R&D Plan for the Australian Olive Industry
2003-2008

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FOREWORD

Rural Industries Research and Development Corporation (RIRDC) encourages all new and emerging industries to develop five-year R&D plans. Because of their diversity, the activities comprising the New Plant Products Program are best represented by several individual commodity-specific plans such as this one for olives.

This is the Second Plan for the Olive Industry as the first covered 1998-2002. A great deal has happened in this industry in this time with major plantings of groves throughout Australia and the development of processing and marketing chains.

This plan identifies the key objectives for the R&D investments that RIRDC will make in coming years on behalf of the olive industry and the Commonwealth Government.

The plan stems from extensive consultation with the Australian Olive Association (AOA) and the research community. It should be regarded as a document for discussion and, where necessary, modification by the industry and other interested parties. In deciding on priorities for research the Corporation seeks guidance from industry in setting priorities then in ranking proposals for research each year.

Publication of this plan and inclusion of it in the RIRDC's website has been done to facilitate the on-going consultation undertaken by the AOA to ensure that the plan meets industry's needs and is endorsed by the industry. Your comments and suggestions may be addressed to either AOA or RIRDC at the addresses shown in this publication. You can also direct suggestions and enquiries to the RIRDC Research Manager, Mr. Max Bourke, on (02) 6247 4630 or 0427 603541

This R&D Plan, a new addition to RIRDC’s diverse range of over 800 research publications, forms part of our New Plant Products R&D program, which aims to facilitate the development of new industries based on plants or plant products that have commercial potential for Australia.

Most of our publications are available for viewing, downloading or purchasing online through our website:

  downloads at www.rirdc.gov.au/reports/Index.htm
  purchases at www.rirdc.gov.au/eshop

Simon Hearn
Managing Director
Rural Industries Research and Development Corporation
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PURPOSE OF THE PLAN

This Research and Development Plan aims to contribute to the achievement of the strategic goals of the Australian Olive Industry to improve its profitability and sustainability. In part this will be achieved through the direction, adequate funding and management of a research, development and technology transfer program that is market and stakeholder driven. Thus the plan aims to:

Provide clear, strategic direction to the industry, governments and the research community regarding the research, development and technology transfer needs of the industry for the five-year period 2003 to 2008;

Encourage consideration and discussion of R & D issues that will address the industry’s competitive challenges and enable it to respond effectively in a global market place;

Present the rationale for the R & D activities that RIRDC, Horticulture Australia Ltd (HAL) and others will support on behalf of the industry and Government.

There should be no doubt that the olive industry requires an active R&D program and that the industry needs to come together to ensure that it is well directed and adequately funded. The experience of other industries and the analysis of many credible people highlight the competitive advantage provided by industry investment and collaboration on research and development.

The present plan is the second iteration and owes much to the analysis, planning and industry consultation conducted for the initial five-year period. While a great deal has been achieved over the past five years, the industry now faces a new set of challenges as it moves from its early revival phase into a period of rapid growth, from a cottage industry to national and international agribusiness.

A Review Panel appointed by the Australian Olive Association, including members from all States, guided the current revision of the Research and Development Plan for the Australian Olive Industry. The review draft was circulated widely among stakeholders across the country for comment and revision before being presented in its present form.

The Australian Olive Association is grateful to the RIRDC for its financial support and encouragement for the preparation and circulation of this document. It is hoped that it will be widely consulted and provide useful direction to Industry, all Government agencies and other investors and stakeholders.
BACKGROUND TO THE INDUSTRY

In setting the context for the current research and development requirements of the Australian Olive Industry it is worth considering the history of the industry, its current status and the broader environment in which it is set.

The History of Olives in Australia

It is reported that George Suttor introduced the first olive tree to Australia at Sydney in 1800. Experimental groves were subsequently established in New South Wales, South Australia and Western Australia. By the mid-1800’s colonial industrialists such as Sir Samuel Davenport in South Australia were promoting olive oil production as a valuable industry for the fledgling colonies. Large plantings were established in Victoria and South Australia and a South Australian olive oil received an honorable mention at the Great Exhibition of London of 1851 (Burr, 1998).

Interest in olive production continued to the early 1900’s when L. MacDonald, writing at Dookie, records a range of information, gained from the early experimental groves, that is still relevant today (Burr, 1998). Over the following decades however there was a decline in the performance and prospects of the industry. Large plantings in Victoria did not live up to expectations. In South Australia the extensive groves in the eastern and southern suburbs were forced out by urban expansion or declined in World War I and the Great Depression. The main problem was the relatively high costs of picking the olives in Australia compared to the cheap labor available in the Mediterranean countries (Spennemann and Allen, 2000). Small pockets of groves and some extraction plants continued to operate and these were added to by the second wave of European settlers after WWII.

There has been a renaissance in the Australian olive industry from the early 1990’s, primarily due to the increased popularity of Mediterranean cuisine and opportunities for import replacement of over $100 million of olive products. There is optimism from the Australian olive industry that this latest expansion will succeed due to the advent of mechanized olive harvesting and the subsequent ability to be more competitive with producers from Mediterranean countries.

Overview of the Australian Industry

There are no accurate statistics on plantings or yields at present, however sales and order data from plant nurseries are used to approximate the former. It is estimated that there will shortly be over 7.5 million olive trees planted across Australia (table 1). Although SA has historically been the state with the greatest output of olive products, New South Wales, Victoria, Western Australia and Queensland have recently expanded their area of plantings (S.Sweeney, 2000).

<table>
<thead>
<tr>
<th>Destination State</th>
<th>Sales for 1990 to June 2000</th>
<th>Orders for 2000-2002</th>
<th>Total sales +orders</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSW</td>
<td>1,314,745</td>
<td>611,372</td>
<td>1,926,117</td>
</tr>
<tr>
<td>SA</td>
<td>747,989</td>
<td>507,803</td>
<td>1,255,792</td>
</tr>
<tr>
<td>Qld</td>
<td>828,520</td>
<td>268,000</td>
<td>1,096,520</td>
</tr>
<tr>
<td>Vic</td>
<td>917,315</td>
<td>644,362</td>
<td>1,561,677</td>
</tr>
<tr>
<td>WA</td>
<td>661,240</td>
<td>941,550</td>
<td>1,602,790</td>
</tr>
<tr>
<td>Tas</td>
<td>105,573</td>
<td>2,157</td>
<td>107,730</td>
</tr>
<tr>
<td>NT</td>
<td>2,000</td>
<td>300</td>
<td>2,300</td>
</tr>
<tr>
<td>Unrecorded destination</td>
<td>100,000</td>
<td></td>
<td>100,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>4,677,382</td>
<td>2,975,544</td>
<td>7,652,926</td>
</tr>
<tr>
<td>Area - ha (@ 250 trees/ha)</td>
<td>18,710</td>
<td>11,902</td>
<td>30,612</td>
</tr>
</tbody>
</table>
Australian production of olive oil is currently very low, estimated at around 1,500 tonnes annually, but is expected to grow significantly. A conservative estimate is that by 2006 these plantings can potentially produce up to 28,000 tonnes of olive oil (S. Sweeney, 2000). With more plantings estimated up to the end of 2001, about 40,000-50,000 tonnes of oil may be available from Australian producers by 2011 (D. Taylor, 2002).

A survey of the industry in 2000 by the Western Australia Department of Agriculture indicated that the industry is highly fragmented, with 37 per cent of growers planting no more than 500 trees and 90 per cent of growers having 5,000 trees or less. The majority of trees (approximately 70%) will be managed by a small number of project development groves.

The markets for olives and olive oil in Australia are large and growing. Olive oil imports had been around 23,000 tonnes in the previous two years but rose sharply to around 30,000 tonnes in 2000/01. Of this amount, approximately 21% was high quality extra virgin olive oils. The recovery in import levels in the latter half of 2000/01 is thought to be due to the lower world prices and strong promotion by importers and retailers of their brands. Table olives worth about $30 million are imported annually against very low, local production.

Supermarkets account for about 50 per cent of imports of olive oil. Unilever and Goodman Fielder control 40 per cent of total supermarket volume and invest heavily on promotion of their brands and on building consumer preference and appreciation for Spanish and Italian olive oils. Australian producers will have to develop marketable and competitive brands that Australian consumers will select ahead of the well-known imported brands (D. Taylor, 2002).

The Business Environment
Recognizing and correctly interpreting the trends in the wider business environment can provide the clues for developing a vital competitive advantage. The World Trade Centre attack and slow growth in major economies makes for a turbulent environment that could have major impacts on the Olive Industry over the next five years. Examining the major physical, political, economic and social factors impacting on the industry (Appendix 1) is strategically important:

- Water quality/volume and dryland salinity will be a serious threat to conventional agriculture in some areas. Controlling or eliminating chemical contamination and the preservation of native species will also have the potential to make a significant impact.

- The transfer of EU subsidies from production to less obvious areas is likely to be a continuing feature for some time, given the power of the agricultural lobby in Europe. Domestically, Government food safety regulations will impact by requiring increased investment in equipment and management systems.

- Consumption is influenced by economic trends (credit availability, disposable income, interest and inflation rates). The opening of the Australian economy over recent years has put it in a relatively good competitive position globally. However, the current low inflation environment is likely to experience a cyclic increase in coming years and our exports e.g. wines, are particularly sensitive to exchange rate fluctuations

- Australia’s aging population is living longer and wants good quality of extended life. Thus there is an increasing emphasis on health and vigor. This has given rise to a category of ‘food plus’ products e.g. bacillus enhanced yogurts, with specific health benefits.
Analysis of the structure of the industry itself provides an insight into the level of competition and hence profitability of the industry. It can be argued that competition is currently moderate to strong and may reduce only slightly over the next five to ten years. This viewpoint is supported by the analysis of the other dominant economic traits of the industry e.g. market size and growth rate, product differentiation, technological change and scale economies.

It should be noted that despite an average growth rate of about 9% pa over recent years the domestic market consumption of olive oil might be matched and possibly exceeded by local production within the period under consideration. This, together with the strong competition within the local industry and with the EU on both domestic and export growth markets, ensures that there will be a great deal of downward pressure on prices.

The challenge for Australian producers is more difficult when one considers the fragmentation of the industry in geographical, agri-political and production terms. Thus there are limited ‘scale economies’ in lobbying as well as generally low levels of integration along the demand chain.

There are a number of external environmental influences at the present moment that do not favor the development of the industry. However there are also positive factors such as the interest in good tasting, natural, safe, pure and health-giving foods and the growth in both domestic and some export markets. Scenario analysis for the future does indicate ways in which the impacts of negative influences can be modified.


KEY ISSUES FOR 2003-2008

The following key result areas, based on a strategic analysis of the industry, review of previous strategies as well as past and current research (Appendices 1, 2 & 3) were identified as the priority areas for research and development to enable the Australian industry to build a sustainable competitive advantage:

1. **Market and Product Development**
   The domestic and export markets are currently dominated by European producers. At the same time there has been an expansion of new plantings around the Mediterranean Basin and in the ‘New World’ e.g. Argentina and Australia. While the Australian market and some overseas markets have been experiencing strong growth, there will certainly be strong competition in both areas. It is important for Australian producers and processors to understand both the nature of their competition and the local industry’s capacity to respond to the challenge in terms of levels of production. Brand building is seen as the responsibility of individual enterprises. Basic industry intelligence, generic promotion and stimulation of innovation in product and market development are the main themes for industry-wide support.

2. **Sustainable Production**
   The rapid expansion of the Australian olive industry and its transformation from a cottage industry to commercial status has exposed deficiencies in local knowledge and skills that need to be remedied. Much of the technical information is derived from overseas and needs to be validated in Australia at a national and regional level. As with many ‘emerging’ industries, local performance data and agronomic information is lacking. Similarly, many industry participants have little knowledge or experience in horticulture, olive growing or processing. While confidence and enthusiasm are vital elements in the industry revival, they must be supported by competence in basic growing and processing practice. In parallel to production efficiency is a requirement to protect the industry’s resource base. Priority is therefore given to acquiring and disseminating knowledge in these areas.

3. **Processing and Product Quality**
   In the recent past there has been an emphasis on production issues that is understandable considering the stage of industry development. As new plantings mature it is important to ensure that the industry is competent to produce safe, healthy and innovative value-added products for the domestic and export markets. A fundamental requirement for all products in the modern food sector is that they are of a consistent, high quality of their type and this must underpin Australian products. There is also growing consumer as well as legislative requirements to ensure that the environment is protected and therefore dealing with waste is a priority.

4. **Communication, Coordination and Training**
   Ensuring the competence of industry participants, collaboration and cohesion in the industry, together with the education of consumers and other stakeholders, warrants a particular focus on the communication, coordination and training area. The example of other horticulture industries demonstrates the importance of this area.
VISION STATEMENT

By 2010 Australia will be globally acknowledged as a producer of high quality and price competitive olive products.

This is the overall vision for the Australian Olive Industry espoused by its peak representative body, the Australian Olive Association, in its strategic plan.
THE RESEARCH AND DEVELOPMENT PROGRAM

The research and development program detailed below is designed to assist in achieving the strategic vision for the industry. Under each of the key result areas there is a statement as to the desired Outcome i.e. the purpose or impact of the sub-program in the medium term. This is followed by a summary of the major Issues being addressed and the specific Outputs or deliverables that projects should produce.

Industry priorities for the delivery of specific outputs may vary over the term of this plan. A review process has therefore been established to annually compile a priority R&D output listing across all key result areas (see Process and Priorities section).

1. MARKET AND PRODUCT DEVELOPMENT

Outcome:
An Industry developing and exploiting innovative product and market niches, domestically and overseas, ensuring the profitable marketing of all Australian olive production.

Issues:
National quality standards and regulations are needed for both domestic and exports
European Producers dominate the domestic and overseas markets and will not easily give up their share of the Australian market
Development of domestic and export markets for Australian oil and table fruit is necessary
Development of a wider range of value-added products is needed to absorb production
Quality, differentiated product is the key to successful marketing of our product to the world and this should underpin our R&D effort
Improved knowledge of our competition is needed including the newer/resurgent countries

Research and Development Outputs:
Implementation of compulsory/recommended export standards based on Quality Assurance and ‘truth in labeling’
Generic promotion to address competition from imported olive oils and other fats e.g. canola, and boost consumption citing benefits e.g. health, multiple uses in cooking
A range of markets, products and alternative uses: various oil qualities and styles, organics; medicinal, industrial, cosmetic
Definition and exposition of the health benefits of olive products
Benchmarking Australian production/returns with European cost, returns and subsidies
Collection/analysis of comprehensive industry data: industry participants, yields, planting types (varieties) and size; volumes of oil by different grades
Current market data: domestic and overseas market size, consumption, consumer preferences
Production and marketing networks to ensure consistency and volume of supply to major retail outlets on domestic or overseas markets (demand chain coordination)

Technology Transfer Outputs:
Skilling to enable effective collaborative group action – interpersonal, organizational skills
Case study documentation of successful collaborative marketing initiatives
Development of market and marketing information in suitable form for broad dissemination (see also Communication, Coordination and Training sub-program)
2. SUSTAINABLE PRODUCTION

Outcome:
Commercially viable best-practice production systems that are profitable, efficient and ecologically sustainable

Issues:
Some basic grove management issues must be dealt with to give the industry confidence e.g. appropriate varieties for effective cross-pollination to ensure good fruit set
Mechanical harvesting is needed to strip fruit quickly and at low cost without harming tree
To compete with imports we must focus on achieving greater yield/tree with higher oil percentages and quality to give a competitive advantage
‘Environmental’ issues such as soil degradation and the spread of feral olives must be addressed through the use of responsible farming practices

Research and Development Outputs:
Evaluation of the performance and agronomic characteristics of tree varieties and the resultant oil characteristics within the context of the major climatic zones of Australia
Harvest maturity indicators
Residue studies to support chemical registrations compatible with IPM strategies
Strategies to ensure effective pollination
Irrigation management strategies to minimize water use and optimize yield and/or quality
Cost competitive (mechanical) harvest technologies
Pest and disease management strategies for major climatic zones
Integrated Production System that minimizes agri-chemical, labor and other inputs for optimal yield as part of an Environmental Management System
Optimization of grove nutrition and to optimize yield/quality
Tree training systems for maximum yield/quality appropriate to harvesting method
Risk analysis of olive pest and disease incursion and development of prevention and control strategies
Evaluation of olives for groundwater recharge control and use in disposal of saline water
Cost competitive (mechanical) pruning technologies
Comprehensive, industry specific Quality Assurance system
Foster/support the development of organic olive production procedures
Optimization of grove design to maximize yield/quality and accommodate mechanical harvesting

Technology Transfer Outputs:
Grower education on production of quality fruit to ensure quality oil
Best practice post harvest handling guidelines
Promotion of the uptake of strategies/guidelines to limit threat of olive “weeds” entering off-farm locations particularly from abandoned groves
3. **PROCESSING AND PRODUCT QUALITY**

**Outcome:**
Consistent production of high quality, healthy, safe olive products (oil, table fruit and others) that meet consumers expectations and in which they have confidence.

**Issues:**
- National quality standards and enforceable regulations to deal with concerns about truth in labelling and adulteration
- Environmental impacts of waste disposal from both oil extraction and pickling
- Lack of understanding of the characteristics of quality oils (across the environmental range) as a basis for product development, consumer education and marketing
- Requirement of quality products to underpin the long term success of the industry

**Research and Development Outputs:**
- An industry specific Quality Assurance program and (adulteration) monitoring system
- World’s best practice waste utilization and management schemes for oil and table olive processors
- Define quality characteristics of olive oil and table olives
- Strategies to minimizing oxidation during processing, storage and along the demand chain
- Identification of health active components of olive oil and olive by-products and how these components may be maximized through various production/processing variables

**Technology Transfer Outputs:**
- National industry guidelines/regulations for standards and truth in labeling
- Best-practice guidelines for quality oil and table fruit production and blending
- Best-practice guidelines for quality table fruit production
4. COMMUNICATION, COORDINATION AND TRAINING

**Outcome:**
Informed, collaborative, innovative, highly skilled and internationally competitive industry members

**Issues:**
- An effective, equitable mechanism is urgently required to develop sufficient funding for R&D on a national basis
- The industry has insufficient cohesiveness – it needs to recognize that European and other New-World producers of olive oils and other edible oil producers are the real competition. Australian producers need to be ‘competitive collaborators’ for industry development
- The skills of industry participants in all aspects (production, processing, marketing) must be enhanced to “world’s best practice” to give the Australian industry a competitive advantage
- Factual information and realistic projections of industry performance, growth, risks and assumptions should be made available to key decision makers and industry stakeholders e.g. consumers, government, investment community and the media

**Research and Development Outputs:**
- Immediate action on development of a statutory levy funding process
- Improved cohesiveness of industry members through increased membership of AOA
- Systematic review of domestic and international information (identifying pertinent missing information) to produce a coordinated, national resource collection of world’s best practice production information
- Formal planning, monitoring, assessment and review systems for R, D& E projects
- Delivery of technical training programs within nationally accredited, competency framework
- Curriculum development of ‘best practice’ management in:
  - Production of olive oil fruit and table olive fruit
  - Processing of olive oil
  - Processing of table olives
  - Manufacture of other value-added olive products
- Strengthening of structures and coordination between industry representative bodies at regional, State and National levels
- Coordinated and funded State based agency extension delivery
- National (AOA web site) register of relevant grower information on soil testing, nurseries, consultants, key contacts etc

**Technology Transfer Outputs:**
- National communication strategy for effective and timely communication with key stakeholders
- Delivery of nationally accredited business management programs
- Educating consumers in tasting, handling and usage of olive products
- Centrally located data base on the AOA web site and complementary “olive industry resource manual” (hard copy)
PROCESS AND PRIORITIES

The process for making project submissions to Rural Industries Research and Development Corporation and Horticulture Australia are similar i.e. a brief concept development proposal is forwarded initially for consideration. Submissions will be considered by a national R&D Committee comprising representatives from all States. Applicants will be advised subsequently on whether they should prepare a full submission. The details of timing for applications, formats and instructions are available on the RIRDC (www.rirdc.gov.au) and HAL websites (www.horticulture.com.au).

The National R&D Committee will work with fund Program Managers to review the progress and outputs from research programs on an annual basis to ensure effective and efficient delivery of outcomes for the industry. In order to focus attention even more closely on the industry’s needs and to keep that focus current, the National R&D Committee will annually compile a priority R&D output listing across all key result areas.

The industry priorities for 2002-2003 across the program areas are:

- Immediate action on development of a statutory levy funding process
- National quality standards and enforceable regulations to deal with concerns about truth in labelling and adulteration
- Strategies to ensure effective pollination
- Cost competitive (mechanical) harvest technologies
- Residue studies to support chemical registrations compatible with IPM strategies
- Irrigation management strategies to minimize water use and optimize yield and quality
- Evaluation of the performance and agronomic characteristics of tree varieties and the resultant oil characteristics within the context of the major climatic zones of Australia
- National communication strategy for effective and timely communication with key stakeholders
- World’s best practice waste utilization and management schemes for oil and table olive processors

This list is not in priority order. It is intended as a guide to researchers and others but does not preclude the submission of project proposals in other areas detailed under the four key result areas.

Overview of Recent Olive R&D in Australia

The Australian Olive R&D program, first formalized by RIRDC in 1997, has stimulated a significant amount of activity across the country. Appendix 3 gives a summary of the recent and current publicly funded research. The program to date has covered most aspects of the industry from varietal selection, through various aspects of production efficiency, through to marketing.

It is recommended that those intending to submit project proposals make themselves familiar with current research and that from the recent past in order to avoid duplication or ‘re-inventing the wheel”. Details of research leaders are provided to enable interested parties to make contact and extract more information in the case where there are no readily available publications

Industry Contacts

For enquiries regarding the Australian Olive Association and its R&D plan contact:
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APPENDIX 1. ENVIRONMENTAL ANALYSIS OF THE AUSTRALIAN OLIVE INDUSTRY


Prepared for the Australian Olive Association
by
Gerry Davies

April 2002
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ENVIRONMENTAL ANALYSIS OF THE AUSTRALIAN OLIVE INDUSTRY


BACKGROUND

The Australian Olive Association Ltd (AOA) was established in May 1995 with the objective of bringing together and representing the interests of the olive industry on a national basis. In consultation with all elements of the industry across the country the AOA prepared a strategic plan during 1996/97. Subsequently, the Association, with the assistance of the Rural Industries Research and Development Corporation (RIRDC), convened a workshop of researchers and industry representatives in September 1997 to identify and prioritize the industry’s main research and development needs. The outputs from that workshop became “The Research and Development Plan for the Australian Olive Industry 1998-2002”, which was published in hard copy by RIRDC and is available on their web site.

Over the intervening five years there have been substantial developments in the Australian olive industry. At the same time a range of activities has been undertaken by Universities, State Government Departments and private sector organizations to address the priority objectives of the industry R&D plan. It is now necessary to review the progress made, re-evaluate the challenges facing the industry and update the national R&D plan and priorities.

The AOA, again in conjunction with RIRDC, appointed a Review Panel to review and revise the major objectives, strategies and targets for research and development activities to be undertaken on behalf of the national industry. The revision of the plan, for release in the middle of 2002, aims to ensure that researchers are focused on the areas that the industry wants addressed. The review process itself provides a communication channel to get input and ownership from the wider industry. The Draft Plan, having been circulated to all interested parties for comment and revised, will again be published by RIRDC and appear on its web site.

This paper is intended to assist the review by initially examining the nature of the competitive environment in which the Australian Olive Industry operates and the traits and forces within the industry. The aim is to provide the context within which to re-formulate a SWOT analysis for the industry and subsequently update the research and development needs for the next five years.

INTRODUCTION

It is common for managers to focus on their competitors when developing business strategy but it is also important to look at the broader industry issues. Recognizing and correctly interpreting the trends in the wider business environment can provide the clues to developing a vital competitive advantage. There are rapid changes occurring in the current production and marketing environment that will have major impacts on the industry over the next five years. It is essential that individual enterprises and industry organizations analyze the impact of these changes and adopt effective competitive responses.

The following discussion is aimed at exploring the broad industry environment and searching for the industry implications. It aims to reveal the strength of the macro-environmental and competitive forces at work as a basis for taking action to improve the long-term profitability of the industry, in part through applied research and development activities.
THE EXTERNAL ENVIRONMENT

The effectiveness of an organization (enterprise or industry group) can be assessed by the degree of ‘fit’ between itself and the appropriate external environment (physical, regulatory, socio-cultural, technological and economic). Fundamental changes in these areas are infrequent but usually have a major impact on an organization when they do occur.

An informal environmental analysis may be satisfactory when the organization has considerable experience and when the environment is stable. However, the Australian olive industry overall is inexperienced and is changing rapidly. The World Trade Centre attack and slow growth in major economies makes for a turbulent environment. Hence, a formal analysis is useful (Table 1).

Physical Environment

The dominant feature is Australia’s island-continent status. This isolation, particularly since Britain cut its colonial, commercial links by joining the EU, has encouraged some industries to look excessively inward to their local or regional markets. It also has the impact of increasing transaction costs i.e. communications, transport and logistics. On the positive side, Australia’s isolation has been a barrier to pests and diseases and provides it with a degree of uniqueness.

Environmental concerns have the potential to be a significant factor in the coming five to ten years. In particular, water quality/volume and dryland salinity issues will be a serious threat to conventional agriculture in some areas. Controlling or eliminating chemical contamination and the preservation of native species will also have the potential to make a significant impact.

Regulatory/Political

At an international level the Australian government is unlikely to influence the political environment in favor of the local olive industry. The transfer of EU subsidies from production to less obvious areas is likely to be a continuing feature for some time, given the power of the agricultural lobby in Europe. Domestically the attitude of the Tax Office towards the industry may already be adversely influencing the level of corporate investment. Government food safety regulations will also have an impact by requiring increased investment and management systems.

To the extent that the industry develops the export market it must also be aware of the political and economic factors determining the policies of potential destination countries. The EU and the USA are both attractive markets but also have the inclination and political muscle to exclude unwanted competition in the agricultural sector.

Economic

Consumption is influenced by economic trends (credit availability, disposable income, interest and inflation rates). In general terms the opening of the Australian economy over a number of years has put it in a relatively good competitive position globally. However, the current low inflation environment is likely to experience a cyclic increase in coming years and our exports e.g. wines, are particularly sensitive to exchange rate fluctuations.

Growth in the Asian economies can give Australia, due to its proximity, a competitive advantage but only if it is a reliable, cost competitive supplier of quality goods. In this regard the competitive reaction of the major European producers to changing economic conditions must also be considered. As economic turbulence increases it is advantageous to have liquidity and limited specialist assets but strategic collaboration will also assist such as building alliances with major global competitors e.g. Bertolli.
**Socio-Cultural**

Australia has an aging population that is living longer due to advances in medicine. Many will need to continue working, and those that do retire want good quality of extended life. Thus there is an increasing emphasis on health and vigor. This is a major theme in the food industries and has give rise to a category of ‘food plus’ products e.g. bacillus enhanced yogurts, with specific health benefits. Other demographic changes with significant influence are the higher level of working women, later marriages and child bearing and overall smaller households. Each has an influence on demand for food products e.g. people eat out more and cook less. Changes in the ethnic mix in Australia and the melding of Western and Eastern cuisines will also contribute to variations in demand for food products.

Concern about the impact of production and manufacturing on the environment is an emerging theme in North America and Europe. This extends beyond the immediate concerns with chemical and microbiological contamination or Genetically Modified Organisms to the broader environmental impacts e.g. soil erosion and biodiversity impacts. One estimate suggests that the average expenditure on food in Western Europe is 12% of disposable income. Therefore consumers are less likely to be concerned about price but more concerned about other issues. This is leading to a move towards Environmental Management Systems that are ‘greening’ the supply chain and delivering ‘triple bottom line’ (economic, social and environmental) outcomes.

**Technology**

Unlike consumer electronics, the food industry is not a rapidly changing, turbulent environment. However, it needs to be recognized that the technological environment is global and therefore local organizations can be impacted by overseas competitor’s products (in domestic and export markets) or by the adoption of new technology by competitors.

The application of technology can influence an organization’s administration, decision support systems, operations and research and development. The use of telecommunications technology can allow an organization to communicate better and respond faster or more effectively with their clients. When competing products have little to differentiate themselves, superior client service can provide a competitive edge.

The world steel industry was fundamentally altered by the introduction of efficient, small scale smelting technology. What would be the impact of small scale, chemical extraction technology on the Australian olive industry?

**INDUSTRY ANALYSIS**

An examination of the competitive characteristics inherent in the industry’s structure is presented (Table 2a) together with a view of other dominant economic traits of the Australian olive industry (Table 2b). They are described as they are now and as they may be towards the end of this decade. The aim is to evaluate those factors that contribute to the attractiveness of the industry and to come to a general view of its profitability now and in the future.

Please bear in mind that this is not presented as a comprehensive, in-depth analysis but rather a simplified, structured means to stimulate discussion.

**Competitive Forces**

**Entrants**

A major influence on the Australian olive industry at present is the large number of small growers right across the countryside. They represent farm diversification projects through to hobby
farmers of various levels of capacity and competence. There are no entry barriers to production since land and trees are relatively cheap and available. Even in the processing sector it is now possible to own a small press for less than the price of a car.

Many of the entrants are small producers (90% of industry participants have less than 5,000 trees) and differ by little more than the labels on their bottles (if they have labels); their economies of scale are low and the switching costs are not inconsiderable depending on the number and age of trees. In earlier time the competition was heightened by the lack of critical inputs such as trees and stakes. These factors lead to strong competition that is moderated by the ease of access to local distribution (for small volumes) and the relative abundance at this stage of all major inputs.

**Rivalry**
The intensity of rivalry within the industry at present is only weak to moderate because the level of production is low and local niche markets have accommodated the growth in production. As supply increases and the market growth slows, and eventually is saturated, the competitive forces will rise dramatically since most small to medium producers have similar competitive strategies i.e. supply to boutique markets. It is estimated that local supply will equal or exceed local demand within the next five to ten years.

Difficulties will arise for individual enterprises if there is no rationalization of demand chains. One ‘future’ would see those with larger capacity and capability forming supply chains to larger producer/processors (corporate or cooperative) in order to support efficient domestic and export marketing. This is happening in some areas e.g. Hunter Valley, NSW and Clare Valley, SA.

Over time competition between smaller producers will decrease somewhat as a large number of the smaller industry participants leave the industry with a significant number of trees becoming essentially non-productive either because they are pulled or are neglected. At the end of the decade the influence of the small growers will have declined substantially. However, with the expansion and maturing of corporate operations and large private ventures, competitiveness within the industry may become stronger depending on our success in export development.

**Substitutes**
Substitute products limit the flexibility of existing competitors. Probably the most notable is canola. It has similar health properties and culinary uses and there are no ‘switching costs’ to the domestic and some food service users but the price differential (and volume and consistency of supply for local product) is a barrier to manufacturers e.g. margarine.

Virgin olive oil can be differentiated from competing products on the basis of the non-chemical, ‘natural’, processing it undergoes and, in the case of extra virgin oils, their taste. The premium created cannot be captured by other products but it applies only to a small percentage of the product category and so overall, alternative oils are strong competitors.

If one looks at the market from the perspective of just the local producers there is an additional substitute and that is of course imported product, predominantly from Europe. The disparity in production volume is huge (Mediterranean countries 2,300kt pa, Australia 1,500 tonnes possibly growing to 20 – 30 kt in ten years) which flows through to price and there is the added advantage of EU subsidies (A$2/L).

**Buyers**
Powerful buyers can drive down prices and be demanding in terms of quality, delivery and payment terms. For the olive industry at present only the very largest of producers is trying to engage the most powerful buyers i.e. the national supermarket chains. At the very least, local
producers need to be able to provide substantial volumes and quality consistently and at a price which is comparable to imported products.

There are essentially only two national chains and these have access to all the overseas products; they have some low-cost elements in their marketing and our local product is not irreplaceable in their product range. These factors make them very strong.

The overall competitive power of buyers is of course moderated by the fact that most producers are distributing through much smaller and more local buyers. Over time the power of buyers in regard to local product may moderate more as volumes increase; if prices have parity or even are lower than imports and; if substantial alternative domestic channels (food service, manufacture) and export markets develop.

**Suppliers**

This is the weakest competitive force. Since the recent rapid expansion of plantings has moderated and most varieties have become easily available there is little potential for suppliers to increase prices, reduce service levels or product quality. There are relatively few specialist inputs on the production side.

On the processing side i.e. extraction plant, the various brands of equipment have largely the same features and performance. Although the Australian industry is small there is enough interest and competition between suppliers to ensure reasonable service and preclude excessive profits.

**Economic Traits**

Beyond the structure of the industry itself there are a range of other factors that influence competition and profitability (Table 2b). These include market size and growth rate, product differentiation, technological change, scale economies, position on the ‘learning curve’ and capital needs.

The main point that should be noted is that despite an average growth rate of about 9% pa over recent years the domestic market consumption of olive oil may be matched and possibly exceeded by local production within the period under consideration. This point together with the likelihood of strong competition with the EU in the export growth markets makes it clear that there will be a great deal of downward pressure on prices in both domestic and overseas markets.

The challenge for Australian producers is more difficult when one considers the fragmentation of the industry in geographical, agric-political and production terms. Thus there are limited ‘scale economies’ in lobbying as well as generally low levels of integration along the demand chain.

It remains to be seen if advances in technology e.g. machine harvesting, will deliver sufficient increases in labour productivity to significantly contribute to industry competitiveness. Similarly, the potential to innovate and differentiate our products in a similar fashion to the wine industry, as a response to the market dominance of European product, is an unknown quantity.

It is certain however, that the industry will gain considerably from increasing its skills and knowledge in production, processing and marketing. We are currently on the initial, low slope of the curve. As the scale and scope of the industry increases there will be rapid and large returns to improvements in skills, technology and knowledge, before returns decline with maturity.

The overall influence of the various industry factors tends to indicate that the profitability of the industry, while currently low, has the potential for moderate to high growth.
SUMMARY

Overall it can be argued that the sum of external environmental influences at the present moment does not strongly favour the development of the industry. The notable exception is the socio-cultural elements i.e. the interest in good tasting, natural, safe, pure and health-giving foods. The scenario analysis for the future however does indicate ways in which the impacts of these environmental influences can be modified.

The industry analysis is a brief overview of the key factors affecting competition and hence profitability. From the perspective of the industry structure it would appear that competition is generally moderate to strong and is likely to reduce only slightly if at all over the next five to ten years. This viewpoint is supported by the analysis of the other dominant economic traits of the industry.

It has been said that analysis of Australian industry tends to focus excessively on weaknesses and threats. Certainly it is necessary to deal with these issues to match our competitors but on its own it will not provide us with a sustainable competitive advantage. To take the lead we must build on our strengths and develop our opportunities. Thus, whilst it is true that competition tends to drive down price it can also stimulate structural adjustment in demand chains, production efficiencies, market development, product innovation and differentiation. This is the challenge to the industry and it will be addressed in part by a strategically focused research and development program.
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<tbody>
<tr>
<td>Physical</td>
<td>Isolated ‘island-continent’ with relatively high transaction costs leading to preoccupation with domestic market. Physical separateness acts as a quarantine barrier for pests and disease Environmental awareness moderate but not of general concern</td>
<td>Advances in communication and transport technology further reduce physical isolation constraints Increasing mobility of people and volume of international trade challenges conventional approaches to quarantines Increasing problems of water quality and salinity demand significant responses.</td>
</tr>
<tr>
<td>Regulatory / Political</td>
<td>Australia is a minor power re major trading partners e.g. EU &amp; USA with little influence to alter tariff and non-tariff barriers. Quality assurance systems at various stages of implementation and variable requirements by retailers. Domestically stable government</td>
<td>WTO continues to open up world markets with heavy scrutiny of restrictive trade practices e.g. EU agricultural subsidies. Food safety regulations extend to farm level and increase in trace-back required. Australia maintains its status as a stable democracy and a strategic partner ensuring reasonable access to markets. South-East Asian democracies mature Middle-East &amp; N. Africa increasingly unstable</td>
</tr>
<tr>
<td>Economic</td>
<td>Relative affluence in Australia with growth in exports built on low value of the Aus $. The Japanese economy begins to falter with consequent reductions in high value imports</td>
<td>Continuing trend to growth in service industries, corporate globalisation allowing continued growth in the Aus. Economy. South-East Asian nations continue growth to ‘First-World’ status. China integrated into world trade; major food exporter</td>
</tr>
<tr>
<td>Socio- Cultural</td>
<td>Generational ‘wave’ of baby boomers moving through i.e. older, richer people interested in having a healthy and active old age. Health and food safety / purity are major issue among affluent consumers. ‘Lifestyles’ a feature of Western cultures e.g. the Mediterranean diet Smaller, working parent family units look for home-meal replacement</td>
<td>Declining birth rate in W. Europe. Increase in ethnic Asian proportion of population in Australia Trend continues for ‘natural/food plus’ i.e. food including intrinsic health benefits. Asian consumers continue to take up western cuisine and cooking styles. Move away from low-cost, supermarket shopping by mid -high end consumers.</td>
</tr>
<tr>
<td>Technology</td>
<td>Current industry practices are mainly based on conventional agriculture: relatively low mechanization, high inputs, small scale and no integrated systems approaches.</td>
<td>Low input systems based on environmental management and integrated fruit production systems. Larger scale production and advances in extraction technology allow lower quality oil production as by-product</td>
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</table>
### Table 2a. Industry Analysis - Competitive Forces in the Australian Olive Industry

<table>
<thead>
<tr>
<th>FACTOR</th>
<th>LATE 90'S/ EARLY 2000'S</th>
<th>LATE 2000'S/ EARLY 2010'S</th>
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<tbody>
<tr>
<td><strong>Entrants</strong></td>
<td>Moderate to Strong – many smaller entrants with low capacity; low entry barriers with small scale production and processing e.g. farm diversifiers &amp; hobbyists; low product differentiation; easy access to local distribution.</td>
<td>Moderate to Weak - increased product differentiation; increasing economies of scale; integration of supply chains; increased ability to aggressively compete with local and imported products. Large scale producers and industrial plant needed; high capital investment.</td>
</tr>
<tr>
<td><strong>Substitutes</strong></td>
<td>Strong – alternative oil substitutes available e.g. canola. Imports plentiful and cheap (local goods insufficiently differentiated). No/ low switching cost to retailers, manufacturers, &amp; consumers.</td>
<td>Moderate – production, processing and marketing efficiencies allow cost reductions; improved product differentiation on benefits to health, taste and environmental (vs. GMO’s) basis.</td>
</tr>
<tr>
<td><strong>Suppliers</strong></td>
<td>Moderate to Weak – initial shortage of planting materials overcome; increasing competition between nurseries; major varieties freely available.</td>
<td>Weak – demand for planting material lessened and many suppliers; backward integration increased by major producer / processors.</td>
</tr>
<tr>
<td><strong>Buyers</strong></td>
<td>Moderate to Strong – many small local outlets but few major retailers. Local product not important line. Supermarkets focus on low-cost. At retail level ethnic Europeans still use imported product but overall market increasing on health benefits.</td>
<td>Moderate – Development of alternative markets, domestic and export e.g. food service, industrial, medicinal; improve product distribution and forward integration e.g. alliances with other food products. Increased marketing and lower price of local product attracts consumers. Overseas buyers seeing Aus. oils on par or better than European.</td>
</tr>
<tr>
<td><strong>Rivalry</strong></td>
<td>Weak to Moderate - large number of small producers and processors; assumptions of strong local and export growth; most enterprises have similar strategies and little coordination; moderate to high fixed costs; mainly competing at regional, intra-State level; National market dominated by European manufacturers</td>
<td>Moderate to Strong - restructuring of industry eliminates smaller/ weaker elements (exit, collaboration or consolidation); a small number of local lead companies across all States, linked to subsidiary suppliers and retail channels, competing both nationally and internationally; increased competition for market growth segments; increasing scale increases fixed and capital costs and exit costs; potential joint ventures with established European companies</td>
</tr>
<tr>
<td>FACTOR</td>
<td>LATE 90'S/ EARLY 2000'S</td>
<td>LATE 2000'S/ EARLY 2010'S</td>
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<tr>
<td>Market size</td>
<td>Market $110 million; 25kt oil mainly imported; 25% Extra virgin, 75% pure. Local product 1kt Extra virgin / virgin. Mainly local markets with few major players in national outlets.</td>
<td>Market 37kt oil; Local production 25kt for national (higher % of EV sales) &amp; export; International for larger players.</td>
</tr>
<tr>
<td>Growth Rate</td>
<td>Local market growth for all olive oil at 9% volume, 3% value pa. International average 4% pa increase. In consumption; US 9%; Asia 15%.</td>
<td>Local market supply exceeds demand for local product. International market growth, driven by IOOC marketing targeting growth regions, maintains production / use balance.</td>
</tr>
<tr>
<td>Technological</td>
<td>Slow – essentially conventional agriculture.</td>
<td>Moderate use of mechanization and industrial process systems.</td>
</tr>
<tr>
<td>Change</td>
<td></td>
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<tr>
<td>Differentiation</td>
<td>Low – poor differentiation of styles and too many labels. IOOC countries dominate world olive trade in terms of classification. International dominance of European brands.</td>
<td>Moderate – range of options from blends to varietals. New styles of oil products following wine industry models, outside IOOC mandate. Australia recognized as supplier of superior oils in all major markets.</td>
</tr>
<tr>
<td>Scale Economies</td>
<td>Mainly low – small, unlinked producers and processors: 37% growers with less than 500 trees; 90% with less than 5,000 trees.</td>
<td>Moderate – larger corporate producers on-line with contributing networks. Major hindrance is geographical spread.</td>
</tr>
<tr>
<td>Learning Curve</td>
<td>Moderate returns to increased skills and knowledge of production and processing (non-traditional producers).</td>
<td>Very high – capitalizing on experience to compete in international market.</td>
</tr>
<tr>
<td>Capital Needs</td>
<td>Low – small production and processing facilities.</td>
<td>High - large scale production, processing facilities &amp; inventory.</td>
</tr>
<tr>
<td>Profitability</td>
<td>Low to moderate – growth stage, low margins &amp; volumes but high prices in niche markets.</td>
<td>Moderate – growth but lot of competition; (25% reduction in /L price at factory) High for those with international growth.</td>
</tr>
</tbody>
</table>
APPENDIX 2. ‘SWOT’ ANALYSIS OF AUSTRALIAN OLIVE INDUSTRY

Strengths

Established and growing [domestic] market for oil and olives
Australian innovation in agriculture giving efficiency in production
Good reputation as a trustworthy and efficient producer of agricultural products
Not ‘hamstrung’ by the past – start with leading edge, best-practice e.g. groves planted with mechanical harvesting in mind
Successful industries to model on i.e. wine
Level of organization & infrastructure, cooperation and communication within organizations
Human resource base – diverse and enthusiastic people
Ability to produce high quality product
Adoption of Quality Assurance across the industry
Counter seasonal production to Europe

Weaknesses

Little reliable, local data on varietal performance, key production and processing issues
Lack of reliable, comprehensive statistics – industry participant numbers, production
Ad-hoc, low funding - No levy across the industry – other small industries have one in place.
Confusion in the market place regarding naming / types of olive oil and table olives
Lack of basic horticultural skills and skilled people leading to low productivity and undermining quality e.g. contamination due to inappropriate chemical use
Low productivity/ high costs (vs. European subsidies) threaten long term viability
Lack of understanding of oil [organoleptic] quality [among producers]
Industry cohesion is too low – want a substantial, international industry not a cottage industry
Too many competing, small brands in deli’s
Consumer ignorance of product
Claims of Australia as a “clean and green” production country being questioned
Lack of forward planning for marketing

Opportunities

Develop domestic and overseas markets on a trustworthy image and quality (wine industry model) supported by environmental and quality management systems
Build ‘brand Australia’ on the basis of a unique, ‘typical’ Australian oil
Industry emerging into an environment where national industries regard themselves as quality food producers (as opposed to commodity sellers)
Substantial growth in domestic market consumption
Access to growing Asian markets
Favorable foreign exchange rates supporting exports
Expand product range e.g. good tasting margarine, cosmetics and value-added by-products
Develop a modern industry – improve production technology and processing methods
Explore varieties e.g. fruit set on current years wood, allowing mechanical pruning
Set high quality standards particularly versus the benchmark of imported products
Threats

European producers market dominance
Competitive reaction of overseas ‘giants’ e.g. Unilever, to Australian products in local market
Environmental: failure to successfully deal with e.g. processing waste, biodiversity issues
Over production across the world and potentially in Australia and subsequent price decline
Abandonment of groves over time leading to pest, disease and biodiversity problems
Water shortage / increased price drives olives out of the market - industry looses critical mass
Pest and disease entry into Australia e.g. olive knot
High labor costs
Fall-off in domestic consumption of olive products
Current lack of confidence in industry makes obtaining finance difficult
# APPENDIX 3. AUSTRALIAN OLIVE RESEARCH AND DEVELOPMENT PROJECTS

<table>
<thead>
<tr>
<th>Title</th>
<th>Researcher / Contact</th>
<th>Objective</th>
<th>Funds Source</th>
<th>Start</th>
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</thead>
<tbody>
<tr>
<td>The Olive Press – Australian Olive Association Magazine</td>
<td>Mr John Egan (02) 6833 5402 Ms Margaret Chidgey (02) 9489 3663</td>
<td>The Olive Press to be the principle communications forum for the olive industry, thereby positively impacting on the sustainable development of the fledgling Australian olive industry.</td>
<td>RIRDC, AOA</td>
<td>04/08/98</td>
<td>10/09/01</td>
</tr>
<tr>
<td>Planting and Pruning of young olive trees in Australia</td>
<td>Mr Ian Rowe, (AOA) (08) 9245-2100</td>
<td>Video demonstrating pruning of young trees</td>
<td>RIRDC</td>
<td></td>
<td>1998</td>
</tr>
<tr>
<td>Pruning olive trees after year 2</td>
<td>Paul Miller (03) 9830 0519 Bert Bamberg (07) 4168 6154</td>
<td>To produce a professionally developed training video which enables Australian olive growers to confidently prune their 2 to 6 year old trees for optimum growth and production.</td>
<td>RIRDC</td>
<td>21/06/99</td>
<td>30/05/99</td>
</tr>
<tr>
<td>Olive Variety assessment for sub-tropical summer rainfall regions</td>
<td>Mr Greg O’Sullivan, Olives Australia P/L (07) 5466 1333</td>
<td>To deliver information to the Australian Olive Industry that will allow producers to make informed varietal selections for future planting’s into Australia’s subtropical summer rainfall regions; through the provision of comparative physiological information on the performance of sixty olive varieties in warm winter, summer rainfall conditions.</td>
<td>RIRDC, Olives Australia</td>
<td>16/07/99</td>
<td>30/11/02</td>
</tr>
<tr>
<td>National Olive Variety Assessment Project</td>
<td>Ms Susan Sweeney, PIRSA (08) 83039673</td>
<td>To deliver informed and skilled olive orchard management through provision of: 1. A nationally coordinated technical and educational support network 2. Comparative physiological information on the performance of all known olive varieties and promising new feral varieties in Australia. 3. Survival, growth and management information from a range of olive varieties across a range of climatic/edaphic conditions in Australia.</td>
<td>RIRDC, PIRSA, AOA, Agrolive Pty Ltd, NSW, WA, Tas, Vic state governments</td>
<td>15/07/99</td>
<td>30/11/02</td>
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<td>Title</td>
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<tr>
<td>Wild Olive Selection for Quality Oil Production</td>
<td>Prof. Margaret Sedgley, University of Adelaide (08) 8303 7249</td>
<td>The aim of this project is selection of new improved olive cultivars from wild southern Australian material, based on oil analysis, DNA fingerprinting, propagation and field trials. This will improve yield and quality of olive oil for domestic and export markets, and provide quality assurance to the industry.</td>
<td>RIRDC, University of Adelaide</td>
<td>01/07/00</td>
<td>30/11/03</td>
</tr>
<tr>
<td>Improved olive productivity and the use of molecular markers</td>
<td>Prof. Margaret Sedgley, University of Adelaide (08) 8303 7249</td>
<td>Molecular markers will be developed to accelerate the selection of improved varieties, with self-fertility, high oleic acid, low linolenic acid and tolerance to peacock spot disease.</td>
<td>ARC, AOA, University of Adelaide</td>
<td>2002</td>
<td>2004</td>
</tr>
<tr>
<td>Assessment of olive yield and oil quality and cultivar identification</td>
<td>A/Prof. Kevin Robards Charles Sturt University (02) 6933 2547</td>
<td>To develop a database on Australian olives that may be used to indicate best time to harvest the olives, the variability of individual cultivars between sites and the variability in quality between select cultivars by measuring quality parameters such as oil content, fatty acid, polyphenols, etc. based on IOOC standards. To develop family trees (relatedness) for selected olive cultivars by developing DNA identification procedures and producing a database of DNA fingerprints to meet Objective 1. This is necessary to ensure that future projects identify cultivars correctly and comparisons of data are on the same cultivars.</td>
<td>RIRDC</td>
<td>1/7/97</td>
<td>30/6/2000</td>
</tr>
<tr>
<td>Monitoring the relationship between olive water use and yield</td>
<td>Dr Ian Nuberg, University of Adelaide (08) 8303 7729</td>
<td>To understand the water use requirements of olives in the southern Australian environment we shall establish for a representative range of olive groves: 1) their annual water requirements 2) how these water requirements change over the season so that financially efficient irrigation schedules can be developed and 3) to indicate under which circumstances drainage may be a problem</td>
<td>RIRDC, University of Adelaide</td>
<td>01/07/98</td>
<td>31/12/01</td>
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<tr>
<td>Title</td>
<td>Researcher / Contact</td>
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<tr>
<td>Realizing the Potential of Olives</td>
<td>Mr Simon Field Salsi Pty Ltd (03) 9380 2531</td>
<td>To better understand, strengthen and develop the Australian Olive product market. To enhance the human capital of the Australian Olive industry. Attract financial capital to the Australian Olive industry. Disseminate information on research and development opportunities. Establish industry networks.</td>
<td>RIRDC</td>
<td>2000</td>
<td></td>
</tr>
<tr>
<td>Feasibility study for the establishment of regional olive oil processing plants in Australia.</td>
<td>John Meyer, Meyers Strategy Group (02) 9958 0741</td>
<td>To determine the feasibility for network partners representing enterprises involved in olive production for the establishment of regional olive oil processing plants in Australia.</td>
<td>RIRDC</td>
<td>2001</td>
<td></td>
</tr>
<tr>
<td>Evaluating olive water requirements from seedling to pre-fruit bearing</td>
<td>James DeBarro, De Barro Agricultural Consulting (08) 8756 2777</td>
<td>Quantify the volumetric soil moisture requirements of olives from planting to pre-fruit bearing and the development of the effective root zone depth to eliminate excess irrigation. Create and publish a flexible soil moisture requirement protocol for young trees before fruit bearing in a format for growers to utilize in their young olives and act as a reference point for developing a specific irrigation strategy for their property. Such a protocol could be used to calibrate soil moisture recording devices that assist accurate scheduling of irrigation.</td>
<td>RIRDC</td>
<td>01/09/00</td>
<td>30/08/04</td>
</tr>
<tr>
<td>Olive Care</td>
<td>Gino Russo QDPI (07) 5430-4911</td>
<td>The Olive Care Approved Supplier Training Program has been designed to give the Australian Olive Industry the tools to supply their olive oil processing customers with safe, quality food. By conforming to Codex Alimentarius recommendations the Australian Olive Industry will be producing olive oil products that comply with international standards.</td>
<td>QDPI, Farmbis</td>
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<td></td>
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<tr>
<td>Title</td>
<td>Researcher / Contact</td>
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<tr>
<td>Establish protocols and guidelines for table olive processing in Australia</td>
<td>Prof Stan Kailis University WA (08) 9380 1644</td>
<td>The Major outcome of the project is the production of the Australian Table Olive Manual and its dissemination to the Australian Table Olive Industry. This manual will be the prime guideline for maintaining quality and safety in the Australian table olive industry. As second deliverable will be a scientific review of the National and International literature on quality, safety and HACCP management of table olive production. A third deliverable is a published survey of the size, scope and production methods of the Australian table olive industry.</td>
<td>RIRDC</td>
<td>01/07/00</td>
<td>30/11/02</td>
</tr>
<tr>
<td>Factors affecting the Shelf-life of Olive Oil</td>
<td>Dr Rod Mailer NSW Agriculture (02) 6938 1818</td>
<td>Determine what factors contribute most to stability of olive oil by measuring individual parameters at 3 monthly intervals over 2 years</td>
<td>Growers, NSW Ag</td>
<td>July 2001</td>
<td>June 2003</td>
</tr>
<tr>
<td>555 Vision</td>
<td>Michael Taliangis Olives SA (08) 8372-6041</td>
<td>Industry development strategy for Olive South Australia</td>
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<td>Market Information and an assessment of Australia's competitive position in international olive oil markets</td>
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<td>Francis D’Emden Ag WA (02) 9368-3686</td>
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<td>Paul Prenzler CSU (02) 6933 2547</td>
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<td>Dr Robert Spooner-Hart UWS (02) 4570 1729</td>
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<td>Title</td>
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<td>Dr Rod Mailer NSW Agriculture (02) 6938 1818</td>
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RIRDC Reports

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Presents economic data on the commercial growing of olives using modern production and processing methods.

Irrigated Olive Growing & Oil Processing - R95/005, Farnell Hobman, SA Dept Primary Industries
Presents economic data on the commercial growing of olives using modern production and processing methods.

Olive Oil - Yield, Quality and Cultivar Identification - R01/23, K. Robards et al
shows how and why there is a need to identify cultivars due to the longevity of the crop and a need to improve efficiency in growing and extracting olive oil.

Potential for Establishing an Olive Industry in Australia - R98/005, D McEvoy, E Gomez, A McCarrol & J Sevil
Assesses the market potential for the development of an olive industry in Australia.

Regional Australian Olive Oil Processing Plants - R00/187, Meyers Strategy Group Pty Ltd
Words plus an Excel model of the feasibility of processing olives into oil, in Australia.

The New Rural Industries: A Handbook for Farmers and Investors - R98/034, Keith Hyde, editor
The most frequently asked questions about the market prospects and production/processing requirements for some 90 smaller or prospective new rural industries.

The New Rural Industries: Financial Indicators - 99/38, Hassall & Assoc
Follow-up to the very successful New Rural Industries - A Handbook for Farmers and Investors.

The Olive Industry in Central Italy and Southern Spain - R94/007, Farnell Hobman, SA Dept Primary Industries
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Reports on research was to develop new and improved olive cultivars based on selection, oil analysis, DNA fingerprinting, sensory evaluation and propagation.

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