruit, stone fruit, grapevines, berries, nuts and other fruits.

PROJECT NUMBER: DHC/004 (P/RPI) Total funds: $ 0
Diagnosis and advice on control of pests and diseases of grapevines.

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS
HORTICULTURE PROJECTS

PROJECT NUMBER: DHE/095 (P/RPI) Total funds: $ 58,706
Production of Pathogen-tested Stocks of Ornamentals

PROJECT NUMBER: DIS/004 (P/RPI) Total funds: $164,460
Seed Testing Services.

PROJECT NUMBER: SCO/007 (P/RPI) Total funds: $128,525
Production of pathogen-tested sweet potato germplasm for the South Pacific.

PROJECT NUMBER: DMM/025 (P/RPI) Total funds: $ 77,397
Direction of activities and supervision of administration of the Plant Research Institute, Burnley.

PROJECT NUMBER: DIS/002 (P/RPI) Total funds: $ 59,254
General extension services to the seed industry

PROJECT NUMBER: DMS/189 (P/RPI) Total funds: $ 19,632
Diagnostic, Taxonomic and Information Services- (insects and other invertebrates of agricultural significance)

PROJECT NUMBER: DMS/223 (P/RPI) Total funds: $ 31,338
Provision of advice and support on information & computing technologies at the Burnley complex.

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS

HORTICULTURE PROJECTS

PROJECT NUMBER: DHE/056 (P/RPI) Total funds: $ 98,112
Management of pests and diseases of stone fruit

PROJECT NUMBER: DGC/004 (P/RPI) Total funds: $ 52,283
Management of plant health services for agricultural industries in Victoria.

PROJECT NUMBER: DHE/059 (P/RPI) Total funds: $ 56,228
Production of Pathogen-tested potato stock.

SUB-TOTAL THIS GROUP: $1,853,638

CONTROLLING UNIT: Plant Standards

PROJECT NUMBER: DSP/008 (R/SPS) Total funds: $1,632,347
Operation of the Plant Quarantine elements of the Agricultural Quarantine Service

PROJECT NUMBER: DMM/089 (R/SPS) Total funds: $ 40,462
Management of Plant Certification Services

PROJECT NUMBER: DSP/005 (R/SPS) Total funds: $464,909
Plant Protection Services

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS

HORTICULTURE PROJECTS

PROJECT NUMBER: DSP/009 (R/SPS) Total funds: $296,488
Operations of the Victorian State Horticultural Inspection Group under State legislation

PROJECT NUMBER: DSP/018 (R/SPS) Total funds: $ 47,444
Residue testing of plant products

PROJECT NUMBER: DSP/002 (R/SPS) Total funds: $ 24,343
Plant Certification Advisory Committees.

SUB-TOTAL THIS GROUP: $2,505,993

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS

HORTICULTURE PROJECTS

Located at Major Horticultural Research Centres

CONTROLLING UNIT: Potato Research Station, Toolangi

PROJECT NUMBER: DHE/154 (P/RHP) Total funds: $172,673
Improved production of healthy seed potatoes through Certification and research

PROJECT NUMBER: DHe/155 (P/RHP) Total funds: $109,887
Improved production and quality of nut and berry crops through selection breeding and certification services

PROJECT NUMBER: DHM/039 (P/RHP) Total funds: $ 0
Reduced use of chemicals in potato crops

PROJECT NUMBER: DMM/063 (P/RHP) Total funds: $ 0
Management of research programs at the potato research station, Healesville

PROJECT NUMBER: DHE/153 (P/RHP) Total funds: $195,906
Improved productivity and quality of potatoes through improved cultural techniques

PROJECT NUMBER: DHE/152 (P/RHP) Total funds: 291,640
Breeding, importing and evaluating new potato varieties for the processing and fresh market

SUB-TOTAL THIS GROUP: $770,106

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS
HORTICULTURE PROJECTS
Located at Major Horticultural Research Centres

CONTROLLING UNIT: Sunraysia Horticultural Centre

PROJECT NUMBER: DMM/106 (P/RSI) Total funds: $ 25,676
Operational management of viticulture section at SHT Irymple

PROJECT NUMBER: DHM/035 (P/RSI) Total funds: $300,348
Pest and disease management of horticultural crops in Sunraysia

PROJECT NUMBER: DHM/030 (P/RSI) Total funds: $ 0
Development and evaluation of production techniques for existing and or new dried vine fruit varieties

PROJECT NUMBER: DHE/114 (P/RSI) Total funds: $ 19,995
Evaluation of selections and cultivars for dried vine fruit production

PROJECT NUMBER: DHE/006 (P/RSI) Total funds: $ 48,266
Evaluation of rootstocks for wine grape cultivars in Victoria

PROJECT NUMBER: DHP/024 (P/RSI) Total funds: $ 39,062
Applied engineering developments for production of high quality trellis dried sultanas

PROJECT NUMBER: DMM/042 (P/RSI) Total funds: $ 64,378
Management of client services for North-West Horticulture

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS

HORTICULTURE PROJECTS

Located at Major Horticultural Research Centres

PROJECT NUMBER: DHM/043 (P/RSI) Total funds: $ 16,232
Achieving quality in dried vine fruit production

PROJECT NUMBER: DHP/022 (P/RSI) Total funds: $ 48,788
The use of solar technology in the production of high quality dried sultanas

PROJECT NUMBER: DHM/032 (P/RSI) Total funds: $ 86,578
Research, extension and industry development in citrus

PROJECT NUMBER: DHE/096 (P/RSI) Total funds: $ 10,289
Evaluation of selections and cultivars for wine grape production

PROJECT NUMBER: DHE/082 (P/RSI) Total funds: $ 39,200
Irrigation and salinity research for Sunraysia: furrow irrigated vines

PROJECT NUMBER: DHM/001 (P/RSI) Total funds: $ 0
The production of high quality, light-golden dried sultanas

PROJECT NUMBER: DHP/025 (P/RSI) Total funds: $ 30,570
Production of high quality natural sultanas using applied solar drying techniques

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS

HORTICULTURE PROJECTS

Located at Major Horticultural Research Centres

PROJECT NUMBER: DHM/033 (P/RSI) Total funds: $ 57,034
Vegetable Crops Research, Extension and Industry Development

PROJECT NUMBER: DMS/221 (P/RSI) Total funds: $ 53,053
Co-ordination of Research and Development at the Sunraysia Horticultiral Centre

PROJECT NUMBER: DHT/019 (P/RSI) Total funds: $ 6,302
Market development of extra large dried sultanas

PROJECT NUMBER: DHO/011 (P/RSI) Total funds: $ 35,290
Provision of advice and technical support on all aspects of grape productivity

PROJECT NUMBER: DHE/063 (P/RSI) Total funds: $ 44,729
Irrigation and salinity extension for Sunraysia all horticultural crops

PROJECT NUMBER: DHP/026 (P/RSI) Total funds: $ 11,879
Evaluation of dried vine fruit dressing oils

PROJECT NUMBER: DMA/156 (P/RSI) Total funds: $233,737
Management and maintenance of the Sunraysia Horticultural Centre Farm

PROJECT NUMBER: DHE/151 (P/RSI) Total funds: $ 44,061
Salinity management and water use efficiency, demonstration sites in Sunraysia

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS
HORTICULTURE PROJECTS
Located at Major Horticultural Research Centres

PROJECT NUMBER: DHE/150 (P/RSI) Total funds: $ 42,897
Irrigation & salinity research for Sunraysia: spray and drip irrigated horticultural crops

PROJECT NUMBER: DHP/019 (P/RSI) Total Funds: $ 35,761
Investigation of stickiness and compaction of dried vine fruit during processing and storage

PROJECT NUMBER: DHE/018 P/RSI) Total funds: $ 48,975
Development of Table Grape Industry in North West Victoria

PROJECT NUMBER: DHP/020 (P/RSI) Total funds: $ 22,761
The effect of trellis drying, harvesting, handling and storage on processibility of dried vine fruit

PROJECT NUMBER: DHM/034 (P/RSI) Total funds: $ 16,715
Research, Extension and Industry Development in Alternative Tree Fruit and Nut Crops

PROJECT NUMBER: DHM/038 (P/RSI) Total funds: $ 0
Development of quality assurance programs for north west horticulture

PROJECT NUMBER: DRD/050 (P/RSI) Total funds: $ 3,894
Chemical residue traceback in dried vine fruit

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS
HORTICULTURE PROJECTS
Located at Major Horticultural Research Centres

PROJECT NUMBER: DHE/094 (P/RSI) Total funds: $ 25,641
Development and evaluation of a mechanised system of dried sultana production

PROJECT NUMBER: DHE/105 (P/RSI) Total funds: $ 19,004
Evaluation of root stocks for drying grape cultivars

PROJECT NUMBER: DHE/001 (P/RSI) Total funds: $107,841
Grapevine Improvement Scheme

PROJECT NUMBER: DMA/040 (P/RSI) Total funds: $556,558
Management of the Sunraysia Horticultural Centre

PROJECT NUMBER: DHO/024 (P/RSI) Total funds: $ 27,123
Providing extension services to Robinvale growers of crops other than table grapes

PROJECT NUMBER: DHE/024 (P/RSI) Total funds: $ 19,098
Improving soil management practices in Sunraysia vineyards

PROJECT NUMBER: DHP/021 (P/RSI) Total funds: $ 20,519
Post harvest Research and Development for Horticulture in Sunraysia

SUB-TOTAL THIS GROUP: $2,163,254

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS
HORTICULTURE PROJECTS
Located at Major Horticultural Research Centres

CONTROLLING UNIT: Turf Research Institute, Frankston

PROJECT NUMBER: SGT/008 (P/RPT) Total funds: $367,565
Turf research & extension services

SUB-TOTAL THIS GROUP: $467,565

CONTROLLING UNIT: Vegetable Research Station, Frankston

PROJECT NUMBER: DRS/046 (P/RHV) Total funds: $ 83,960
Vegetable production without the use of chemicals: an ecological approach

PROJECT NUMBER: DRN/023 (P/RHV) Total funds: $ 69,516
Promotion of Recycled Water for safe and economic use in agricultural industry, recreation and environment, to conserve potable water supplies

PROJECT NUMBER: DHT/017 (P/RHV) Total funds: $ 22,900
To develop new fresh and processing vegetable products in Gippsland for domestic and exprt markets

PROJECT NUMBER: DHE/065 (P/RHV) Total funds: $ 65,203
Evalution of brown coal as a soil ameliorant for vegetable grown in a loamy sand soil

DEPARTMENT OF AGRICULTURE & RURAL AFFAIRS

HORTICULTURE PROJECTS

Located at Major Horticultural Research Centres

PROJECT NUMBER: DHE/043 (P/RHV) Total funds: $ 6,398
The use of spent mushroom as a source of plant nutrients and as a soil amendment in vegetable production

PROJECT NUMBER: DHE/013 (P/RHV) Total funds: $ 20,076
Evaluation of dynamic lifter pelletised fowl manure as a base fertiliser for vegetables grown in a loamy sand

PROJECT NUMBER: DHE/132 (P/RHV) Total funds: $ 55,295
Control of solanum nigrum in processing tomatoes

PROJECT NUMBER: DRD/047 (P/RHV) Total funds: $106,483
Elimination or reduction of chemicals used in vegetable production

PROJECT NUMBER: DTC/003 (P/RHV) Total funds: $ 0
Experiments on the effects of batylated hydroxytoluene on maiden hair fern

PROJECT NUMBER: DHT/016 (P/RHV) Total funds: $ 25,225
To increase exports of vegetables from Gippsland

PROJECT NUMBER: DHE/163 (P/RHV) Total fund: $ 33,046
Development of new soil ameliorants

SUB-TOTAL THIS GROUP: $488,102

APPENDIX F

PROBLEMS IDENTIFIED IN HORTICULTURAL EDUCATION

Problems Identified in Horticultural Education

Source: Nursery Industry Association of Australia: Submission to a Committee Reviewing Agriculture and Related Education

1. The development of an educational context for the ornamental horticultural industry is a relatively recent phenomenon. It is therefore inevitable that there are problems being experienced in the refinement and delivery of training opportunities.

2. The major difficulties identified by industry in provision of training are these:

(a) The lack of a clearly separate identity for the ornamental horticultural industries. Those in positions of influence and authority often have difficulty in differentiating between agriculture and horticulture, let alone between ornamental and production horticulture. This has created resource constraints which have been difficult to overcome. (This lack of a clear identity is a major problem and one which is apparent even in the conduct of this review as the committee contains no-one with any horticultural background).

(b) Most courses offered to date have been of a generalist nature. It is necessary for courses to target specific sectors of the industry and provide training designed to address particular needs. The areas most often identified as inadequately covered are those of marketing and management. The needs of each industry group are very different and attention needs to be given to tailoring courses to these needs. As an example certificate level courses usually include both nursery grower and retailer students. Many of the skills needed for success in these areas are totally different, so the courses often fails to adequately address the needs of either group. This situation has improved

somewhat, but there is still room for even better performance. The retail sector of the industry has particular needs which must be addressed - these people are the show-case for our products and their presentation is vital to the further development of our industry.

(c) There has traditionally been a lack of opportunities for articulation between courses. This allows students to develop their professional knowledge base at higher levels as their skill and job demands change over time. Although there has been some move in this direction between TAFE and some CAE's and universities, there is still room for much expansion.

(d) There is a lack of clear career paths within the industry, as well as between sectors of the industry. There needs to a focus on developing some "portability" of training and expertise between sectors. Greater course articulation (as outlined above) may well facilitate this but must be accomplished by a re-consideration of job descriptions and skills.

(e) Industry has generally perceived training courses to have little practical applicability. Employers frequently complain that graduands, whilst perhaps having adequate theoretical training, are of little practical use to a business without substantial on-the-job training. Aligned with this, is the problem in obtaining practically experienced staff to teach in training courses. Teachers need to have industry experience and credibility as well as textbook knowledge.

(f) The industry is undergoing rapid technological change and training providers have difficulties in keeping up with developing needs. Specific examples of this include the emerging areas of biotechnology and genetic manipulation of plants.

(g) The inadequacy of university education in horticulture and horticultural science in Australia is at great concern. Horticultural industries, especially those evolving from family-farm towards agribusiness enterprises, need an injection of technically aware, bright young graduates covering a wide variety of disciplines. Experience has shown that industries benefit if a proportion of such graduates are trained in a research atmosphere. While there is a sprinkling of horticultural lecturers around Australian universities, no single university has the critical mass required to offer the full range of horticultural disciplines or to make significant research impact. This dispersal of staff in different locations is detrimental to the development of an effective teaching and research base in horticulture in Australia. It is fair to say that none of the present groups is large enough to be viable as both research and teaching entities.

It is useful to contrast the Australian picture with that in New Zealand which is regarded as being adequately serviced in horticultural training. NZ has two large faculties of horticulture - at Massey and Lincoln - each well organised with staff and facilities to provide a spectrum of training from diploma to Ph.D level. From a comparison of the relative values of horticultural production, Australia needs about 20 or more university lecturers organised into about four departments to provide the viability that follows from adequate funding, facilities and staff numbers. It follows that as our production increases, so should our training base.

Recommendations for Future Development of Horticultural Education

3. NIAA believes the problems identified in the current training environment for ornamental horticulture are capable of resolution.

4. We make the following recommendations to address the specific problems outlined in the previous section of this submission:

(a) It is necessary for ornamental horticulture to develop a resource base of information which clearly shows its importance as a distinct production sector within our economy. The development of a more adequate research environment may well assist in this process.

(b) Attention needs to be given to development of more specialist courses designed to meet the training needs of specific industry sectors. Special emphasis needs to be given to the areas of marketing and management skills, as well as to the retail nursery industry.

(c) Articulation between horticultural courses must be encouraged. This will mean course providers will need to maintain close liaison to ensure there is consistency between courses at different levels and locations. This needs to be tied, too, to projected developments in the industry to ensure trained staff are available as technology advances are integrated into common practice.

(d) Practical components within all training courses need to be emphasised as an extension of theoretical education. This problem has been addressed in other countries (such as NZ and Denmark) with development of a 'cadetship' type approach to training. In these places, a three or four year full time course will comprise two distinct phases - an institutional component and an on-the-job component. Students attend the training institution for theoretical education but must also complete a training core within an actual nursery. Both parts of the course must be satisfactorily completed before an award can be conferred.

(e) This is perhaps an extension of the proposed course structure outlined in the previous point.

There is a need to establish four of five centres of excellence for university training and research in horticulture in Australia, each staffed by a minimum of five staff, themselves trained in horticultural science and with a proven research record. These centres should be geographically located so that no part of the country is disadvantaged by the lack of reasonable access to horticultural training. At the same time, the centres should be located in the states of highest horticultural production and within an active research environment.

This would allow the staff numbers required to provide the necessary critical mass and ensure that students are offered the best possible conditions in terms of teaching talent, laboratory and equipment facilities, and access to a scientific community.

These centres of excellence could also include facilties to teach courses at under graduate or trade level. This would benefit staff and students by developing an increasing awareness of industry developments and conditions.

(f) The rapid technological change evident in some sections of the nursery industry requires specific attention from course providers. The prediction of future trends, and identification of required employee skills will perhaps follow from development of industry data (point (a) above). Course providers need to recognise the rapidity of these changes with an increased flexibility in courses.

APPENDIX G

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REFERENCES

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