

**Facilitating the
development of the
Western Australian
pome fruit industry**

Robert McFerran
WA Fruit Growers
Association

Project Number: AP02033

AP02033

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Final Report

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The purpose of this report is to provide a record of activity for this project and to make recommendations to assist future development work in the Western Australian Pome Fruit Industry.

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- The Western Australian Fruit Growers' Association's Apple and Pear Council
- Horticulture Australia Ltd

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1. Media Summary

Pome fruit, the collective term for apples and pears, is a key component of the Western Australian horticultural industry, with a combined total fruit production of nearly 45 000 tonnes annually. Western Australia produces around 15% of Australia's apples, and about 7% of Australia's pears each year.

This project, 'Facilitating the development of the Western Australian pome fruit industry' was the first to employ a full time Pome Fruit Industry Development Officer in Australia, and represents a significant level of initiative and investment from the Western Australian apple and pear industry.

Commencing in 2003, the stated aim of the project was to strengthen the direction of the Western Australian pome fruit industry and to equip Western Australian pome fruit growers with information that will enable them to implement cultural practices which will lead to a more effective and efficient pome fruit industry.

This project has utilised a collaborative approach, and worked closely with other industry associations, community groups and government agencies. This has increased the efficiency with which information is exchanged with all sectors of the Western Australian pome fruit industry. This project has been directly responsible for:

- The Western Australian Pome Fruit Industry Strategic Plan (2004 – 2009).
- A training needs analysis of Western Australian pome fruit growers.
- The establishment of the WA Pome Fruit Improvement Committee.
- The delivery of the Waterwise on the Farm Irrigation Training Course to growers in the Perth Hills.
- The development and publication of 107 editions of a weekly email based industry newsletter, the Pom-e-mail.
- The development of 5 editions of a quarterly technical newsletter, the WA Pome Fruit News.
- An updated Pome Fruit Industry Protection Plan (WA).
- Increased involvement by the WA industry in national committees, industry planning and the ongoing setting of strategic industry direction.

The net result of this three year project is an increased level of industry involvement in strategic planning activities, in participation in industry events and activities and a more transparent and engaging operating environment for the industry. Western Australian fruit growers now have earlier access to a greater amount of targeted technical and market information. Further, the strategic plan developed as part of the initial project activity has been maintained and updated as deemed appropriate by the stakeholders.

2. Introduction

The Western Australian pome fruit industry is a key component of the Western Australian horticultural industry. Since 1992, average annual pome fruit production in Western Australia has exceeded 44 000 tonnes however production can vary substantially on a year-to-year basis. In the years since 1992, production levels have varied from a low of 38 000 tonnes up to 53 000 tonnes. Western Australia produces around 15% of Australia's apples and about 7% of Australia's pears.

The Western Australian pome fruit industry is geographically separated into four main areas, extending over a distance of 350 kilometres to the south and east of the State's capital city, Perth. Donnybrook is the largest production area, producing about 40 per cent of the State's volume, whilst the largest number of growers are located in the Perth Hills. Manjimup and Dwellingup also have significant areas of pome fruit orchards. The main varieties of apples grown in Western Australia are Cripps Pink, Granny Smith, Gala (all types) and Cripps Red. Packham is the most widely grown pear variety.

Western Australia's operating environment is unique in Australia in that the State Government maintains a quarantine barrier to the importation of pome fruit, to assist in maintaining the State's freedom from certain pests and diseases. This restriction has had the effect of creating significant levels of competition within the industry to supply the domestic market. This exclusive access to the domestic market has not prevented Western Australian growers from seeking export markets, with on average over 8 000 tonnes, or about 18% of total pome fruit production has been exported each year since 2000. In 2004, Western Australia contributed 26% and 8% of all Australian apple and pear exports, respectively.

Despite the obvious successes of the past, competition between Western Australian orchard businesses, the large distance between all participants and the various discrete market opportunities that exist, has led to an industry which lacked cohesiveness. Further, despite having in the Western Australian Fruit Growers Association (WAFGA), a structured industry representative body with a regular and consistent funding source, the industry lacked the capacity to set clearly defined and measurable direction.

In 1998, to address this, the Western Australian Fruit Grower's Association's Apple and Pear Council (the APC) wrote the first strategic plan for the Western Australian pome fruit industry. At the time of its launch, APC Chair Jan Brower noted that 'there is a very good future out there for us, as we have a number of significant advantages over our competitors'. One of the key findings from this plan was the need for a dedicated person to work with industry to initiate and complete the identified strategic priorities.

To facilitate this, the APC employed, through the current project, the first full-time Pome Fruit Industry Development Officer in Australia. This role represented a significant level of initiative and investment from the APC and the Western Australian apple and pear industry. The stated aim of the project was to strengthen the direction of the Western Australian pome fruit industry and to equip Western

Australian pome fruit growers with information that will enable them to implement cultural practices which will lead to a more effective and efficient pome fruit industry.

Commencing in 2003, the Industry Development Officer project had these initial activity areas:

- Updating the Western Australian pome fruit industry strategic plan.
- Facilitating the adoption of the national apple industry strategic plan.
- Liaising with growers in order to identify industry problems and research and development priorities.
- Disseminating outcomes of research and development projects.
- Organising grower workshops and forums.
- Assisting in the maintenance of the Pome Fruit Industry Protection Plan.

3. Technology transfer strategy and methodology/activities

3.1 Project methodology

The APC's planning for the project had identified that the key areas of activity to be addressed could be divided into two parts, addressing the strategic direction of industry and improving the flow and transfer of relevant information to, and from growers. In each of these, the five complementary industry development officer roles identified by van Beek (1998) were utilised. Given the diversity of the Western Australian pome fruit industry, a number of engagement and delivery methods were employed. All of these however focussed on the Knowledge Systems perspective (van Beek 1998).

3.2 Project management

WAFGA's structure allowed the project to become established with a high level of efficiency. WAFGA's structure comprises a Management Committee and three semi-autonomous commodity councils (Apple and Pear, Citrus, and Summer Fruit). Delegates on each of the commodity councils are appointed from the Association's five regional zones (Northern, Perth Hills, Central, Southern and South West). Wherever possible, the project utilised a collaborative approach, and worked closely with other industry associations, government agencies and community groups.

The management of this project was through a management committee comprising of three representatives from the APC and the WAFGA Executive Manager. The Industry Development Officer and the management committee met on a regular basis (quarterly face-to-face and via teleconference when required) to review progress and adjust activities and priorities to ensure maximum benefit of activities to the industry and growers.

Two people have been employed as Industry Development Officer during the project. These were:

- Alan Hill July 1st 2003 to September 16th 2005
- Doug Hall October 31st 2005 to May 31st 2006

The initial employee, Alan Hill was offered the internal promotion to WAFGA's Executive Manager, when the previous manager, Rob McFerran left the organisation. Alan's experience in the Industry Development Officer role provided for a smooth introduction for Doug Hall.

3.3 Strategic Planning

In September 2003, the APC conducted a one-day strategic planning workshop to conduct a situational analysis of the industry. As well as the APC delegates, key industry and government personnel were invited to participate. The APC's Industry Strategic Plan (2004-2009) including the restructured format and timeline, was finalised in December 2003. A copy of the Industry Strategic Plan (the ISP) is attached to this report (Appendix 1).

The major outcome of the process was the recognition that a 'whole of industry' approach to identifying problems then implementing solutions was needed. Within this framework, six key strategic issues were identified and ranked in order of priority, and these were organised into four goals:

1. To increase the consumption of Western Australian pome fruit through the reliable delivery of product that meets consumer requirements.
2. The Apple & Pear Council will provide direction, information and representation to the WA Pome Fruit Industry.
3. To increase the sustainability of the Western Australian Pome Fruit Industry through a program of increasing production efficiencies.
4. To assist the WA Pome Fruit Industry in all areas involving legislative requirements.

A number of specified strategies, outputs and outcomes were developed and subsequently used to guide the development of specific activities. Of the Goals, the Industry Development Officer had primary responsibility for two (Goals 1 & 3) and minor inputs into the other two (Goals 2 & 4). The strategic plan is reviewed on a yearly basis.

Over the course of the project, the environment in which the Industry Development Officer operated presented opportunities which had not existed, or had not been considered, at the time of writing the ISP. These opportunities were considered on an as-needs basis and reinforced to the APC, the need for strategic plans to be fairly broad and to have within them the flexibility to be renewed and amended on an annual basis.

3.3.1 Activities conducted against the strategic plan

- Goal 1. To increase the consumption of Western Australian pome fruit through the reliable delivery of a product that meets consumer requirements.

The strategies listed against this Goal in the ISP involved a multi-stage process, initially in gaining an understanding of the consumer's needs and attitudes then in working with all sectors of the supply chain to facilitate the exchange of information on fruit supply to meet these requirements. Whilst these are ongoing and evolving activities, they commenced in early 2004 with the APC engaging Curtin University to conduct a consumer pome fruit attitude study. This involved the completion of 693 surveys, taken at various retail outlets across the Perth metropolitan area.

This study provided valuable 'local' information and was matched against previous apple and pear consumer surveys, including the consumer preference study completed by David McKenna for Horticulture Australia Ltd (unpublished). Further to this, the APC conducted smaller but more issue-specific surveys at the Karragullen Field Day in 2004 and 2005.

The results of the Curtin University survey, together with the known results from the Horticulture Australia Ltd. market and consumer research, were presented to the APC at a promotions workshop in August 2004, and then disseminated to growers and other sectors of the pome fruit supply chain. This workshop was the basis for the APC's future promotional campaigns.

Goal 3. To increase the sustainability of the Western Australian Pome Fruit Industry through a program of increasing production efficiencies.

The five strategies listed for this Goal were addressed through a two-stage process, sourcing or writing relevant information and then distributing it to growers through a variety of written material, combined with ongoing communication with grower groups. In the working life of the project, the Goal's five strategies were considered to be overlapping activity and thus shall be addressed that way in this report.

- Industry 'costs of production' and 'production systems' groups

The Australian apple and pear industry has an incomplete history in collecting cost of production information. Throughout the project the Industry Development Officer used information in two documents, 'Comparing apples with apples' and 'The Australian apple industry squeeze' as reference documents. Although these were somewhat dated (1997 and 2001 respectively) lacking other material, they were used as a basis for comparison.

The initial activity in this area has involved the establishment of the Western Australian Pome Fruit Improvement Committee (the WAPFIC) which has two primary roles, to improve the effectiveness of communication to Western Australian growers and to initiate and manage on-farm those research activities funded by the WAPFIC. An example of working with the existing groups within the Western Australian industry, the WAPFIC draws participation from the 3 existing orchard improvement groups (Perth Hills, Donnybrook and Manjimup) and a representative from the Dwellingup area.

Whilst the three orchard improvement groups present an excellent forum for local discussion on a range of production issues, they have traditionally been focussed on their region, and thus have not had a working relationship with other orchard

improvement groups. The WAPFIC, which is a hybrid model of the South Australian Pome Fruit Improvement Committee and the Citrus Industry's network of CITTgroups, provided them with this opportunity. The Industry Development Officer provided a coordination role to the WAPFIC and a direct linkage to the national research, development and marketing programs, thus bringing a state and national focus to the orchard improvement groups existing 'local' activities.

3.4 Improving the flow and transfer of relevant information to, and from growers.

3.4.1 Written information

The production of written information was one component of this Goal however it became a key activity through the course of the project, as linkages were established with a wider number of growers and the various sectors of the apple and pear industry.

The decision to increase the importance on communication was based on the results of a grower survey (unpublished, internal document) conducted by WAFGA in 2002, in which respondents identified a need for more information on research activities and results. Up until that point, the primary source of communication to growers was a monthly hard-copy newsletter.

The Industry Development Officer commenced and then managed the production of two additional newsletters, the Pome-E-Mail a weekly electronic format (commenced September 2003, Appendix Two), and the Western Australian Pome Fruit News, a quarterly technical journal (commenced July 2004, Appendix Three). This combination allowed the delivery of a summary of news, current issues and industry events on a weekly basis supplemented with information on current research in the apple and pear industry, particularly which is funded through Horticulture Australia Ltd. (HAL), four times per year.

3.4.2 Personal communication with growers

In addition to written communication, the Industry Development Officer attended as many WAFGA Zone, and Orchard Improvement Group meetings as was practical. At these, the Industry Development Officer presented information, either through a formal presentation or through tabling information, on industry and production issues. This activity was invaluable as it put a 'public face' to the role and allowed the Industry Development Officer to establish meaningful relationships with growers.

3.4.3 Study Tours

In 2005, the Industry Development Officer organised and led a tour to the Orchard Systems Demonstration Block at Lenswood (SA) to attend their annual Field Day. Fourteen growers took part in the two day tour, the first such activity of this kind by the Western Australian industry for many years. Given that all tour participants met the complete cost of this activity, it represented a very positive step for the Western Australian industry.

3.4.4 Project AP05007: Facilitating the development of an Australian Apple and Pear Young Grower Network

The project, in partnership with a part time apple Industry Development Officer (Ray Palmer, Growcom Qld) successfully applied for HAL funded project (HAL Project AP05007: Facilitating the development of an Australian Apple and Pear Young Grower Network, study tour May 2006). The one-year project was developed to initiate and then establish an Australia-wide network of young growers through the staging of a one-week study tour and planning workshop.

Through encouraging the participation of all States in the formation of a national network, our aim was to foster an increased level of information transfer and industry 'involvement' in industry by young growers, and to ensure that funding from agencies outside the HAL/levy system can be accessed to support future professional development activities.

3.4.5 Audio visual communications

In discussions with growers it became fairly clear that the level of participation by Western Australian growers at events such as such as national conference and more recently, the Australian Fresh Fruit Company's World Class Workshop was fairly low. Whilst cost is the most offered argument for this, other more complex reasons are also involved.

On this basis, the Industry Development Officer then agreed to contributed funds to the 2004 and 2005 AFFCO World Class Workshop to facilitate these being recorded and then made available in a DVD format. Up to 50 copies of the DVD were made available to the Industry Development Officer, and their distribution allowed the information to be transferred to those Western Australian growers that would normally not be exposed to it.

3.5 Irrigation management training

In 2004/05 the Industry Development Officer managed the delivery of the Waterwise on the Farm Irrigation Management Training Course to fruit growers in the Perth Hills. The Waterwise training was delivered through a through a combination of workshops and on-farm evaluations with the Industry Development Officer working closely with each participant to prepare an Irrigation and Drainage Management Plan (IDMP) for their property.

Completion of an IDMP allowed each participant to access a grant of \$2000 to conduct the identified upgrades or improvements to their existing irrigation system which would their improve water use efficiency. An important part of this funding was that all participants agreed to install a water meter, and to recording and benchmarking their water use with the participants in the course.

Whilst there were plans to conduct a similar training program in Donnybrook in 2005/06, changes to the management of Waterwise, and the project, saw this activity held up for a period of 12 months.

3.6 Training needs analysis

The project was successful in applying for funds through the AAA Farmbis funded, Targeted Industry Initiative Program, to conduct a Training Needs Analysis of its growers. In late 2005, a representative sample from across the formal WAFGA network of representative zones and commodity councils completed the survey. The growers highlighted training priorities that are interlinked around identifying new business opportunities and creating a production and business enterprise which is able to deliver products to these markets.

3.7 Contact with APAL, other industry groups and horticultural associations

Through the project, the APC has active participation in a number of industry and government-managed committees, increasing its capacity to create awareness, representation and explore funding opportunities on behalf of WA's pome fruit industry. During the project the Industry Development Officer participated:

- As an 'industry champion' in the Apple Training Program developed by the Apple and Pear Growers Association of South Australia (Inc).
- As a member of APAL's Industry Partnership Program Steering Committee.
- As a member of the Swan Catchment Council's Rural Land Use Reference Group.

4. Evaluation and measurement of outcomes – impact and adoption

The evaluation of the effectiveness of Industry Development Officer Projects have always presented a challenge, and this is especially true in those projects which exist in industries where there is not a functional national network to offer technical and problem-solving support. The recently released report 'Strategic Review of Industry Development in Horticulture' (Anon 2006)² provides a valuable summary of these challenges in their chapter on 'Issues and Themes Emerging' (pages 17 – 27).

4.1 Strategic Planning

The development and utilisation of the Western Australian Pome Fruit Industry Strategic Plan 2004-2009 has allowed the APC to focus its activities and to establish, and deliver, measurable outcomes to its stakeholders.

The APC has reviewed this document on an annual basis, which has ensured its relevance in a changing environment. During the life of this project APAL updated their Strategic Plan (Anon 2002) and other states representative organisations have commenced or completed similar activities. The Industry Development Officer and the APC has had discussion across these groups ensuring linkage and synergy of state based activities across the national industry.

4.2 Communication

In the original project application for this project, the stated outcome was that ‘growers will be better informed of research findings and have access to the pool of information which the Industry Development Officer will have. This will enable growers to implement more effective and efficient cultural practices resulting in a more effective and efficient pome fruit industry’. The communications strategy reflected this aim in that it used a multi-tiered approach to information flow.

The success of the communications strategy is perhaps most easily demonstrated in the level of awareness and use by growers of the various forms of media. Unfortunately due to changes in personnel within the project, a planned survey of WA pome fruit growers did not occur at a state wide level.

Anecdotal evidence however suggests that through a process of review and improvement, the newsletters developed to address the needs identified in the previous grower survey, which were greater levels of information about research and current issues in industry. Growers also expressed a desire to see the market and retail price information included and to perhaps be expanded to include fruit quality. It is anticipated that a future Industry Development Officer project should revisit the industry survey and include these issues.

4.3 Orchard production

After the initial establishment period, two issues impacted upon the activities of the WAPFIC. These were the Industry Development Officer’s involvement with the Apple Training Program and the Industry Partnerships Program. The Industry Development Officer was selected as the only Western Australian participant in a ‘train the trainer’ session (June 2004) for industry ‘champions’ for the Apple Training Program and was again the only Western Australian participant on Apple and Pear Australia Ltd’s Industry Partnership Program’s Steering Committee.

These activities clearly represent a significant opportunity for Western Australian growers and therefore have placed the WAPFIC into a period of monitoring, awaiting an outcome from each. The lack of formal state-wide activity with WAPFIC however allowed for discrete activity to occur on a regional basis.

An initial production focus of this goal was, and continues to be irrigation management, reflecting the commitment Horticulture Australia Ltd’s has to horticultural water use. Through the Waterwise project the Industry Development Officer was able to form an ongoing working group to record and benchmark water use.

Over the course of the project the Industry Development Officer became involved in the national industries focus on ‘intensification’ of Australian apple orchards. Whilst it is clearly recognised that this will take time, the study tour to South Australia in 2005 had a number of benefits. A survey of participants included these comments:

‘We are now committed to switching to an ‘intensive ‘orchard and have started the process. We will plant 1100 Miss Ruby on M26 this year and are sourcing 1800 Rosy Glow for 2007. Certainly the genesis for enthusiasm for our activity was Paul James and his work.’

Whilst the demonstration block has been in existence for many years the opportunity to visit it, and visit and speak with South Australian growers about their experiences created a level of enthusiasm. It is worth noting that growers who participated in the 2005 study tour were the first to sign up as monitoring blocks in the Industry Partnerships Project.

4.3 Training needs analysis

The results of the training needs analysis clearly identify three key areas of training interest, interlinked around identifying new business opportunities and creating a production and business enterprise which is able to sustainably deliver products to these markets. This is perhaps understandable given the external factors in the fruit industry which has resulted in growers looking at new market opportunities as some traditional markets are being eroded by lower-cost producers. It also takes into account the trend in Australian retailing in which supply chains are shortening and value adding is becoming a feature of successful enterprises.

Interestingly enough, growers highlighted a need for a more ‘holistic’ or ‘systems’ approach to their business. This is not to say that growers do not have a need for specific training on various production issues (such as irrigation/pruning or nutrient application) but rather was a reflection of their existing access to this information, and the increasing focus on Environmental Management Systems.

4.5 Project AP05007: Facilitating the development of an Australian Apple and Pear Young Grower Network

The most disappointing aspect of this project was its failure to deliver on the ‘Facilitating the development of an Australian Apple and Pear Young Grower Network’ project. Originally planned to be run in 2004, the project had been delayed until 2005, and then 2006 due to a combination of over enthusiastic timing and contractual and administrative delays. Eventually however, the failure to conduct the study tour, an initial and integral part of the development of the network lies within this project.

It is perhaps sufficient to say that staff changes at WAFGA were the primary contributor, with planned activity being delayed until a decision was made in May 2006, a month prior to the proposed tour date, when it was established that there was an insufficient number of tour participants.

A review of staff and staff management will ensure that these delays will not occur again in a future Industry Development Officer project.

5. Discussion

Perhaps the most forthright review of the issues facing the Australian apple industry was included in the World Apple Report (2005). In their review of apple producing countries it states ‘the Australian apple industry is a study in contrasts. Production is dispersed in a few widely-separated locations. Much of the production is geared towards the needs of the domestic market. The lack of competition in the Australian market makes life easier for many producers and marketers. However, it takes away one of the major incentives for improvement within the Australian apple industry. Until there is sizable competition for its domestic market, the Australian apple industry as a whole is unlikely to make the changes needed to become globally competitive’.

If this is correct, then perhaps there is amplification of that view for the Western Australian industry, given the quarantine barriers which exist preventing the importation of fresh apples and pears, in that the drivers for change may be different even to those in other parts of Australia.

In this environment, many of the activities conducted through this project has therefore in new and uncharted ground. A review of the effectiveness of the position must include a consideration of these factors.

Early in the project, the APC conducted a strategic planning workshop and updated its vision for the future to; ‘a profitable and sustainable Western Australian pome fruit industry, delivering a quality product that will meet the challenges of an internationally competitive marketplace’. It is this vision that has been the basis of this project.

As was noted in the HAL review (Anon 2006)² the strategic role of Industry Development Officers is not thoroughly understood by all growers and stakeholders. This however is an ongoing challenge for it is an important area of the role, as noted in the APC’s original full proposal application ‘as there is no full time position dedicated to progressing the strategic plan and progressing initiatives such as the protection plan, strategic initiatives are not being implemented’.

Whilst the visible outcomes of the project are in terms of communication outputs, the strategic opportunities lie in the grouping together of growers around formal and informal networks. An example of this is the WAPFIC. This project has demonstrated that in a collaborative approach there exists the greatest potential for improvements in the Western Australian industry, and it also reinforces that existing member based groups with a focus on production, are an excellent interface for which the Industry Development Officer can work through the more systems approach.

This collaborative approach extends through to the national industry, a key activity that without the resources of a full time employee may be lost to the Western Australian industry. The Industry Development Officer remains on the Industry Partnership Program Steering Committee and is therefore able to make advance plans for any future activity in this area. Similarly, the training needs analysis completed in late 2005 identified three key areas of interest to Western Australian growers.

At an operational level, the project has suffered the usual difficulties encountered with a change of staff member, which occurred in this case in September 2005. This involved a period of almost two months without activity followed by a settling in period by the current Industry Development Officer, Doug Hall. Effectively this means that the Western Australian industry has had to acquaint itself with two people in the period of 30 months. Unfortunately, the transition was not as smooth as had been hoped and the APC has agreed to review the position at the completion of this contract.

Notwithstanding that, this project has however provided a template through which other positions can be established. The project will continue to liaise closely with state and national research and extension staff and to supply to industry research outcomes from Horticulture Australia Ltd funded research. There appears to be significant opportunities for the Industry Development Officer to link in with emerging projects to modernise the Australian pome fruit industry, such as the Industry Partnerships Program and the intensive pear project based in Victoria. Finally, the APC has gained valuable experience in project management, which can assist future Industry Development Officer positions.

6. Recommendations

6.1 Continued support for the Industry Development Officer position

The current funding partners are encouraged to continue the support of the Industry Development Officer Position. This project commenced some 4 months prior to the Industry Development Officer's appointment and, given that it was a new position to industry, the project has established the framework which can be built upon and expanded provided tangible benefits in a future project. As this report details, the project was involved in many more issues than was originally planned whilst managing to deliver outcomes against the ISP.

The Australian apple and pear industry has clearly stated its continuing support to the Industry Development Officer as a working concept, with the role's inclusion in the Apple and Pear Industry Strategic Plan 2002-2007 (Anon 2002), and this was reinforced most recently in the list of Annual Industry Priorities 2006/07 (Mills, 2006).

6.2 Review of the Industry Development Officer position's role in the WA Pome Fruit Industry

The Australian apple and pear industry has changed considerable since the original planning was conducted, and application made for, this position. Significant opportunities, such as the Industry Partnership Project and the opportunity to work with pome fruit Industry Development Officer positions in other states, now exist as do threats such as the very real prospect of imports of pome fruit from NZ, which were less of a focus in the original planning.

To ensure the ongoing relevance of the Industry Development Officer, it is recommended that the funding partners continue to work closely and to review of the outcomes of this project to ensure the relevance to the WA Strategic Plan. This review should incorporate the findings of the Strategic Review of Industry Development in Horticulture (Anon 2006) ² and have clearly demonstrated synchronicity with the Apple and Pear Australia Ltd. Strategic Plan.

6.3 Management of the Industry Development Officer Project

The management of the project and staff changed through the life of the project in response to the changes in officers. Given the large distances between the Industry Development Officer management committee, management occurred through a combination of meetings (quarterly) and teleconferences (monthly) and daily contact with the WAFGA Executive Manager. It is recommended that this remains in place for future projects.

6.4 Support of project by Apple and Pear Australia Ltd.

The apple and pear industry, unlike several of our horticultural counterparts, citrus, vegetables and the nursery industry lacks a nationally coordinated Industry Development Officer network with an Industry Development Manager.

At the commencement of this project, APAL employed an Industry Development Manager (IDM) who remained in that role until mid-2005. The IDM was an extremely useful point of contact for this project, particularly as a source of linkage and information on industry issues, and cross horticulture issue occurring outside of Western Australia.

This value of an IDM was reinforced when the project changed staff, as Doug Hall, unlike the original Industry Development Officer was employed (October 2005) into an environment where this support was lacking. To assist the effectiveness of the Industry Development Officer program we recommend that APAL and HAL review the support provided to existing apple and pear Industry Development Officer programs.

The APC welcomed the announcement of the upcoming appointment of a Communications Manager at Apple and Pear Australia as that role may address our concerns over communication and therefore have a strong influence on the effectiveness of this and other apple and pear Industry Development Officer projects.

6.4 Outputs of future projects

The current project has established a number of initiatives that will continue on, should funding partners agree. A future project will be focus on improving the economic sustainability of apple & pear production by participating in orchard intensification activities, developing supply chain activities aimed at consistent fruit quality through the supply chain to market requirements, improving industry capacity through effective communication of information and through opportunities to participate in improvement activities. The outputs of a future pome fruit Industry Development Officer project should include:

- An industry survey of Western Australian apple and pear industry.
- An initial review and update of the Western Australian Pome Fruit Industry Strategic Plan (2004-2009) to ensure ongoing delivery of the identifies priorities.
- The development of Strategic Plan for the WA pome fruit industry beyond 2009, perhaps for the period 2009-2012.
- Regular and ongoing delivery of the APC's communication strategy.
- Ongoing delivery of the Waterwise on the Farm irrigation training program which will include a program of irrigation system audits and performance benchmarking.

7. Acknowledgements

The following organizations and their members and representatives need to be acknowledged for their participation and support of this project:

- Western Australian Fruit Growers Association – Apple & Pear Council
- Western Australian Fruit Growers Association
- Hills Orchard Improvement Group
- Donnybrook Orchard Improvement Group
- Manjimup Orchard Improvement Group
- Western Australian Department of Agriculture & Food
- Apple & Pear Australia Ltd
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APPENDIX A

WESTERN AUSTRALIAN POME FRUIT INDUSTRY STRATEGIC PLAN 2004-2009

Western Australian Fruit Growers' Association Apple and Pear Council

Introduction

The first strategic plan for the Western Australian Pome Fruit Industry was written in 1998. Since that time, there have been significant changes to the pome fruit industry and to the Apple and Pear Council itself. In September 2003, the Apple and Pear Council invited industry stakeholders to attend a one-day workshop to consider these factors, and to review and update the existing plan.

The workshop identified that many of the key issues from 1998 were still relevant however progress made to date in these areas, and a changing industry focus, allowed for the incorporation of new issues. A strong need for a “whole of industry” approach to finding solutions was noted at the workshop and this was reflected in the six key strategic issues that were identified. These, ranked in order of priority, were:

- Determine consumer preferences for WA pome fruit.
- Increase consumption of WA pome fruit.
- Increase production efficiency and lower costs of production.
- Improve the marketing and supply chains of WA pome fruit.
- Increase grower participation in industry affairs.
- Make representation on behalf of industry, particularly on issues of government policy.

Vision

The workshop participants altered the existing 1998 vision to incorporate the recent changes in the pome fruit industry. The Apple and Pear Council's vision is:

“A profitable and sustainable Western Australian pome fruit industry, delivering a quality product that will meet the challenges of an internationally competitive marketplace”.

Future Activities

The following Strategic Plan outlines the roles, responsibilities and objectives that the Apple and Pear Council has set itself for the period 2004-2009. The six key strategic issues have been incorporated into four goals, and then strategies, actions and intended outcomes listed against them.

The strategic direction delivered through this plan allows the Apple and Pear Council to continue its primary function of representing the interests of the Western Australian pome fruit growers. It also sets a clear charter for the Council to work with all industry stakeholders to promote the consumption of apples and pears, and to ensure that the consumer is delivered affordable fruit of the highest possible quality.

This Strategic Plan is not a fixed or permanent document and it will be reviewed by the Apple and Pear Council on an annual basis. It is expected that the plan may change to reflect the operating environment, the available resources and the strategic opportunities in the WA pome fruit industry.

WESTERN AUSTRALIAN POME FRUIT INDUSTRY STRATEGIC PLAN 2004-2009

Goal 1: To increase the consumption of Western Australian pome fruit through the reliable delivery of a product that meets consumer requirements.

Strategies	Outputs	Intended Outcomes
To determine the consumer preferences for pome fruit	Produce reports to the Western Australian Pome Fruit Industry on consumer requirements	Pome fruit production will become consumer orientated through the delivery and use of reliable market information
To engage all sectors of the production and supply chain in delivering a product which satisfies consumers demands	The establishment of a Market Information Exchange Program	A whole of industry focus to pome fruit marketing An increase in the industry level of knowledge on marketing options
To initiate a collaborative promotional program for Western Australian pome fruit	The establishment of a Pome Fruit Promotional Program	An increased demand by consumers for Western Australian pome fruit An increased consumer awareness of the benefits of consuming pome fruit

Goal 2: The Apple and Pear Council will provide direction, information and representation to the Western Australian Pome Fruit Industry.

Strategies	Outputs	Intended Outcomes
To increase grower participation in the activities of the Apple and Pear Council	Regular communication to growers and industry from the Apple and Pear Council Construct and maintain a database of pome fruit growers	Apple and Pear Council's committee will be structured to provide effective representation for the Western Australian Pome Fruit Industry Maintain a database of pome fruit growers to allow efficient communication between growers and the Apple and Pear Council
To promote the value of the Western Australian Pome Fruit Industry	Detailed information on the structure of the Western Australian Pome Fruit Industry	Recognition by government agencies of the importance of the Western Australian Pome Fruit Industry

Goal 3: To increase the sustainability of the Western Australian Pome Fruit Industry through a program of increasing production efficiencies.

Strategies	Outputs	Intended Outcomes
Identify the industry costs of production	Reports to industry on the costs of pome fruit production	Growers able to make informed decisions on increasing profitability
Provide growers with the results of current Research and Development	An integrated program of information transfer using a variety of methodology and technology	Increased awareness of current research, promotional and representative activities, particularly of those which are funded through grower-levies An increased grower involvement in setting Research and Development priorities
Establish production systems focus groups	The formation of targeted groups who will participate in activities such as the on-farm trialling of new technology Investigate group benefits such as collaborative marketing	The establishment of on-site trials in cooperation with agencies such as the Department of Agriculture, APFIP, nurseries and chemical and fertiliser supply companies A decrease in the post harvest cost of production for growers
Facilitate the delivery of relevant training programs to the Western Australian Pome Fruit Industry	An integrated program of field days, workshops, and formal training sessions	An increase in the skills and knowledge base of growers.
Maintain the Western Australian Pome Fruit Industry Protection Plan	The production and distribution of a regularly updated Western Australian Pome Fruit Industry Protection Plan	Western Australian Pome Fruit Industry Protection Plan is easily actioned if required. Growers are surveyed on their preferred options for funding eradication campaigns

Goal 4: To assist the Western Australian Pome Fruit Industry in all areas involving legislative requirements.

Strategies	Outputs	Intended Outcomes
To provide effective representation for the Western Australian Pome Fruit Industry	The establishment of issue-specific working groups Regular communication of the issues likely to affect the production of Western Australian pome fruit	Apple & Pear Council provides effective representation on issues of importance to the Western Australian Pome Fruit Industry An increased level of industry understanding of key legislative issues
To provide regular updates on statutory requirements, and other legal issues of which affect the Western Australian Pome Fruit Industry	Annual updates on statutory requirements	
To provide growers with information on Quality Assurance programs	Regular communication of Quality Assurance issues and programs	An increase in grower understanding of the requirements for participating in Quality Assurance programs

Action Plan

Goal 1: To increase the consumption of Western Australian pome fruit through the reliable delivery of a product that meets consumer requirements				
Strategies	Actions Required	By When	Responsibility	Additional APC resources required
To determine the consumer preferences for pome fruit	<ul style="list-style-type: none"> Obtain and distribute the results of Horticulture Australia's consumer preference study Conduct specific WA based consumer preference R&D 	December 2003 December 2005	IDO	NIL
To engage all sectors of the production and supply chain in delivering a product which satisfies consumers demands	<ul style="list-style-type: none"> Liaise with industry to determine the level of interest in a collaborative approach to marketing Convene initial meeting of marketing group Coordinate activities conducted through the marketing group Develop a cohesive relationship with all participants in the supply and retail chain 	January 2004 February 2005 Ongoing Ongoing	IDO/APC	Input from marketing group
To initiate a collaborative promotional program for WA pome fruit	<ul style="list-style-type: none"> Liaise with industry to determine the level of interest in a collaborative approach to promotion Convene initial meeting of promotional group Coordinate activities conducted through the promotions group 	December 2003 January 2004 Ongoing	IDO/APC	Input from promotional group

Goal 2: The Apple and Pear Council will provide direction, information and representation to the Western Australian Pome Fruit Industry				
Strategies	Actions Required	By When	Responsibility	Additional APC resources required
To increase grower participation in the activities of the Apple and Pear Council	<ul style="list-style-type: none"> Promote activities of the Apple and Pear Council Liaise with growers to encourage participation in the Apple and Pear Council Construct and maintain Industry Database 	Ongoing	APC/IDO	Nil
Promote the value of the WA Pome Fruit Industry	<ul style="list-style-type: none"> Prepare and maintain relevant industry statistics 	Annually by December	IDO	Nil

Goal 3: To increase the sustainability of the Western Australian Pome Fruit Industry through a program of increasing production efficiencies				
Strategies	Actions Required	By When	Responsibility	Additional APC resources required
Identify the industry costs of production	<ul style="list-style-type: none"> Collate available information on costs of production Analyse and establish comparative costing for fruit production 	June 2004	IDO	Nil
Provide growers with the results of current R&D	<ul style="list-style-type: none"> Collect and disseminate information to local industry 	Ongoing till December 2004	IDO	Nil
Establish production systems focus groups	<ul style="list-style-type: none"> Encourage the establishment of issue specific working groups Disseminate information from groups throughout industry 	June 2004 Ongoing	IDO	Nil
Facilitate the delivery of relevant training programs to the WA Pome Fruit Industry	<ul style="list-style-type: none"> Survey industry to determine training requirements Locate suitable courses and training providers Facilitate the delivery of appropriate training courses in cooperation with service providers and industry 	Ongoing	IDO	Nil
Maintain the WA Pome Fruit Industry Protection Plan	<ul style="list-style-type: none"> Work with Department of Agriculture staff to update plan as required Survey growers on their preference for funding eradication campaigns 	Ongoing September 2004	IDO	Nil

Goal 4: To assist the Western Australian Pome Fruit Industry in all areas involving legislative requirements				
Strategies	Actions Required	By When	Responsibility	Additional APC resources required
To provide effective representation for the WA Pome Fruit Industry	<ul style="list-style-type: none"> Establish issue specific working groups Communication of actions/outcomes on issues impacting upon industry 	December 2003 Ongoing	APC/IDO IDO	Nil
Provide regular updates on statutory requirements, and other legal issues which affect the WA Pome Fruit Industry	<ul style="list-style-type: none"> Annual update of legislative changes 	Annually	APC/IDO	Nil
Provide growers with information on Quality Assurance programs	<ul style="list-style-type: none"> Annual summary of QA options for fruit production 	Annually	APC/IDO	Nil

APPENDIX B

An example of the Pom-e-mail, weekly newsletter (Edition 105)

Pome-e-mail

A weekly newsletter for Western Australian Pome Fruit Growers

1 Event News

1.1 Air-Blast Sprayer Field Day – 19th April 2006

By any measure the field day was a great success. Padula's shed was packed with growers eager to learn more about how to improve the use of their air blast sprayers. In all over 50 people, including growers, presenters and DAFWA staff attended.

The reasons for organizing the field day were outlined by Ron Fry (President Hills Orchard Improvement Group), including the need for growers to maximize the efficacy of their spraying and thereby minimize the cost of chemicals, labor and product losses due to pests and diseases. The importance of the field day was further emphasized by Kim Burke (DAFWA) who gave the growers an update on the apple scab incursion and the biosecurity response.

Craig Pensini (Bayer CropScience) addressed the very important issue of what 'dilute' and 'concentrated' actually mean on chemical labels (Fig. 1). John Sutton (DAFWA) then took growers through the procedure for calibrating an Air Blast Sprayer unit (Fig. 2).



Figure 1: Craig Pensini (Bayer CropScience) explains the difference between the new standardized terms of dilute and concentrated spraying.



Figure 2: John Sutton (DAFWA) talks growers through the procedure for calibrating an Air Blast Sprayer unit.

We then moved to Padula's orchard, where staff from Hardi Spraying, Silvan, A&A Holdings and NuFarm collaborated to apply water containing fluorescent dye to the orchard trees using different configurations of air and water volumes, air and ground speeds, and nozzles (Fig. 3). NuFarm's contribution was a new wetting agent which allows for very low volume applications.

On completion of all spray applications, growers shared their experiences of spraying. The group was also addressed by Alan Hill (Executive Manager, WAFGA) and Diane Fry (President, WAFGA) who gave updates on WAFGA's ongoing response to the Apple Scab Incursion. While waiting for nightfall, we enjoyed a well earned BBQ dinner and refreshments, sponsored by Bayer CropScience, Hardi Spraying, NuFarm and Silvan.

After sunset, we returned to the orchard and walked the sprayed rows with UV-lights to inspect the efficacy of the different spray configurations (Fig. 4). Under UV-light, each droplet of spray appears green due to the fluorescent dye. Leaf not covered by dye appears purple. In this way, it was very easy to see the percentage coverage, droplet size and runoff. Active discussions occurred as worked our way through the different treatments.



Figure 3: Water containing fluorescent dye is applied to stone fruit trees by one of the air blast spray units.

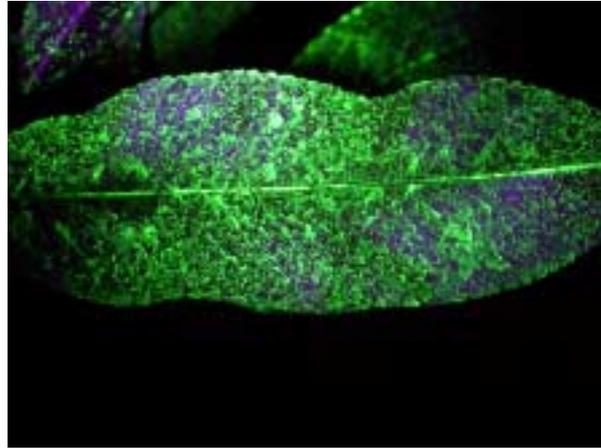


Figure 4: Efficacy of each spray application was checked after sunset using a UV-lamp which activates the fluorescent dye (green). Leaf not covered by the spray appears purple under the UV-light.

The field day was a joint venture by the Hills Orchard Improvement Group, the Department of Agriculture and Food and WAFGA. On behalf of these organizations, I would like to thank the Padulas for the use of their packing shed and orchard, and Bayer CropScience, Hardi Spraying, NuFarm, Silvan, A&A Holdings, and the Department of Agriculture and Food for their support. We also thank John Giumelli for generously sending out flyers to his customers.

Given the success of the field day, I am very keen to organize a similar field day for our southern members. I will be contacting the Central, Southern and South-West WAFGA Zones, the Donnybrook Orchard Improvement Group, DAFWA and the chemical and sprayer companies to discuss this.

Given the ongoing importance of the Apple Scab Biosecurity Response, I am also working with the DAFWA to organize an Orchard Hygiene Field Day in the Perth Hills to be held in late May – early June.

I hope to see you all at one of these future events.

2 Upcoming Events

2.1 HACCP and SQF Training

If you are interested in acquiring qualifications in, or a greater understanding of, HACCP and SQF systems, then there are two training programs in May that you may be interested in attending:

1. *HACCP Principles – Guidelines for Implementation and Use* – a 3 day training program from Tuesday 16th to Thursday 18th May,
2. *Implementing & Maintaining SQF Systems* – a 2-day training program on Monday 8th and Wednesday 10th May.

McAlpine Noonan Training, in association with Curtin University, will present both training programs in the Conference Room at Market City.

Please find attached flyers for these training programs. For further details and information about the HACCP and SQF training programs please contact either Graham McAlpine (0417 042 818 or mcalpine@vianet.net.au) or John Noonan (0429 135 504 or jn@afrc.org.au).

3 General Information

3.1 Department of Agriculture WA Orchard Alert

Orchard Alert will resume in July 2006. Orchard Alert is an initiative of the Department of Agriculture WA, edited by Mark Sivyer (msivyer@agric.wa.gov.au). Please direct any queries to Mark.

4 Pome Fruit Technology and Innovation

Accessing labour is increasingly a challenge for meeting the needs of both orchard and packing shed operations. Recently, a number of our growers had an opportunity to meet and discuss the mechanical harvesting with Donald Peterson (dpeterson@afrc.ars.usda.gov).

Now from New Zealand comes a technology that may have potential in our packing sheds. (Source: Fresh Plaza – Friday 21 Apr 2006; www.freshplaza.com)

Though the current system was developed for kiwifruit, it should be adaptable to apples or pears. The robotic arm (ABB Flexpicker) can pack a single-layer tray of 30 kiwifruit in 17 seconds, three times faster than an experienced packer. The fruit is gently picked up by a soft silicon vacuum cup so no bruising results. Of course the beauty of this worker is that it never needs a break – except for maintenance.



Figure 5: The ABB Flexpicker robotic arm. **Figure 6:** The Flexpicker on a Kiwifruit packing line.

Developed six years ago, the robot arm has been used for picking and packing chocolates, sweets and bakery products. To see the system picking up croissants go to <http://www.apsautomation.com/flexpicker.html>

5 Perth Market Prices

5.1 Observations from the Market Floor

There is no comprehensive report from the Market floor for the last two weeks. However, a brief visit on Tuesday 18th indicated that while not listed in the table below, the following varieties were available: Galaxy, Jonathon and Lady William apples; and Bartlett, Buerre Bosc, Howell, Josephine, Packham and Red Sensation pears.

5.2 Gross Sale Prices¹ for Last Two Weeks

Variety	Unit	Friday 7 Apr 2006		Monday 10 Apr 2006		Wednesday 12 Apr 2006		Thursday ² 13 Apr 2006		Tuesday ³ 18 Apr 2006		Friday 21 Apr 2006	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
FUJI	22L	24	32	24	32	24	32	18	28	24	32	24	32
GALAXY	22L	14	18	14	18	-	-	14	18	-	-	-	-
GOLDEN DELICIOUS	22L	14	18	16	20	16	20	16	20	16	20	16	20
GRANNY SMITH	36L	14	18	14	18	14	18	14	18	14	18	14	18
HI EARLY	36L	12	20	12	20	12	20	12	20	12	20	12	20
LADY WILLIAM	36L	-	-	5	8	-	-	-	-	-	-	-	-
PINK LADY	22L	-	-	-	-	24	48	40	48	24	48	24	48
ROYAL GALA	22L	14	18	14	18	12	16	14	18	12	16	12	16
BARTLETT	22L	-	-	-	-	-	-	20	26	-	-	-	-
NIJESIKI	22L	25	30	25	25	25	25	25	25	25	35	25	35
NIJESIKI	Tray	14	18	14	18	14	18	14	18	14	18	14	18

Notes:

¹ Gross sales (\$) prices listed are from the range of "most sales", obtained from the PMA's website:

<http://www.perthmarket.com.au/produceinfoframe.htm>. Visit that site for further information on fruit sales as well as the full range of prices.

² Thursday instead of Friday due to Easter Friday holiday.

³ Tuesday instead of Monday due to Easter Monday holiday.

6 Perth Retail Prices

6.1 Retail Apple and Pear Prices

On Friday 21st April, retail prices for loose apples and pears were collected from a cross-section of outlets from both sides of the Swan River including Action, Coles, Dewsons, Fresh Provisions, independents, Supa-Value and Woolworths. The same retail outlets are sampled for each report. The prices are summarized in the table below.

Comparison of Perth Retail Prices for Apples and Pears Friday 21 st Apr 2006						
Variety	Number of stores selling variety ¹			This week's prices		
	21/4/06	7/4/06	31/3/06	Lowest Price (\$/kg)	Average Price (\$/kg)	Highest Price (\$/kg)
Early Gold*	2	1	2	\$4.99	\$4.99	\$4.99
Fuji*	5	1	-	\$3.98	\$5.29	\$6.99
Gala*	1	2	2	\$4.99	\$4.99	\$4.99
Gala Supreme*	1	1	1	\$4.99	\$4.99	\$4.99
Golden Delicious*	8	8	5	\$1.98	\$3.33	\$3.99
Granny Smith [^]	9*	8 [^]	9 [^]	\$2.49	\$3.43	\$4.98
Halo*	1	-	-	\$3.99	\$3.99	\$3.99
Hi-Early*	6	3	3	\$2.49	\$3.24	\$3.99
Jonathon*	4	4	1	\$3.49	\$3.86	\$3.99
Lady Williams [^]	2 [^]	3 [^]	3 [^]	\$2.79	\$3.39	\$3.99
Pink Lady [^]	2*	1 [^]	1 [^]	\$5.49	\$6.74	\$7.99
Red Delicious*	2	-	-	\$2.48	\$2.98	\$3.48
Royal Gala*	10	9	9	\$1.99	\$3.56	\$3.99
Sundowner [^]	1 [^]	1 [^]	3 [^]	\$4.59	\$4.59	\$4.59
Bartlett*	7	8	9	\$1.49	\$3.33	\$3.99
Buerre Bosc*	6	3	2	\$2.49	\$3.33	\$3.99
Gold Rush*	2	-	-	\$2.99	\$3.49	\$3.99
Howell*	2	2	2	\$3.28	\$3.28	\$3.28
Josephine*	2	2	1	\$3.99	\$4.49	\$4.99
Nashi*	7	5	5	\$6.99	\$7.56	\$7.99
Packham*	3	2	1	\$1.94	\$2.13	\$2.49
Red Sensation*	2	5	4	\$3.48	\$3.74	\$3.99

Notes:

While the small sample does not allow for rigorous statistical analysis, the sample does highlight variation in price, general availability of varieties, and trends in retail penetration. Varieties not recorded at the ten retail outlets may be available at other outlets. The varieties and prices reported are dependent on the accuracy of retail labels.

* New Season's Fruit.

[^] Last Season's Fruit.

*[^] New & Last Season' Fruit

¹ This section presents data for the last three weeks – darkest shading (this week) through to lightest shading (two weeks ago).

The following comments are based on the above retail survey:

Pears: Gold Rush pears have just arrived. Bartlett, Red Sensation, Nashi and some Buerre Bosc pears are beginning to look mature and in some cases 'old' and 'tired'. Gold Rush, Josephine, Howell and Packham pears are all presenting well.

Apples: Lady Williams (2 outlets) and Sundowner (1 outlet) apples are now the only old season apples still available. Based on colour and general appearance all Granny Smith apples now appear to be New Season's apples.

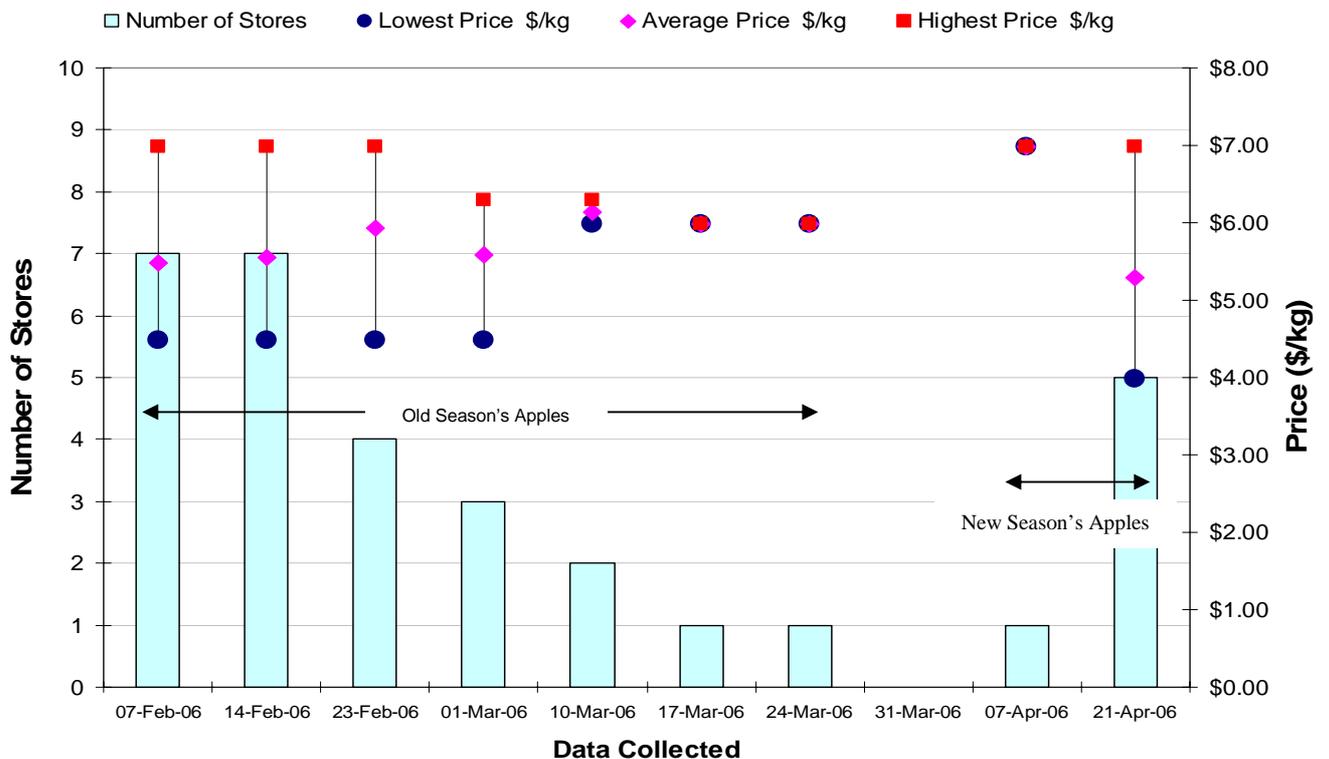
New Season's Pink Lady apples are available at two small outlets. New Season's Fuji apples are now available in half the outlets, including one of the majors, and Hi-Early are available in six outlets. Early Gold, Gala, and Gala Supreme continue to be available at a limited number of outlets. Royal Gala is now available at all ten outlets. Red Delicious is now available at two outlets. Halo is a newly released apple variety only available at one outlet at present.

Labelling: This week there was evidence of Gala Supreme labelled with Royal Gala PLU stickers. Should this practice be encouraged, ignored or discouraged? When a number of varieties are genetically linked, for example as is the case with sports, is variety 'pooling' compatible with the development of variety specific brands? If you have any views on this issue please email them to me.

This week, Blue WA Grown stickers were found on some Granny Smith, Golden Delicious, Hi Early and Royal Gala apples.

Preliminary Analysis for Fuji Apples: This week, we look at the retail performance of Fuji apples over the last three months. In that time, we have gone from old to new season's apples and from seven retail outlets down to none and back up to five. Throughout that time, the price has remained high, with a maximum range of \$4.00 - \$7.00 and an average price ranging between \$5 and \$6. Once again, I have no volume data.

Fuji Retail Analysis



7 Events Calender

Date	Time	Event	Location	Venue	Organizer	Contact Details
Monday 8 May 06 & Wednesday 10 May 06	All day	Implementing & Maintaining SQF Systems 2 Day Training Course	Market City, Canning Vale	Conference Room	McAlpine Noonan Training	Graham McAlpine mc Alpine@vianet.net.au Ph: 0417 042 818 John Noonan jn@aftc.org.au Ph: 0429 135 504
Friday 12 May 06	8.30am to 3.30pm	Freshcare Workshop	Market City, Canning Vale	Conference Room	McAlpine Management Services	Graham McAlpine mc Alpine@vianet.net.au Ph: 0417 042 818
Tuesday 16 May 06 to Thursday 18 May 06	All day	HACCP Principles – Guidelines for Implementation & Use 3 Day Training Course	Market City, Canning Vale	Conference Room	McAlpine Noonan Training	Graham McAlpine mc Alpine@vianet.net.au Ph: 0417 042 818 John Noonan jn@aftc.org.au Ph: 0429 135 504
Friday 9 Jun 06	8.30am to 3.30pm	Freshcare Workshop	Market City, Canning Vale	Conference Room	McAlpine Management Services	Graham McAlpine mc Alpine@vianet.net.au Ph: 0417 042 818
19 Jun 06 - 23 Jun 06		National Young Grower Tour	Sydney, Stanthorpe, Brisbane	Various	WAFGA & GrowCom	Doug Hall wafgaido@bigpond.com Ph: (08) 9455 2075 Mob: 0417 905 644
Thursday 29 Jun 06	9.00am to 12.00pm	GS1 Australia – Overview of the GS1 eCommerce system and opportunities for Australian Fresh Produce industries	Perth	To be arranged	WAFGA & GS1	Doug Hall wafgaido@bigpond.com Ph: (08) 9455 2075 Mob: 0417 905 644

8 Comments & Suggestions:

If you have any comments or suggestions, please contact me on either wafgaido@bigpond.com or 0417 905 644.

Likewise, if you have a pome-related event you would like to have advertised through the Pome-e-mail please contact me.

Thank you for the comments and suggestions made by readers. Through your input, I can improve the quality and relevance of information that you receive through the Pome-e-mail.

APPENDIX C

The WA Pome Fruit News (Edition January 2005)

Western Australian Pome Fruit News

Research, development, marketing and promotional information for WA growers

WA Fruit Growers' Association
MP 96 Market City
280 Bannister Road
Canning Vale WA 6155

Telephone: 08 9455 2075 Fax: 08 9455 2096
Email: wafga@bigpond.com



WESTERN AUSTRALIAN
FRUIT GROWERS' ASSOCIATION
INCORPORATED

Volume 1. Issue 3. January 2005

Editors Notes

There are currently two HAL-funded intensive apple orchard demonstration sites in Australia, one in Tasmania, the other in South Australia. Anyone that has visited either of these will recognise the many benefits they offer in terms of presenting information to growers. The technical summary from the final report for the Tasmanian site is in this newsletter as is a summary of the first 5 years of the South Australian site. SA researcher Paul James was in WA recently talking to growers about his site, which will be hosting an open day in April. There is likely to be a significant push to 'intensification' in the next few years in the Australian apple industry however as noted in Greg Cramond's article, it is not a cure-all and growers will need to establish their needs prior to making any changes to their current production systems.

Also in this edition of the WA Pome Fruit News is a pamphlet containing background information on the APC's 2005 'WA GROWN' promotion for apples. 'WA GROWN' marks a return by the APC to face-to-face promotion, utilising information taken from a number of consumer surveys completed over the last 12 months. I would encourage all readers to review the 'WA GROWN' pamphlet and consider it as part of your marketing in 2005.

A Department of Agriculture Farmnote, Parrots and cockatoos in orchards, is also enclosed and this accompanies an article on the back page. WAFGA continues to work with various government agencies to find acceptable solutions for bird control. The Farmnote is provided to allow some commonality in terminology as over the last couple of months I have spoken to several growers, and it appears that there are a lot of cross-usage or localised bird names, which can lead to confusion. Please keep this Farmnote in your office and refer to it when seeking advice on bird control, I thank the Department for supplying it for our use.

As always, please feel free to contact me regarding any information contained in this publication, or other issues in apple and pear production - Alan Hill.

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Know-how for Horticulture™

About this publication

Editor: Alan Hill, Industry Development Officer – Pome Fruit, a position funded by the WAFGA's Apple and Pear Council and Horticulture Australia. The views expressed in this publication are not necessarily those of the APC or HAL. Articles in this publication are for the information of WA growers only, and any practice that is adopted as a result of these articles is done at the grower's discretion.

**** World Watch ****

Information reported in other publications

US apple industry sees increase in Gala and Fuji

A comparison of US apple production in 2004, with that from 1999, has revealed an increase in Gala and Fuji production, whilst Red and Golden Delicious had decreased. Of the 10 largest varieties in 1999 only Gala (up 57%) and Fuji (up 20%) have increased their level of production and are now ranked third and fourth in production levels, respectively. Red and Golden Delicious are still by far the most widely grown and these combined more than double the Gala and Fuji production.

Source: The Fruit Growers News (November 2004)

Say Grapple

A Washington State (USA) company is combining the flavour of grapes with apples in order to get children to eat more fruit. Called Grapples (pronounced Grape-L), Washington State Extra Fancy Fuji and Gala apples are put through a patented process to produce a grape flavoured apples. In 2004/05 the company is aiming to over 750 000 4 pack Grapples in the USA, and is also investigating global markets.

Source: Good Fruit Grower (August 2004)

Chinese using double dwarfing on Fuji apples

Double dwarfing – the use of a ‘spur-type cultivar plus a dwarfing interstock’ has been developed for Fuji apples in China. The technique involves a piece of interstock being grafted onto an understock adaptable to local situations and then using a spur-type cultivar onto the interstock. This method allows for a deeper rootstock to anchor the tree without supports or trellising whilst the dwarf interstock enables the canopy to expand effectively. The spur-type cultivar keeps the tree smaller. This double-control moderates vigour and favours fruit development rather than vegetative growth. Fuji accounts for almost 50% of China’s apple acreage.

Source: The Orchardist (October 2004)

Is \$5.30 too much for a tree?

German grower Thomas Lohle has wound back his high density plantings due to the high cost of his new trees. Describing 3 Euros (about \$5.30 AUD) as ‘more than he would normally expect to pay’ Lohle planted Fuji as super spindle at 3.0 x 0.7 M, (4700 trees/ha) rather than his favoured 2.2 x 0.4 M spacings (11300 trees/ha). Lohle produces 40-50 tons per hectare on this spacing.

Source: Good Fruit Grower (September 2004)

Pipfruit Chairman issues challenge

Newly elected Pipfruit NZ Chairman Ian Palmer has called on NZ growers to recapture their position as the producers of the best apples in the world. These comments were made as Pipfruit NZ met to discuss an export grade standard and a harvesting guide which should be published in early 2005. The key issues identified for the coming year in NZ included:

- A shrinking market window
- An increase in fruit production in the Southern Hemisphere
- NZ’s high dollar eroding returns
- The use of Smartfresh™ giving US apples a longer life
- Large Northern Hemisphere 2004 production

Source: The Orchardist (November 2004)

What 1-MCP does and doesn’t do

1-MCP (or Smartfresh) reduces the respiration rate of apples in storage and helps to retain the firmness of the fruit, even after it is removed and shipped. 1-MCP works by binding to the ethylene receptors in the apple cells, (it is 10 times more effective than ethylene at binding to the receptor sites) so that they cannot respond to ethylene. This action temporarily blocks the synthesis of ripening related proteins and enzymes so ripening is delayed. 1-MCP treated fruit will ripen eventually as the cells continue to form new receptor sites and when the fruit is removed from storage (and no longer exposed to 1-MCP) ethylene binds to these new sites. 1-MCP tends to slow down ripening but it doesn’t take care of all ripening processes as not all are related to ethylene. Further as 1-MCP inhibits the production of esters, which produce fruit its aroma, the use of 1-MCP can initiate a trade-off between aroma and firmness.

Source: Good Fruit Grower (September 2004)

If you have to say something – say it loud

“Imagine going to a grocery store to buy meat for a barbeque tonight and having the meat manager tell you he has great steaks but they wont be ready to eat for a week. It’s ludicrous”.

Roger Pepperl – Marketing Director for Stemilt Growers Inc (Washington USA) on why he believes over 50% of all pears sold in the USA will eventually be pre-conditioned (similar to Ripe & Ready).

Source: Good Fruit Grower (September 2004)

My point of view: Intensive Apple Orchards Greg Cramond – Orchardist/Researcher, South Australia.

By now we have all seen numerous references to the European apple industry and how it is more technically advanced than here. Some of the facts are undeniable, but one must compare apples with apples. Australia does not enjoy generous agricultural subsidies; the EU spent over \$50 Billion USD in 2003 or nearly half its budget on agricultural subsidies. The US by comparison sent a mere \$18.7 billion USD.

These figures are staggering and their effect on regional agriculture-based economies is huge. Such readily accessible funds for replanting, which are tied to adoption of high density has seen European orchards transformed. This is not a result of market pressure!

I am in favour of high density orchards, especially for their efficiency, but one must be cautious when trying to transpose European experience into Australian conditions. We also do not enjoy a liberal supply of experts in the field of tree training and management of high density orchards. In Europe there are many experts in well-funded extension programs who can assist growers at every turn.

Growers here however will need to progress to high density systems in a cautious and discretionary manner. One cannot plant a knip-boom tree without understanding the nuances of the system that must accompany that tree. Just like in the past when the central leader system was new to industry, people continued to prune the tree as if it was a vase, and subsequently ruined the ideals and advantages of the system.

We cannot go half cocked into high density and fully dwarfing rootstocks, because the initial investment is so large. Regardless of what you hear, these systems are not about high production – most growers in Europe I talked to wanted 50 tonnes/hectare. This they believe gave them a sustainable and quality yield. 50 tonnes is not that big a deal for most serious growers in Australia, as this can easily be achieved with moderate density systems.

Quality is another matter however and this is where systems based on fully dwarfing stocks such as M9 come into their own. There is no doubt that these systems have a higher percentage of higher quality fruit than on trees with vigorous rootstocks.

It was not that long ago that I remember people coming back from Europe and telling us that pedestrian orchards and multi-row beds were the way of the future. Some may have been convinced enough to plant one or another of these orchards. Many of these same people regret doing so. These systems were sustained in Europe by cheap planting material and further more generous planting subsidies. The multi-row bed has virtually disappeared from Europe as it is impractical, hard to keep weed free and has fruit quality problems. The pedestrian orchard could not achieve high sustainable production and has gone too.

As I have stated Aussie orchards need progress in steps not bounds. All is not far beyond reach though; across the world apple (and pear) tree production systems are converging to an almost universal single-row vertical axe system based on M9 or M26 clonal rootstocks. This system usually has 3 or so wires on a trellis, and trees are allowed to reach 3 – 3.5 metres in height. Variations of this system can be seen in any growing region of the world. This is also the system being planted widely in Australia and there are more and more people around with experience, who can assist.

At the end of the day the economics of the system will prove its worth and only Australian experience can provide that proof. Without cheap trees and subsidies, we cannot transform an industry overnight and there is much more pressure on a system to prove its worth over existing plantings.

I believe here in Australia the critical aspects in the economics of an orchard will be (and already is) variety selection rather than the system that holds the trees up.

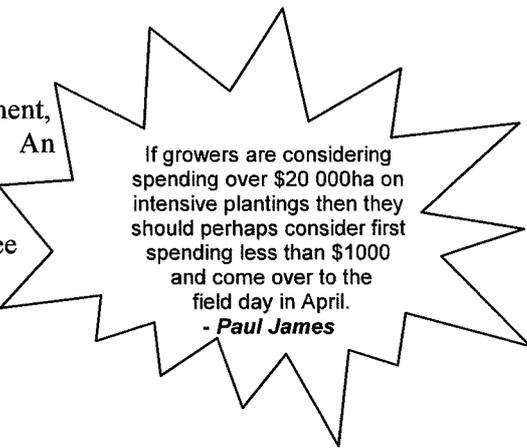
Top prices and guaranteed payment!

In the USA they call them 'Heritage Varieties' but here in Australia we just seem to call them old. Nevertheless if you are growing some of the 'older varieties' then Alan Hill at WAFGA would like to hear from you. Your Yates, Cleopatra and other suitable variety may very well become a part of the Apple and Pear Council's 2005 promotional activities. Contact Alan on 0409 361 935 or wafgaalan@bigpond.com

Intensive apple orchard plantings - economic assessment, years 1-5

By Paul James – PIRSA Rural Solutions

All orchard systems have an inherent level of risk in their management, labour requirements, levels of infrastructure and financial returns. An intensive apple orchard trial established in South Australia aims to compare the various systems, through capital investment and comparative labour inputs. Using 36 different orchard systems/tree densities for 2 varieties, the trial should provide an economic comparison of the performance of the different production, rootstock and tree densities.



If growers are considering spending over \$20 000/ha on intensive plantings then they should perhaps consider first spending less than \$1000 and come over to the field day in April.

- Paul James

Background

In 1999 the South Australian Pome Fruit Improvement Committee Inc with the Primary Industries and Resources SA planted the 0.5 Ha Orchard Systems demonstration block at the Lenswood Horticultural Centre. This is the third trial to commence at the location, following earlier variety/rootstock trials which commenced in 1990 and 1995. A major outcome of these trials has been to successfully demonstrate that high density orchards, on dwarfing rootstocks, can be grown successfully under Australian conditions and that they perform economically, and are more cost efficient to manage than conventional orchards.

Orchard layout

Earlier research used a larger combination of rootstock/varieties at either 1250 or 2000 trees/ha, however in the current trial only two varieties, Cripps Pink and Cripps Red have been selected. One of the primary reasons for this was for their economic importance to the Australian apple industry. Plantings in this trial are at much higher densities (ranging from 2000 to 6666 trees/Ha) and on 3 trellising systems (see Table).

Demonstration Planting Layout	
Rootstocks (4)	M.9, Ottawa.3, M.26 and MM.106
Orchard Systems (3)	Vertical Trellis, Closed V Trellis and Open V Trellis
Spacings (3)	0.75, 1,0 and 1.25 Mtrs
Variety (2)	Cripps Pink & Cripps Red

Results

Cumulative yield (all rootstocks/training systems) for the three harvests 2002 – 2004 has shown a variation between the rootstocks/training systems. A complete analysis of this information will be available in the project's final report which is due later this year. The report will also include the various labour and resource cost inputs required for each system, and the management practices required, including fruit quality, maturity and pest and disease management.

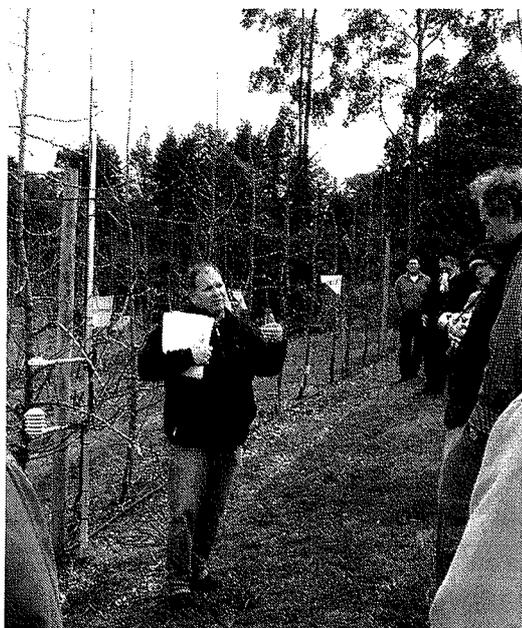
Future activities

A funding application to continue this project is being submitted, which should allow another 5 years of data collection. This second round of funding will also allow the management of trees in the production rather than the establishment phase to be compared. The project regularly holds field days and inspections of the site for interested growers. The next major field day is planned for early April 2005. WA growers who are considering a move to higher density plantings should consider viewing this trial at that time.

Intensive apple orchard plantings The lessons learnt so far

When considering establishing a high density apple orchard, it is important that growers consider these points:

- Take the time and effort to look at other systems.
- Get as much information on, and understanding of, these systems as possible.
- Plan and budget the new orchard properly.
- Select appropriate spacings – too far apart can be a bigger economic problem than too close together.
- Ensure you get the best quality nursery tree possible (virus tested preferred).
- Tree height and tree canopy volume are crucial to achieving high yields.
- Under most Australian conditions the optimum tree height is 3 – 3.5 m.
- Train the young trees to the trellis carefully using the appropriate measures.
- Maintain a dominant central leader for whichever management system you select.
- Above all, focus on the production of quality fruit, not good-looking orchards or excessive early crops.



Paul James in front of 5 yo Cripps Pink trees on MM.106 rootstock (note tree height).

Ten events to remember from 2004

February:

Biosecurity Australia (BA) releases their draft Import Risk Analysis (IRA) for NZ apples.

May:

APAL conducts 3 information sessions for WA growers on the proposed changes to the apple and pear levy. In total less than 30 growers attend the meetings.

BA conducts two draft IRA information sessions in WA. These are attended by over 140 growers.

APAL announce that it is part of a joint venture company which will manage the commercialisation of new apple and pear varieties from the Horticultural and Food Research Institute of NZ program. The other parties in the venture are the Associated International Group of Nurseries (AIGN) and Pipfruit NZ Incorporated (Pipfruit NZ).

June:

National apple day - WAFGA conducts an event at Parliament House which is attended by over 20 politicians including Kim Chance. As a result, Greens MP Dr. Christine Sharp moved this motion: "That this House considers that the Import Risk Analysis of New Zealand apples by Biosecurity Australia provides inadequate protection to the West Australian apple and pear industry" which received unanimous parliamentary support.

APAL announce that as a result of the recent grower meetings, it was ascertained that there is enough support to proceed with putting motions to a vote at the 2004 Annual Levy Payers Meeting, in Adelaide in August.

The period for comment on draft IRA for NZ apples closes, WAFGA, APAL and the WA Department of Agriculture all make written submissions.

September:

The Annual Levy Payer's Meeting (APAL Conference) supports all four motions to alter the current apple and pear levy. The result will be presented to the next meeting of the APAL Board.

At the WAFGA Conference, Diane Fry replaces Steve Dilley as WAFGA President, with Angelo Logiudice replacing Vick Grozotis as the Apple and Pear Council Chairman.

NZ Apple IRA withdrawn. New Zealand Prime Minister Helen Clark vows to continue the fight to have Kiwi apples allowed into Australia. An Australian election promise has derailed NZ attempts to have an 83-year ban on NZ apples, because of Fire Blight disease, lifted. Ms Clark said NZ will be lobbying hard to get the proposal back on track after the Australian election.

SA study finds some joy in derelict orchards

A recently released South Australian report has found that derelict pome fruit orchards present a range of management issues for adjacent commercial growers. The Adelaide Hills study used geographic information system (GIS) technology to map an area of one kilometre around two separate commercial orchards, with the aim of establishing the presence of derelict orchards in the area and then assessing their impact on the commercial growers.

Whilst the study focussed primarily on the management of the SA's industry's principle insect pest, codling moth, the study's results are applicable to WA growers, as it was found that derelict pome orchards and feral apples trees are severely undermining pest (in this case codling moth) control efforts by commercial growers, resulting in extra pesticide applications, loss of production and exclusion to some domestic and exports markets.

The study found that whilst derelict orchards were perceived to impact greatly on commercial orchards, the problem was larger than initially thought. On the positive side however derelict orchards occupied only a small proportion of land within the one km area around the orchards, and therefore it should be possible to have a marked influence on the pest (codling moth) harbours by targeting a small number of properties. Identifying and mapping the area was then essential to developing this solution.

The report recommended three actions:

- An effective extension program to raise the current awareness amongst landholders, to increase their capacity to manage their host species, or even consider tree removal.
- Some growers will require ongoing mediation assistance and support to negotiate and encourage neighbouring landholders.
- Legislative incentives may be required for some landholders to participate in the management of host species.

In WA, abandoned or neglected orchards should be reported to WAFGA. All reports must be in writing and should include at least, the address/location of the orchard and its proximity to the nearest commercial orchard, and if possible the name of the orchard's owner.

Yes, but is it good for you?

Health claims are a very important component in the promotion of the role of fruits and vegetables in a healthy balanced diet and, as such, many horticultural industries are concerned over what they see as the growing incidence of general health claims on food products that are not able to be substantiated. Further there are concerns over perceived inadequate policing of these claims. These concerns were included in a Horticulture Australia Limited (HAL) submission to Food Standards Australia New Zealand (FSANZ) over its initial Assessment Report into Nutrition, Health and Related Claims.

In the submission HAL argued that general and high level claims should be regulated by a Standard and through this regulation, a level playing field would be provided for all participants in the food industry, with all parties legally bound to follow the same rules. In a recent address to horticultural industry representatives, FSANZ General Manager, Food Standards (Canberra), Melanie Fisher said whilst the issue of health claims was a complex one FSANZ was currently considering a range of general and high level claims including those for fruit and vegetables. The development process for the proposed standard includes two rounds of public consultation, with the second round of consultation due to commence in late May 2005. The final standard is due to be completed by December 2005.

*Source AFVC Newsletter (December 2004)

Traineeships in horticulture

If you are considering taking on a trainee in 2005 (or beyond) but are not sure where to start, then consider calling Fred Chambers from Rural Skills Australia (RSA) on 9359 4003. RSA is a federal government/industry not-for-profit industry association whose aim is to foster a skilled workforce for rural and regional Australia by providing a link between industry and governments on training issues. This means Fred can answer your questions on the 'process', the paperwork and the benefits (yes including \$\$) to your business. Fred has indicated that he travels around growing areas frequently and that he would be happy to call in and see growers and/or give presentations to groups at meetings.

Waterwise on the Farm commences for Perth Hills growers

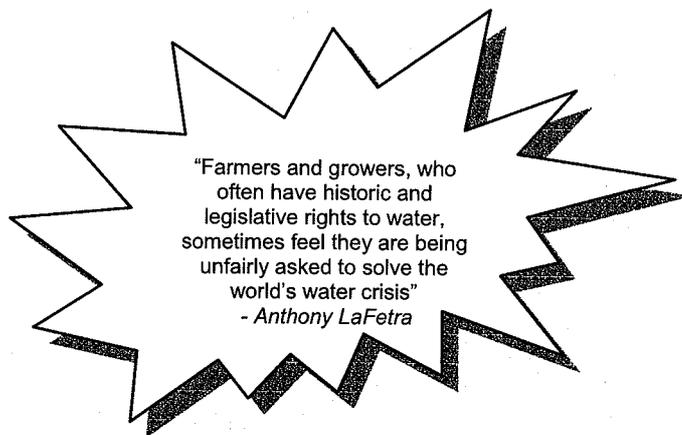
Perth Hill's growers were the first in the fruit industry to have been offered the opportunity to participate in the Department of Agriculture's Waterwise on the Farm irrigation training program. Eight businesses are participating in 2005. Two of the four workshops, soil and water resources and evaluating your pressurised system have been conducted, with the remainder to be completed by April 2005.

The Waterwise on the Farm irrigation training package is delivered through a through a combination of workshops and on-farm evaluations. So far growers have made on-farm assessments of their soil and had their irrigation water analysed by a commercial laboratory, with the next phase, commencing in early January, involving on-farm evaluation of their irrigation systems.

Importantly Waterwise is not just about using less water but rather focuses on the balance between crop demand, soils and irrigation water delivery. Those growers that attended the recently held Department of Agriculture's Irrigation and Nutrition Workshops (refer to the November 2004 edition of the WA Fruit Grower) would have heard all three speakers on the day talk about the need to consider irrigation and nutrition together in order to produce yield and quality.



The Waterwise on the Farm story so far: Dig a soil pit, observe root penetration and then establish the soil's readily available water (RAW), then measure the volume and distribution of the water from each irrigation system.

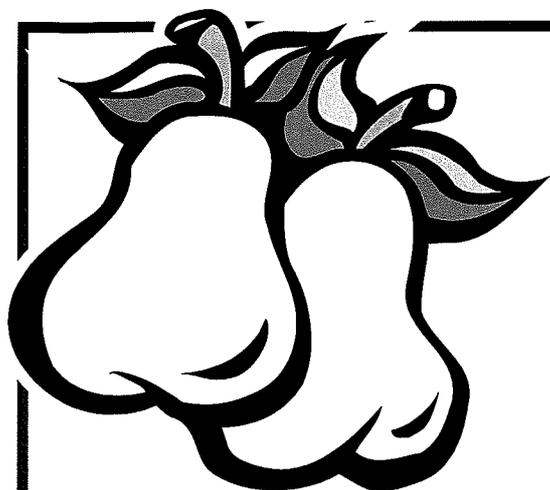


An additional benefit available to this year's participants is that they will be eligible to receive up to \$2000 in matching funding from the State government, money which can be spent on modification and improving the efficiency of their irrigation system.

It is extremely pleasing to see this financial incentive offered to growers, particularly so when the State Government, through their Water Task Force, have been offering rebates on items such as low-flow shower heads and washing machines since 2002.

Waterwise on the Farm co-ordinator James Dee spoke at the Donnybrook workshop and indicated that it would be possible to conduct a Waterwise group there in 2005/06.





THE NATIONAL PEAR BREEDING PROGRAM - 2003/04 UPDATE

Shiming Liu & Graeme McGregor,
Department of Primary Industries Tatura Centre, Victoria

The National Pear Breeding Program focuses on developing new pear varieties with attractive fruit appearance, good eating quality, better storage life and a spread of maturity. The program also aims to provide trees with better disease resistance and with friendly growing habits, which require low orchard input.

During the last 10 years, approximately 50,000 sibling trees have been planted and grown at the DPI Tatura Centre from over 200 crosses. This was the outcome of joint efforts between the DPI Victoria, NSW, WA Department of Agriculture and SARDI. In the cross program, we used over 50 different pear cultivars (lines) including Williams' Bon Chretien (WBC), Packham's Triumph and Beurre Bosc, and also a few blushed pears such as Corella, Red Sensation, Butirra Precoce Morettini (BPM) and Rogue Red. Asiatic cultivars, Ya Li, Kosui and Nijiseiki, were also used to intercross with a few European cultivars in order to incorporate a "ready to eat" character or scab resistance to a European pear background.

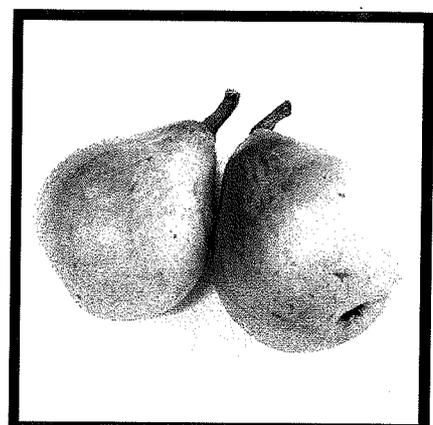
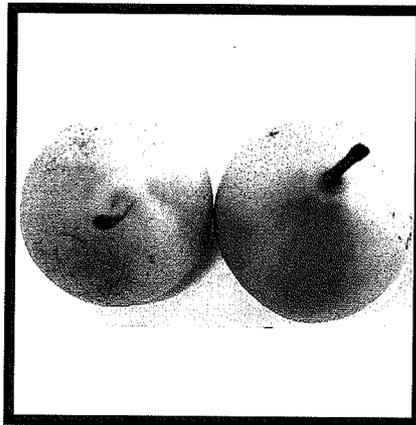
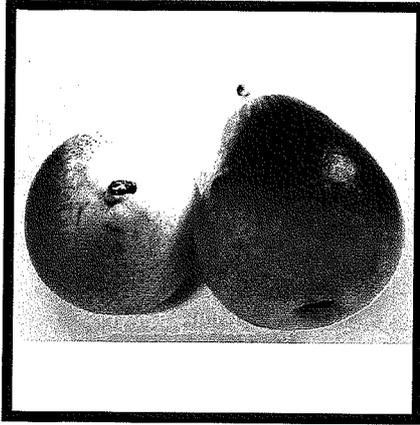
Sibling trees are grown on their own roots. They take about four to eight years to start bearing. About three quarters of these trees have been assessed, and more than 90 desirable trees have been identified over the last three seasons. Many of them produced fruit with good pyriform shape, attractive blush, buttery fine texture, lower grittiness and aromatic pear flavours. The selections have now been propagated on commercial rootstocks, D6 (*P. calleryana*) and Quince Adams, and planted in replicated trials for further evaluation.

Key progress of 2003/04

We developed an effective strategy for fruit assessment and selection to speed up identification of desirable sibling trees. The strategy consists of three steps.

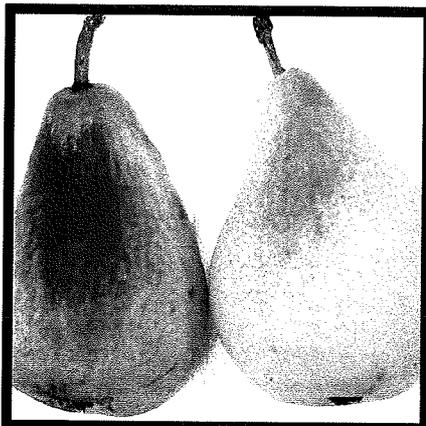
1. In late December and early January, sibling trees that bore fruit with pyriform shape, reasonable size and lack of unsightly russet and without fatal tree characters were selected in the orchard. Fruit of selected trees were harvested at two or three times based on estimated harvest dates, and stored in a cool room (1°C) immediately after harvest.
2. Following at least one-month cool storage, we placed fruit samples in a constant temperature room (18°C) for ripening, and then tasted matured fruit samples under room temperature conditions to select fruit samples with edible fruit flesh. Fruit samples with inedible fruit flesh were culled at this step.
3. A three-person panel was used to assess fruit appearance and eating quality of fruit samples with edible flesh. 40 attributes were scored (19 for fruit appearance, 4 for storage quality and 17 for eating quality). Following the assessment, the score of WBC and Beurre Bosc were used as minimal quality point for fruit appearance and eating quality, respectively, to select trees with fruit of commercial potential.





Approximately 15,000 sibling trees fruited in 2004. From these, 1,625 trees were selected by visual inspection in orchard blocks. Of these, over 3,600 fruit samples were harvested and stored in a cool room. After ripening, 578 fruit samples from 404 trees were retained due to their edible fruit flesh. Following fruit sensory evaluation, 34 trees were selected with fruit appearance and eating quality at least comparable to the above commercial standards.

Another aspect of breeding activities in the season was to initiate the 2nd phase of the cross program. In this phase, we are crossing elite selections from the breeding program or backcrossing them with elite cultivars used in the 1st phase of the cross program. Last season, we made about 23 crosses and obtained more than 4,000 hybrid seeds. On average, each pollinated fruit contained 4 hybrid seeds, which is two fold of that reported by overseas pear breeding programs. Overall, 90% of hybrid seeds were germinated and more than 3,600 seedlings were obtained.



Future work

We will continue to identify desirable selections from fruited sibling trees of the breeding population. Once selections in the replicated trials start bearing fruit, we will re-assess the fruit quality and many other aspects such as productivity, fruit storage potential and resistance to diseases. Elite selection from this stage of evaluation will then enter a nationwide test scheme under the Australian Pome Fruit Improvement Program (APFIP).



We also focus on several other areas to enhance the success of the breeding program. Firstly, we aim to develop management practices to shorten the juvenile period of sibling trees at the first stage of evaluation. Secondly, we are building our understanding of the inheritance of pear fruit appearance and eating quality by analysing data from the fruit sensory evaluations collected over the last few seasons. Thirdly, we are developing strategies for commercialisation of the new pear varieties to facilitate their release in the future.



Why 'WA GROWN'?

The 'WA GROWN' campaign is a very different promotion to that which the APC has conducted in the past few years. 'WA GROWN' aims to provide information to consumers about the many benefits of eating WA apples, and further through the delivery of specific promotional activities, it aims to have a positive effect on returns to the grower.

Background

The three main issues which constantly featured in a fairly broad mix of apple, pear and other fruit industry newsletters in 2004 were the (often low) price paid to the grower for fruit, the need to 'get modern' and move into high density or intensive plantings and the 'fit' of fruit in the modern consumer's diet.

Whilst these weren't the only issues, the frequency with which they featured reinforced the similarities of modern fruit production and promotion across the globe. Yet aside from the third issue, they are a decision for individual growers and largely thought of as being outside the sphere of influence of representative bodies, such as WAFGA.

The three issues do come together at the point of sale and it is at this point that grower representative bodies have the opportunity to have their greatest impact.

Promotion, promotion, promotion!

The apple industry is extremely fortunate to be selling into a marketplace which has some knowledge of variety (or product) differentiation. In terms of apples, most consumers can pick the difference between a Pink Lady and a Granny Smith. Perhaps even more importantly, most consumers have a preference for a variety or varieties and appear to follow buying trends along these preferences.

The current thinking is that industry may have not previously promoted hard enough to reinforce these differences. Consider three varieties, Hi-Early, Golden Delicious and Sundowner. Which one should consumers purchase with confidence in November and what information is provided to them to assist them to make this decision?

There are very few meaningful examples of providing the consumer with this type of information as most retailing point of sale material is focussed on price. The Ripe & Ready Pear campaign is one that does stand out, with over 5000 demonstration hours conducted in Australia last year. This led to sales of 750 000 trays of Ripe and Ready pears in 2004 ⁽¹⁾.

In viewing several of these demonstrations, I often saw Ripe and Ready pears on sale at double the price of the normal line of Packham pears. Demonstrators frequently commented "If we can get customers to try them, then we can get customers to buy them".

Current situation in WA

I was surprised to learn recently that between 1980 and 1996 over 70 new stone fruit varieties were released every year in Australia ⁽²⁾. Whilst many of these would have no doubt replaced older varieties we need to consider that growing even half of that number may be offering too much choice to the consumer? It also appears to be too many lines for the retailer to manage effectively.

It is unlikely that anywhere near this many varieties will be available to the apple industry. It appears that in WA in the short to medium term the WA industry will be reliant on those apple varieties which we currently have. Thus, promotion must be aimed at having an impact at point of sale with the aim of delivering better returns to growers on these (cont page 11).

**Pink
Lady
Apple**



Recent Australian consumer studies⁽³⁾ have shown that apples have the highest household penetration of any fruit line (98.5%) however it also highlighted that if a person has a bad experience with apples they tend to either purchase less apples next time they shop or, even worse, switch completely to another type of fruit. And people do complain about apples, soft, floury, bruised, tasteless and that they don't store feature highly in apple related competition⁽³⁾.

The clear messages there relate to the consistency and quality of fruit. This isn't unique to the fresh produce world and through 'WA GROWN' it will be addressed via a coordinated program of in-season promotions to highlight to consumers the many benefits of eating Western Australian apples.

'WA GROWN'

The APC's 2005 promotional tag-line is 'WA GROWN' and in this the primary aims are to highlight to consumers that apples are a seasonal fruit and to deliver information to consumers that differentiate the varieties.

That the apples are grown in WA is the common feature that links all the varieties in the promotion, and whilst we are currently without sales-competition from interstate or overseas this common feature should assist in establishing the brand.

Enclosed in this newsletter is an outline of the proposed 2005 apple promotion I would urge growers to review the WA GROWN material and also to review the WA Fruit Grower to stay in contact with its progress.

Where is the pear promotion in all this?

The 2005 pear promotion is still being developed however it will not involve the use of a point of sale sticker. The 2005 pear promotion will involve more demonstrations, information on these activities will also be in future editions of the WA Fruit Grower.

References.

1. Tree Fruit, December 2004.
2. Good Fruit and Vegetables, September 2004.
3. What the consumer wants: A presentation to the 2004 APAL Conference.

Publications Available

These publications are available either on-line and/or by contacting Alan Hill at WAFGA on 9455 2075 or wafgaalan@bigpond.com

Guidelines for postharvest drenching

Agriculture Victoria has updated its "Guidelines for postharvest drenching of apples and pears" to include DPA and those fungicides that have been registered since 2000. The manual can be downloaded from: <http://www.dpi.vic.gov.au/agvic/ihd/publications/dpa-use-guidelines.pdf>

Safety in the Orchard – Workers Induction Manual

With harvest approaching, WAFGA's Safety in the Orchard Manual is available at no cost to growers, in either hard or electronic copy.

Guidelines for implementing EUREPGAP®

The Department of Agriculture, Fisheries & Forestry (DAFF) have released a new publication entitled "Guidelines for implementing EUREPGAP® for Australian fresh fruit & vegetables producers. The guidelines have been specifically designed for growers, auditors & customers and aims to achieve a greater consistency surrounding the implementation and certification of EUREPGAP® in Australia. An electronic version can be obtained from the DAFF website: www.daff.gov.au or a hard-copy can be obtained by emailing DAFF's Justin Fromm at justin.fromm@daff.gov.au

Guidelines for On-Farm Food Safety for Fresh Produce – Second Edition

The updated second edition is now available by contacting the DAFF on (02) 6272 5671 or email. foodinfo@daff.gov.au or it can be downloaded from the website at: <http://www.daff.gov.au/content/publications.cfm?Category=Food&ObjectID=E983F36E-534C-45CA-94E04359AB7B00DE>

Environmental Protection (Noise) Regulations 1997 – A Summary

An electronic version of the "Summary of the Noise Regulations" is available from the WAFGA office. I would recommend these if you are considering purchasing a gun.

Apple and Pear Australia – Board and IAC Report

The Apple and Pear Australia Board, and Industry Advisory Committee met in early December 2004. This is a summary of the key points of those meetings and the priority activities conducted through the APAL office.

APAL Board Report

1. A progress report from the Australian Pome Fruit Improvement Program Ltd., during which it was highlighted that:
 - 30,000 certified root-stocks are now planted in production beds across 4 nurseries, which are under license agreements. The ACCC has approved the certification rules.
 - Production at the Monash site in South Australia is phasing out. A repository is likely to be established in Tasmania due to its cooler climate.
 - The APFIP Evaluation Database averages around 7,000 hits per month. The APFIP site receives around 17,000 to 19,000 hits per month. A showcase event will be held next year – one in Adelaide Hills and one in Tasmania. These events will be closely controlled to check how well the procedures work before expanding the approach. The number of evaluation customers is increasing all the time.
 - 64 varieties of apples and pears now exist in the program.
2. The investigation of funding opportunities through the Department of Agriculture, Fisheries & Forestry (DAFF) and their Partnership Initiatives Program. This Program can offer in excess of \$1.7 million in government funds to specific projects, with funding running through until the end of June 2008. Preliminary discussions have included state associations to identify how they each might participate in any such opportunities, should a submission to DAFF be successful.
3. The issue of low harvest labour availability and that ways to address this can be investigated.

IAC Report

- Industry Strategic Plan

The Apple & Pear Industry Strategic Plan (APISP) is now posted on the websites of Horticulture Australia (HAL) and Apple & Pear Australia Ltd. It is important to note that the priorities listed against objectives in the APISP are a guide for making levy-funding allocations towards projects in 2005/06. While some objectives are not listed as a priority for levy funded projects in 2005/06, they are a priority for the peak industry body - APAL.

When reading the APISP it is also important to remember that industry levies cannot be used for agri-political activities, however levies may be used from time to time to support research that will assist in the formulation of policy.

All project proposals seeking levy funds and submitted to HAL are reviewed during December and January. During this review phase all proposals will be compared against the APISP and aligned against the objectives and priorities. In the event that no projects are submitted that match specific priority areas within the Plan, there is a mechanism for proposals to be sought from researchers to fill these gaps.

The details of all R&D project proposals will be provided to the IAC R&D Committee for their consideration during January 2005. Recommendations on proposals will be put before the full IAC at their January/February 2005 meeting.

The IAC R&D Committee meet in mid-December to review the current status of all projects to consider funding re-allocations where appropriate.

- Marketing & Promotions

The Committees for Export and Domestic Marketing met during October to review the past years campaigns and finalise plans for 2005. The Domestic Marketing budgets for 2005 were endorsed by the IAC, noting that the Wiggles Sponsorship Program and TV promotions had one year each to run before completion of this current 3-year campaign. 2005 would be an important year with regard to planning the detail of the next 3-year domestic campaign.

The Domestic Marketing Committee is currently developing recommendations on implementation into the future of the Wiggles Applesnax™ Program to go before the full IAC.

A further meeting of the Export Marketing Committee will be held during December to complete the review of the wider export program and in particular AustraliaFresh.

Key APAL Activities

- Revised Draft IRA on NZ Apple Access

Since the revised draft IRA was withdrawn APAL has written to Biosecurity Australia (BA) stating that it appears the IRA Handbook will need to be re-written and requesting that no action be taken without the apple and pear industry having some input. Although the revised draft IRA has been withdrawn there is no policy to stop it being re-released. BA has made no announcement on the proposed process or the timetable for re-release. The apple and pear industry has sent to BA an addendum to its technical response containing new scientific information delivered at the International Fire Blight Symposium in Italy in July 2004. BA has accepted this additional submission. A technical working group has also been convened to assess the ongoing scientific research requirements to support the industry's position to minimise risks associated with imported apples. On 12 November 2004 a brainstorming meeting was held with industry to assist in establishing a framework for appropriate research. The recommendations from this working group will be provided to the IAC R & D committee for consideration in the forthcoming round of R & D project assessments for the 2005/06 year.

- Emergency Plant Pest Response Deed (EPPRD) / Cost Sharing Agreement (CSA)

The Emergency Plant Pest Response Deed / Cost Sharing Agreement process has been under negotiation through the facilitation of Plant Health Australia since mid 2001. APAL is a member of Plant Health Australia and has two representatives that attend most meetings. The Deed is about plant industries and governments sharing responsibility for management of exotic pest and disease incursions, including payment of costs. The basis of the cost sharing is dependent on the nature of the incursion. Categorisation has been undertaken ranging from 100% of costs being picked up by governments where incursion is detrimental to health and welfare of

community, through to industry picking up 80% and government 20% where the broader community suffers little impact.

On 28 October 2004 at a special ratification ceremony in Canberra, the Plant Health Australia Emergency Plant Pest Response Deed (EPPRD) was signed by four PHA industry members including Apple & Pear Australia Ltd. Once all Government parties are signed up to the agreement implementation may begin. The aim is to have the agreement active by the start of the 2005/06 financial year. The Apple and Pear Industry Biosecurity Plan is to be progressed in during early December 2004.

- EurepGAP Australian Technical Working Group

APAL staff have participated in discussions on the establishment of a EurepGAP Australian Technical Working Group which has led to a commitment for six months to assist its formation. After its formation the Working Group members must only be drawn from individuals or organisations that are financial members of EurepGAP. Such groups are being formed in all countries that wish to have input to EurepGAP with respect to conditions in their own countries. The group will have responsibility to review the EurepGAP guidelines against Australian conditions and establish a set of guidelines for Australia that will be submitted to EurepGAP and will become the Australian standard once approved, so if you wish to have input on items that need revision, please contact Val Hilton on (03) 9329 3511.

A summary of the effect of netting on Australian orchards can be found in a paper by Qld researchers, Simon Middleton & Alan McWalters. This summary is the result of several levy-funded projects. To view the paper either go online at: <http://www.idfta.org/cft/2002/april/page51.pdf> or a hard copy is available from the WAFGA office

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National Application of New Techniques for Scald Control

HAL Project AP 99010 Final Report – Technical Summary

Superficial scald is a serious physiological disorder of apples and pears. Occurring during storage it results in a brown discolouration making the fruit unmarketable and limiting its storage and export potential. It is thought to be due to the oxidation of α -farnesene and the build up of its oxidation products, conjugated trienes, which accumulate in the skin causing cellular damage and discolouration.

Currently, scald is controlled very effectively by post harvest drenching with the antioxidant diphenylamine (DPA). Almost all apples and pears grown in Australia are treated with DPA. However, some markets e.g. apples to Japan, and pears to a number of Asian and European markets no longer accept fruit treated with this chemical. There are increasing concerns over residues that exceed the maximum residue limit. Also, the inability to predict scald occurrence results in fruit being treated unnecessarily. Drenching is wasteful and potentially polluting as the chemical mix needs to be discarded, and appropriate disposal methods may not be available in all situations. Drenching also disperses fungal inoculum making it necessary to use one or more fungicides. In addition, the consumers preference for “clean and green”, chemical-free produce makes alternatives to DPA desirable.

The aim of this project was to develop and evaluate several alternative methods of avoiding scald, including scald forecasting models, ultra low oxygen (ULO) storage, fumigation with 1-methylcyclopropene (1-MCP) and alcohol vapour and drenching in emulsified canola oil.

Models were developed that predicted the first occurrence of scald based on harvest maturity (starch index) hours below 10°C in the orchard prior to harvest and the intended storage length. Each of these factors is highly correlated with scald susceptibility, however the importance of each factor in the model varies between cultivars and growing regions. Scald forecasting models have been developed for several cultivars and growing areas including Granny Smith from the Yarra Valley and Adelaide Hills, Red Delicious from Batlow and Huonville and Pink Lady from the Yarra Valley, Goulburn Valley and Huonville.

Ultra low oxygen storage (1.1% O₂ : 0.5% CO₂) successfully delayed the onset and reduced the severity of scald in Red Delicious and Pink Lady apples. In most cases, ULO stored apples were virtually scald free for 6 months whereas conventionally stored fruit (2.5 % O₂ : 1% CO₂) had significant amounts of scald at that time. After 9 months ULO storage, fruit began to develop a low incidence of scald. There were no detrimental effects observed on Red Delicious, but, in one season Pink Lady developed some slight alcoholic flavours under ULO.

The ethylene action inhibitor 1-MCP (methylcyclopropene) has recently been registered for use on apples and pears in the United States. In our evaluations, Granny Smith and Red Delicious apples of various harvest maturities remained scald free for 11 and 9 months respectively. Fruit were also firmer and greener with improved storage potential.

Ethanol and propanol vapours gave good scald control on Packham's pears, Granny Smith and Pink Lady apples. However, there were problems with flavour tainting at the higher concentration, while lower levels did not provide as effective scald control. Additional work would need to be done to determine effective treatment rates that do not affect flavour.

Dipping in 1% emulsion of canola oil gave some reduction in the amount and severity of scald on Granny Smith and Red Delicious apples and Packham's Triumph and WBC pears, but not enough to be used commercially. When used on pears it aided in retaining firmness and greenness in some fruit. It could be useful for organic fruit to prolong storage life in the short term.

Growers wishing to reduce or eliminate DPA use have a number of treatment options available to them which could be used alone, in combination, or with reduced rates of DPA. The forecasting models can be a useful tool for choosing the type of treatment needed for efficient scald control. Eliminating the dipping process by using ILO, 1-MCP or alcohol vapour means that fungicide application may be avoided. These treatments will lead to a reduction in postharvest chemical residues, increased marketability and in some cases reduced costs.

Delivering Research and Development outcomes is made possible by the Commonwealth Government's 50 per cent investment in all HAL's Research and Development activities.



Know-how for Horticulture™

Intensive Apple Growing Systems

HAL Project AP 98022 Final Report – Technical Summary

Some key elements of the industries competitiveness on world markets are dependant on intensive growing systems which can deliver early, high and sustainable production of high quality fruit. A benchmarking study conducted by the apple industry concluded that Australia lags behind its main competitors in terms of orchard productivity and costs.

In September 2000, a demonstration orchard was planted at Grove Research Station, Huon Valley, Tasmania to assist growers in the planning, design and development of modern and efficient orchard systems.

The transfer of technology program has been carried out by the Department of Primary Industries, Water and Environment, Tasmania in co-operation with Horticulture Australia and Tasmanian Apple Industry.

The mainstream commercial apple varieties Gala, Fuji, Pink Lady and Sundowner were chosen for their economic value and contrasting growth characteristics to provide a range of challenges in intensive hedgerow systems. The best available dwarfing stocks and interstems (M9, M26, M9/MM106, M9/MM102) and semi-dwarfing stocks (MM102 and MM106) are used across all cultivars to match the tree size requirements of five orchard densities 1904, 2857, 3333, 4444 and 6666 trees/ha. The planting is trained on a single row compact pyramid shape hedgerow supported by the standard vertical post and wire trellis. The system is fully compatible with integrated fruit production.

Orchard establishment costs – The cost of orchard establishment including the planting phase and the first season if orchard development ranged from \$33 884 to \$67 321 for 1904 to 6666 tree densities/ha. The main costs were nursery trees, site preparation tree supports, irrigation and tree training. It is extremely important that very high density orchard establishment inputs are matched with high early yields as demonstrated in this project.

Early production – In year two, many systems yielded in excess of 30 tonnes and some exceeded 40 tonnes per hectare. The highest crop 48.7 t/ha was recorded in Sundowner/MM106 feathered (“F”) trees planted at 3.5 x 1.0 M (2857 trees/ha).

The crop in year three reinforced the effect of dwarfing stocks and tree density on high and regular production in intensive orchards. Except for Fuji, yields mainly equalled or were higher than those produced in year two.

Productivity was particularly impressive in Gala, Pink Lady and Sundowner “F” type trees. Gala and Sundowner produced the best results on M9/MM106, M26 and M9 in all high densities (333-6666 trees/ha) and on MM106 at 2857 trees/ha. In Pink Lady all stocks and tree spacings produced good to excellent results. The most impressive combinations were MM106 at 2857 and 1904 trees/ha, MM102 at 2857 and 3333 trees/ha and M9/MM106 and M26 at 3333 and 4444 trees/ha. Cumulative crops for years two and three were 49-92.2 t/ha for Fuji, 42-86.6 t/ha for Gala, 49.3 – 93.1 t/ha for Sundowner and 63.1 – 106.9t/ha for Pink Lady.

The project has clearly demonstrated that best practice new orchard technology – high tree densities (2500-3000 trees/ha), high quality nursery material (large size well branched trees), dwarfing rootstocks, minimal pruning and tree training, can deliver many important benefits to the apple industry:

- Dramatic increase in early fruit production. Accumulated high yield in the second and third year after planting can be up to ten times higher compared with standard commercial orchards based on old technology.
- Reduction in costs per unit of production. These costs can be reduced by more than 50%.
- Faster changeover to new varieties.
- Quicker response to market demand.
- More efficient use of land and water, the current national apple production (320 000t) can be produced on less than half the present orchard area (17, 330ha).
- Easier implementation of sustainable orchard practices – minimal use of chemicals.
- Increased competitiveness in export markets.

The project should continue beyond the present phase to generate further information for the industry on orchard management, productivity, fruit quality and economic parameters.

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Know-how for Horticulture™

Australian research on bird pests: impact management and future directions

In early 2005 WAFGA, through the involvement of Executive Manager Rob McFerran, will participate in a cross government-agency committee which will investigate realistic options for bird control for fruit growers. The formation of the committee is the result of over 12 months of activity by WAFGA. As always WAFGA is keen to hear from growers on this issue, and with that in mind it seems appropriate to review the most recent bird related literature. Presented here is a summary of a paper written in 2002, and copies of this research is available from the WAFGA office.

To determine the best management option for bird pests, it is necessary to have a reliable measure of the relationship between bird abundance and damage levels. For an analysis of the economic benefits of bird control, data is needed on the relationship between control costs, damage levels and net returns, preferably for a range of control options and levels. Such information is usually unavailable for Australian bird pests, as getting reliable estimates of bird damage is difficult for four main reasons:

- Birds cause many types of harm,
- Harm caused by birds is often unpredictable
- Many species of birds are responsible for causing harm
- Techniques that produce reliable estimates of damage are often crop specific or have not been fully developed.

These reasons make it difficult to manage damage caused by birds and to evaluate the success of techniques used to reduce bird damage. Damage mitigation strategies that work in one place or time or for one particular bird species may not work in other circumstances. In addition, many of Australia's bird pests are protected native species and it is necessary to both manage the damage they cause and ensure that control measures do not threaten populations.

In WA, several studies on bird damage/control have been conducted. An early study (1985 to 1987) conducted monthly field surveys of bird damage to fruit trees for 3 seasons. This study found the greatest parrot damage was caused to red skinned varieties of apples with up to 12% damage to individual varieties. Bird damage was worse in years when Marri had few flowers and fruit.

An economic study (1989), which reviewed apple production in WA, found that for most varieties at most sites, exclusion netting was the best option. In

the situations where netting was uneconomical (in this case for Granny Smith), the study found that the options were either to shoot or to opt for no control methods at all.

In 1990, a South Australian study reviewed the economic analysis of the design, effectiveness, costs and benefits of using permanent exclusion netting to reduce bird damage in orchards and vineyards. This study found that if applied correctly, netting can be fully effective against all species, that it is ecologically and socially acceptable and, is humane, and the expertise for its installation and maintenance is readily available. The disadvantage of netting though is its cost. The economic benefit of netting depends on the balance between the level of damage received by the crop, the annual (net) returns and from the crop and the cost of application. The study concluded that it is rarely economic for growers to erect permanent netting over conventional (in this case, low density cherry) orchards however for the intensive high yielding, high value, new (cherry) varieties, netting is often economical.

Trials of the effectiveness of scaring devices have usually investigated the impact of each device on its own rather than in combination with other damage-mitigating strategies, techniques or devices. In 1990 a study in WA orchards, involving two commercial electronic scaring devices, a gas cannon, imitation hawks, balloons and 'eye patterns' found that none of them had any significant effects on parrots and that their use was not cost-effective.

Part of the problem with 'scaring' is that unless the birds are successfully scared to another feeding site, they will inevitably return to the crop and damaging a new piece of fruit after each disturbance.

In summary the general conclusions of the paper were that where exclusion netting is economically beneficial it is by far the best solution. There is however situations where netting is not economic, particularly for bird damage to some older fruit orchards with wide tree spacings. In these instances little published data and associated economic analysis exists to indicate which approaches will be most beneficial to growers.

Reference: Bomford, M. & Sinclair, R. (2002) Australian research on bird pests: impact management and future directions. *Emu*, V 102, p29-45. Royal Australasian Ornithologists Union.