

Horticulture Innovation Australia

Final Report

Persimmon Field Day 2016

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Persimmons Australia Inc

Project Number: PR15700

PR15700

This project has been funded by Horticulture Innovation Australia Limited using the persimmon industry levy and funds from the Australian Government.

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ISBN 0 7341 3814 8

Published and distributed by:
Horticulture Innovation Australia Limited
Level 8, 1 Chifley Square
Sydney NSW 2000
Tel: (02) 8295 2300
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Summary

The Persimmon Field Day 2016 was held on Thursday 4th and Friday 5th February 2016. This timing aimed to strike balance between maximizing delegate attendance and having orchards close to production for delegate interest. The Persimmon season commences in February in Queensland and extends to July in the southern states. Recent plantings in southern Australia are likely to bring significant growth to the industry in the coming years, thus holding the event in Barooga, NSW, offered delegates the opportunity to see first-hand these expanding production areas.

The Persimmon Field Day 2016 program was designed to bring growers from across Australia together to update them on recent advances in research and management of this delicious autumnal crop. In particular sessions focused on the key issues for the Persimmon Industry relating to improving fruit quality, minimizing pest and disease and increasing postharvest storage life of the fruit in order to increase market penetration for both domestic and export markets. The event provided a platform for researchers supported by Horticulture Innovation Australia to deliver on the outcomes of Persimmon production management research and postharvest treatment advances, as well as the National QFly Control Program. Horticulture Innovation Australia was provided with an opportunity to deliver a presentation more generally on the Persimmon Program, including the current Marketing Program. In addition a broad selection of other presenters, including integrated pest management specialists and marketers, demonstrated how their services can assist the industry in managing the crop and the expected increase in production. Throughout the event delegates were encouraged to share their first hand experiences in Persimmon production. Producers are recognized as an invaluable source of information and inspiration which can lead to improvements in crop productivity and quality. Proceedings from the event were prepared and distributed electronically to delegates as well as being posted on the Persimmons Australia website.

The format of the Persimmon Field Day 2016 included both field day style on-farm visits to four properties and a half day of structured conference presentations. This format ensured that information was delivered to the target audience both in an on-farm environment in which growers feel most at ease and in conference where researchers can present a greater level of detail. In both situations a high level of presenter-delegate and delegate-delegate interaction was encouraged and, by combining these different styles of information delivery, delegates' access to the knowledge and advice was maximized. Moreover this approach allowed for the best possible adoption of current information and thus added value to the businesses of attendees.

A conference dinner was held for delegates to network in a more relaxed environment. Moreover a guest speaker added value to the delegates experience by providing a speech on horticultural production in the Barooga-Cobram district – the heart of Victoria's "Food Bowl".

The event was well attended and delegates would like similar events held in the future.

Keywords

Persimmons; Persimmons Australia Inc; Field Day; Conference; Barooga; Crop management; Varieties; Fruit fly; Marketing.

Introduction

Persimmons were probably first introduced into Australia in the 1850s by Chinese gold miners and small quantities of astringent varieties were exported in the early 1900s. However it was the introduction of sweet varieties that has driven the growth in the industry.

Annual production across Australia has now increased to approximately 4,000 tonnes with the support of an industry focused, levy funded research and development program. Around 90 per cent of production in Australia is from sweet persimmon varieties, predominantly “Fuyu” and “Jiro” but there are a several other varieties showing promise.

Persimmons are well suited to the Australian conditions, preferring sub-tropical to mild climates. They are tolerant to heat but do not like extreme cold and are also drought resistant.

Persimmons are grown in most states of Australia, with the bulk of the fruit coming from the south-east corner of Queensland. Other key growing areas include coastal New South Wales, the Goulburn and Murray Valleys in Victoria and South Australia as well as some areas of the south west corner in Western Australia.

New plantings of Persimmons are increasing significantly, particularly in the southern growing regions of Australia and this prompted Persimmons Australia Inc to host the Australian Persimmon Industry Field Days & Conference in Barooga, NSW, in the heart of the horticultural region of the Riverina. The two-day industry event on 4th and 5th February 2016 offered current growers and those interested in growing persimmons the opportunity to see first-hand these expanding production areas.

The Field Day and Conference program was prepared to bring growers from across Australia together to update them on recent advances in research and management of this autumnal crop and to share their first hand experiences to improve the productivity and quality of the crop.

Methodology

Organising and Facilitation Team

Being the peak industry body for Persimmons, Persimmons Australia Inc (PAI) was well positioned to design and deliver the Persimmon Field Day 2016, having a sound record of regular and professional engagement with growers throughout the Persimmon Industry. PAI assembled an Organising and Facilitation Team consisting of 5 highly experienced Persimmon growers representing several of the major production regions and a horticultural consultant with over 10 years' experience of working closely with the Persimmon Industry (Table 1). Together with their knowledge of persimmon production and marketing, the growers contributed their understanding of the needs of the Persimmon Industry to help shape the Field Day program, assist with facilitation during the event and ensure that other tasks were conducted professionally and in a timely manner in order to maximize the success of this event.

Dr Fuss' role in this project was to coordinate the Field Day program, source appropriate venues and presenters, promote the event both within the Persimmon Industry and more broadly in relevant horticultural production regions, manage delegate registrations, ensure the smooth running of the event and prepare suitable post-event reports.

Table 1. PAI Persimmon Field Day 2016 Organising & Facilitation Team

Brett Guthrey	PAI President, Persimmon Grower in NSW
Tom Dunn	PAI Vice-President, Persimmon Grower in Qld
Stephen Jeffers	PAI Secretary/Treasurer, Persimmon Grower in Qld
Chris Stillard	PAI Executive Member, Persimmon Grower in NSW
Warren Waddell	PAI Executive Member, Persimmon Grower in NSW
Dr Alison Fuss	Horticultural Consultant, PAI Secretariat

Advertising and promotion

Significant, targeted promotion of the Persimmon Field Day 2016 was undertaken, both directly to Persimmon growers by utilizing PAI's extensive database and more generally through the media.

A four page, full colour, A5 brochure was prepared outlining the timing, location and the purpose of the event and provided details for registration. This brochure was distributed electronically to over 65 persimmon growers with email addresses and as a hard copy by post to an additional 68 people on the industry database without an email address. Extra copies were distributed on request.

Advertisements were placed in selected print media covering the key horticultural production regions along the River Murray, spanning from Yarrawonga, Victoria in the east to Waikerie, South Australia in the west. These papers included Country News (an insert in 17 smaller local papers), Sunraysia Daily (Mildura), The Guardian (Swan Hill), The Murray Pioneer (Renmark), The Loxton News (Loxton) and The River News (Waikerie). Associated editorial was achieved in some of these publications based on a

press release prepared and distributed by Persimmons Australia Inc. These papers represent a readership in excess of 125,000.

A television news crew from the WIN TV at Shepparton, Victoria interviewed Chris Stillard, a local persimmon grower and member of the Field Day Organising and Facilitation Team, and the session was screened on the local and national news.

An online presence was achieved through publication of the press release on Fresh Plaza and the Farm Post Newsletter produced by the NSW Farmers Federation, and via the Horticulture Innovation Australia Limited website and news distribution channels. Details of the event were also posted on the Persimmons Australia Facebook page.

Additionally the grower members of the PAI Persimmon Field Day 2016 Organising and Facilitation Team were also tasked with phoning growers to further encourage participation.

Timing and Location

The Persimmon Field Day 2016 was held on Thursday 4th and Friday 5th February 2016, at the Barooga-Cobram Golf Club in Barooga, New South Wales. This timing aimed to strike balance between maximizing delegate attendance by avoiding the harvest period yet having orchards close to production for delegate interest. This can be challenging since the Persimmon season commences in February in Queensland and extends to July in the southern states.

In recent years, most industry events have been held in Queensland since most of the research on Persimmon production techniques and postharvest strategies has been coordinated and conducted in Queensland. Whilst in the past Queensland has been the major producer of Persimmons, production in other states must not be overlooked and in deed recent plantings in southern Australia will bring significant growth to the industry in the coming years. Thus the proposal to hold the Persimmon Field Day 2016 in Barooga, NSW, in the heart of the horticultural region of the Riverina, offered delegates the opportunity to see first-hand these expanding production areas which will boost and extend the export season, as well as meet the increasing demand on the domestic market.

Field Trips and Conference

Field trips were arranged to four properties in the Barooga area (Table 2). Delegates were transported in a mid-sized bus driven by a local representative, ensuring that the best routes between venues was achieved to showcase development in the region.

To address issues relating to the health and safety of all delegates during the on farm visits delegates were requesting to provide and wear high visibility vests. Bottled water was made available to delegates at all times as the group experienced relatively high temperatures during the field trips. Persimmons Australia Inc ensured that its insurances were up to date and discussed the same with the owners of properties to be visited.

Table 2. List of property visits undertaken in the Barooga-Cobram area.

Farm Visit	Property Owner
#1	Mr Peter Demaio
#2	Mr Adrian Conti
#3	Mr Nick Demaio
#4	Mr Chris Stillard

A broad selection of presenters was sought for the conference program, including researchers supported by Horticulture Innovation Australia, Horticulture Innovation Australia staff, as well as integrated pest management specialists and marketers, to update delegates on recent advances in research, crop management and marketing (Table 3).

Table 3. List of presenters and titles of their presentations.

Presenters	Presentation Title
Grant Bignell & David Oag	Australian Sweet Persimmon Industry Development Project R&D Update
Astrid Hughes & Monique Emmi	An Update on Hort Innovation and the Persimmon Marketing Campaign 2016
Dr Hannah James	A Technical Introduction to SmartFresh Technology
Steve Fong & Damien Guthrey	Fresh Produce Group – The Company
Dr Penny Measham	Fruit Fly Research in Australia – How will it help?
Russell Fox & Jackson Tennent	The Impact on Fruit Production When a Region is Declared QFly Endemic
Andrew Jessup	In Search of the Elusive Female Lure
Stephen Jeffers & Tom Dunn	Yang Fang – A New Variety

Conference Dinner and Guest Speaker

The conference dinner was held on the evening of Thursday 4th February 2016 at the Barooga-Cobram Golf Club. The highlight of the dinner was the presentation by Dr Sze Flett, Director, Horticulture Centre for Excellence & Horticulture Services. Dr Flett was representing the Honourable Jaala Pulford who is the elected member of Western Victoria and currently serves as the Minister for Agriculture, the Minister for Regional Development and is Deputy Leader of the Government in the Legislative Council.

Proceedings

Electronic copies of presentations were requested from presenters for distribution after the conference.

Evaluation

Delegates were each provided with an evaluation sheet in the folder they were presented with on registering at the event. Evaluation sheets were collected at the conclusion of the event or posted to the PAI Office for analysis (Appendix 1)

Outputs

Conference Brochure was prepared, published and distributed electronically and by post to known persimmon growers on PAI database, and following enquiries.

Advertisements were placed in the following print media:

- Country News (an insert in 17 smaller local papers), 19 & 26 January 2016.
- Sunraysia Daily (Mildura), 16 January 2016.
- The Guardian (Swan Hill), 15 January 2016.
- The Murray Pioneer (Renmark), 15 January 2016.
- The Loxton News (Loxton), 20 January 2016.
- The River News (Waikerie), 20 January 2016.

Editorial was generated from a press release in the following print media:

- "Barooga Conference", in **Country News** (an insert in 17 smaller local Riverina papers), 19 January 2016, Page 22.
- "Persimmons put on the shelves", in **Sunraysia Daily**, 19 January 2016, page 6.
- "Keep a look out for a bundle of sweetness", in **The Guardian**, 15 January 2016, page 19.
- "Preparing for the Persimmon Season", article in **Australian Tree Crop Magazine**, February/March 2016, Page 23.

Television interview with news crew from WIN TV, Shepparton, Victoria was screened on the local and national news.

Online presence was generated from a press release:

- "Australia prepares for the Persimmon season", article on **Fresh Plaza**, 15 January 2016.
- "Persimmon Field Days", article in **Farm Post Newsletter** (produced by the NSW Farmers Federation), 23 January 2016.
- "Moving Forward – Orchard to Consumer", article on **Horticulture Innovation Australia Limited website**, <http://horticulture.com.au/grower-focus/persimmon/>, viewed 1 February 2016.
- Horticulture Innovation Australia Limited news distribution channels
- "Persimmons Australia 26 January 2016", on **Persimmons Australia Facebook page**,

<https://www.facebook.com./persimmonsaustralia>, viewed 2 March 2016.

- "From the source ...Pursuing a holistic approach to persimmons", article on **Horticulture Innovation Australia Limited website**, <http://horticulture.com.au/stephenjeffers/>, released 16 March 2016.
- "Growing Innovation - Persimmon Industry Field Days and Conference pave the way for better techniques and outcomes", article on **Horticulture Innovation Australia Limited website**, <http://horticulture.com.au/persimmonfielddays/>, released 16 March 2016.

Conference Proceedings

Outcomes

Organising and Facilitation Team

The team assembled by PAI was highly experienced and knowledgeable. They demonstrated an ability to work collaboratively to ensure that the Persimmon Field Day 2016 was clearly targeted at the needs of Persimmon growers.

Advertising and promotion

The results from the delegate survey indicated that directly emailing the 4-page, colour brochure to growers on the database and following up with a phone call from a member of the Organising and Facilitation Team were by far the most effective means of encouraging participation (Table 4). Word of mouth and hard copy mail outs were somewhat effective. By attracting growers through a hard copy mail out PAI has been able to update its database to include email addresses for these participants. This will improve efficiencies when communicating with growers in the future. Taking out advertisements and having editorial in the traditional print media did not attract any delegates to the conference. Whilst the regions targeted were known to be suitable for persimmon production and indeed there are already producers in these regions, it would seem that this form of advertising is no longer effective and moreover is very expensive.

Table 4. Means by which delegates were informed about the field day and conference event as a percentage of delegates which responded to the survey.

Form of promotion	% of total respondents*
Brochure emailed to you	41.2%
Brochure posted to you	17.6%
Phone call from PAI Executive member	47.1%
In your local paper	0.0%
Word of Mouth	17.6%
Other	11.8%

*adds up to greater than 100% because respondents could mark more than one option

Timing and Location

The event attracted a total of 33 delegates to the field days and conference and an additional 11 delegates to the conference dinner. These numbers exceeded expectations and there was positive feedback from delegates on the timing of the event.

The conference and the dinner were both held at the Barooga-Cobram Golf Club. The venue was well appointed and proved to be very suitable for the events, with most delegates rating the location,

facilities and catering extremely high (Figure 1). The initial field trip left from the Barooga Sports Club and whilst delegates had been given clear instructions of the departure point, some confusion was created by Sports Club staff not being fully aware of the organization of the event and redirecting delegates to the Golf Club.

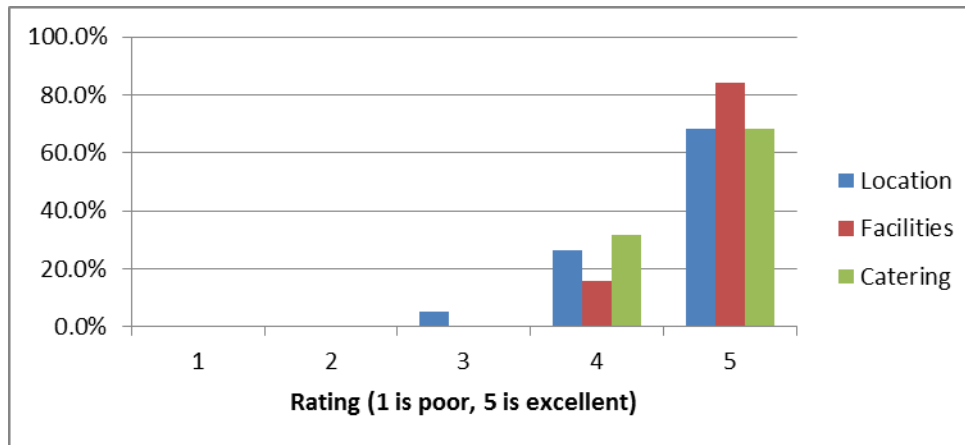


Figure 1. Rating of the conference and dinner venue as a percentage of delegates which responded to the survey.

Field Trips and Conference

The Field trips were a highlight of the event program and all respondents to the survey rated the organization of the field trips highly (Rating 4 – 35%, Rating 5 - 65%). Property owners were well prepared for the arrival of delegates and provided insightful details of their experience growing and managing persimmons. Photographs of the event are provided in Appendix 2.

Farm Visit #1 | Mr Peter Demaio

Mr Peter Demaio's farm has about an acre of older persimmon trees, mainly of the varieties Fuyu and Saruga. All of his trees are free standing and pruned to a vase shape.

Mr Demaio also grows a significant quantity of stonefruit and the persimmons receive the same irrigation and nutritional program as the stonefruit trees. Similarly in the packing shed, persimmons are treated in the same manner as the stonefruit in terms of dipping, grading and packing.

In essence the persimmons have a fit in Mr Demaio's enterprise by extending his fruiting season and thereby extending the opportunities for his labour force and maximising the use of his capital investment.

Farm Visit #2 | Mr Adrian Conti

The Conti family have been farming in the Cobram district since 1954 and Mr Adrian Conti is the third generation. They grow a variety of fruits including stone fruit (nectarines and apricots), apples, pears and persimmons. The persimmons provide an extension to their fruit production season thus

maximising the usage of their resources (facilities and labour). Conti's pack all their own fruit and installed a new grader manufactured by GP Graders of Waverley, Victoria, which uses a colour camera to grade the fruit.

Their plantings of persimmons include the varieties Fuyu, Jiro and Saruga. The Fuyu which were planted in 1996 on a spacing of 5m between rows and 2m within rows were originally trellised but proved too vigorous, consequently this section of the orchard is being renovated. Every second tree is being removed within each row to give a 4m spacing between trees, and the trellis has been removed to convert from a palmette to a vase-shape free standing tree. The top of the remaining trees has been taken out to rejuvenate the plants, while at the same time reducing the application of fertiliser to help manage vigour. In the future, the plan is to cut back every second row entirely at two year intervals rather than alternate trees in an effort to increase the light penetration into the canopy.

In this area of the orchard, mealy bug is a problem as the pest moves from a nearby planting of pears. In the past this pest was controlled with a biological agent obtained from Bugs for Bugs but since it is no longer available, the base of the tree is now drenched with Samuri before flowering.

Another block of Fuyu behaves quite differently due to being grafted onto a different rootstock. These trees tend to perform about "ten times" better and are more forgiving, and the fruit are bigger and cleaner. The fruit sizing may be influenced by the self-thinning but also the early season thinning which is done with secateurs. They are planted at 3m intervals and are being hedged.

A younger block of Jiro has been successfully trained on a Tatura trellis. About 4 main branches are being trained onto the wiring in each quarter of the tree. These main branches will be removed and replaced in sequence at regular intervals to maintain the youthfulness of the tree. This area of the orchard is prone to frost and a large frost fan has been installed. The fan operates in response to 3 sensors and switches on and off in response to changing temperature conditions.

Farm Visit #3 | Mr Nick Demaio

The conference delegation visited Mr Nick Demaio's packing shed in Yarroweyah, 4km north of Cobram, Victoria. Mr Demaio is a significant grower of stonefruits and apples. To assist in managing the large volumes of stonefruit produced between November and March, he installed a new multi-lane grading machine manufactured by MAF Oceania, based in Bacchus Marsh, Victoria for the 2014-15 season.

The machine is the first of its kind in Australia and has photographic sorting of the fruit onto 4 lanes, making it possible to adjust the grading for a range of defects. Fruit is then sized to within a 1% tolerance. There are 22 packing lines with packaging materials being fed in from a mezzanine floor above the grader. Cartons can be packed to weight at the end of each line or trays can be filled from the side. Open areas above the packing shelf allows for quick and easy return of fruit to the main grading facility if the packer considers that it does not meet specifications. Grading is considered to be 95% accurate.

In full operation, the machine can handle 200 x 300 kilogram bins during an 8 hour shift with only 28 people in the shed. This is a significant increase in productivity and a 50% reduction in labour compared to the previous grader, which is still used for apples and pears because of the shape of the fruits. From time to time the machine is used for contract grading.

Farm Visit #4 | Mr Chris Stillard

Mr Chris Stillard has taken over the management and production of a persimmon orchard established in the early 2000's by his uncle Mr Bruce Stillard and Ms Julie Luxmore. The orchard is currently 4ha but a new block is being prepared to expand the orchard by an additional 1ha. Like others in the district, the orchard is not netted. The 3,000 persimmon trees are a mix of Jiro and Fuyu. All plants are trained on a 3 wire trellis system. At the time of the visit the orchard was being summer pruned to reduce vigour and maximise light penetration into the canopy.

Unlike the other growers visited, Mr Stillard only grows persimmons, however he dovetails the orchard activities with his hay production enterprise.

Presentation #1 | Mr Grant Bignell

Grant Bignell, research scientist from the Department of Agriculture and Fisheries in Queensland and the well-known face of persimmon research and development in Australia, gave an update on the Australian Sweet Persimmon Industry Development Project. Grant's research has covered a broad range of topics including postharvest storage, mealybug monitoring and control, variety and rootstock trialling. The conference was timely for Grant, who has led the Australian Sweet Persimmon Industry Development Project since 2011, to introduce his successor, David Oag. David, also based in Queensland, has had a professional career in horticulture research spanning 34 years. He has worked primarily on tablegrapes and industry development in the subtropics.

Presentation #2 | Astrid Hughes and Monique Emmi

Astrid Hughes and Monique Emmi, from Horticulture Innovation Australia Limited attended the entire event, providing them with a great opportunity to scope out the industry and identify key players. During the conference program they presented an update on Hort Innovation and the Persimmon Marketing Campaign for 2016. It was particularly interesting to hear of Monique's new approach to the marketing program which will utilize social media channels and focus on food blogger events to ride on their popularity in the digital age and help raise the consumer profile of persimmons.

Presentation #3 | Dr Hannah James

Delegates were given a brief postharvest physiology lesson by Dr Hannah James, AgroFresh's research and development manager for Australia and New Zealand, as she provided a technical introduction to SmartFresh. SmartFresh has been used by some growers in Queensland in recent years to manage the postharvest life of persimmons and this presentation touched on the physiology of how it works and what growers need to do if they wish to use it.

Presentation #4 | Damien Guthrey and Steve Fong

An overview of Fresh Produce Group's operations in the production, wholesale and retail of fresh produce was provided by category manager, Damien Guthrey, from the company's Perth office while Sydney based category manager, Steve Fong, covered off on the company's involvement with the Persimmon industry and the opportunities it offers. Growers may be familiar with Steve as he spent almost 15 years with LR Moss as a salesman of exotic and tropical fruits prior to the business being incorporated into FPG in mid-2015.

Presentation #5 | Dr Penny Measham

Fruit fly research and practical control measures were discussed at length by several of the speakers. Dr Penny Measham has recently been appointed by Horticulture Innovation Australia Limited as the Queensland Fruit Fly Area Wide Management Coordinator working with the SITplus research initiative – SIT is Sterile Insect Technology! She acknowledged that dealing with Queensland Fruit Fly is a complex problem requiring a coordinated, strategic approach and discussed her work with a range of industries to ensure management practices are optimised and communities are prepared for eventual deployment of Sterile Insect Technology.

Presentation #6 | Russell Fox and Jackson Tennant

The practical side of dealing with the impact on a fruit producing region being declared QFly endemic was raised by Russell Fox, IK Caldwell's horticultural agronomist. Northern Victoria produces 80% of Australia's pears and 45% of the apples, and Cobram has the largest stonefruit production area in Australia, producing fruit for canning in SPC Ardmona factory in Shepparton, as well as the fresh domestic and export markets. Given the large areas of new orchards coming into production in the region and the strong export focus, Russell and his team are managing Queensland Fruit fly in orchards to meet export country requirements. He has also teamed up with Jackson Tennant, the Environmental Services Technical Officer with the Moira Shire Council, to tackle the fruit fly as a whole community issue - raising awareness of the problem and developing control strategies for urban and peri-urban environments.

Presentation #6 | Andrew Jessup

Until recently Andrew Jessup has been developing post-harvest quarantine schedules for market access and pre-harvest area-wide management strategies for fruit fly with the NSW DPI. Andrew is now working independently, assisting horticultural growers and exporters implement pre- and post-harvest pest management strategies to achieve market access. His attendance at the conference was sponsored by Biotrap Australia. Biotrap is an Australian company with international links, whose focus is on developing innovative and practical products for the management of fruit flies. Andrew discussed the challenges of creating effective fruit fly lures for monitoring and control purposes. Male lures are primarily based on pheromones or para pheromones and these are loosely called "sex attractants", whereas for females the primary direction has been focused on food attractant baits.

Presentation #7 | Stephen Jeffers and Tom Dunn

Queensland based persimmon growers and Persimmon Australia Inc Executive members, Stephen Jeffers and Tom Dunn, gave a brief presentation on their first-hand experience with the new variety Yang Fang. Brought into Australia by the Australian Persimmon Export Company, Yang Fang is now owned by Persimmons Australia Inc and offers growers an alternative variety which may fit in their production systems.

Conference Dinner and Guest Speaker

The conference dinner was well attended and offered delegates an excellent opportunity to relax and get to know each other, whilst the guest speaker added value to the delegates involvement in the program. The highlight of the dinner was the presentation by Dr Sze Flett, Director, Horticulture Centre

for Excellence & Horticulture Services. Dr Flett's presentation informed conference delegates on the status of the horticultural industry in Victoria and the critical role of the Horticulture Centre for Excellence & Horticulture Services is playing in helping producers diversify, increase production, and boost exports of Victoria's high-quality horticultural produce. Dr Flett emphasised the growing importance of horticultural exports from the region and illustrated the commitment the Victoria Government is making by providing grants for research and development and industry scholarships.

Proceedings

Electronic copies of presentations were provided by presenters after the event. Presentations were collated into a proceedings document and distributed to delegates (Appendix 3). The proceedings have also been displayed on the Persimmons Australia website thus making them more widely available to the industry.

Evaluation and Discussion

The Persimmon Field Day 2016 program was designed to bring growers from across Australia together to update them on recent advances in research and management of this delicious autumnal crop. Persimmons Australia Inc was extremely successful in achieving this primary objective with delegate numbers exceeding expectations and speaker participation enthusiastic and highly professional. Delegates rated the organization of the event highly (Figure 2).

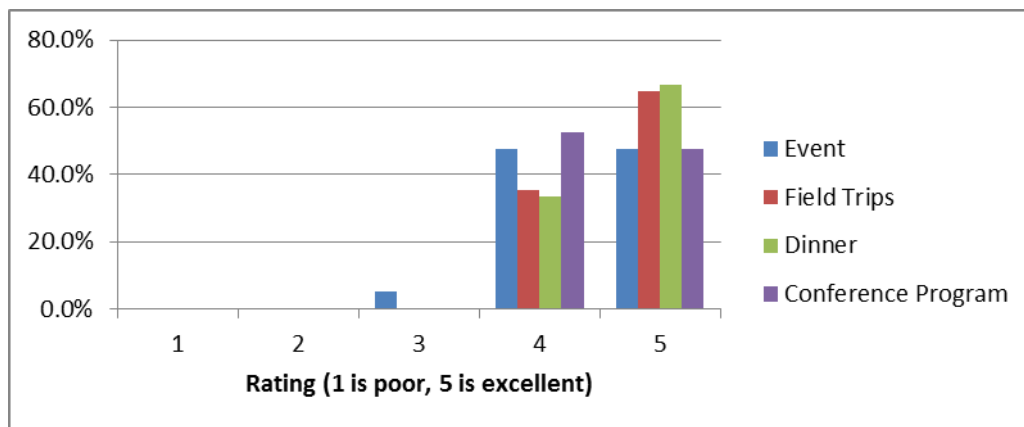


Figure 2. Rating of the organisation of the event, field trips, dinner and conference program as a percentage of delegates which responded to the survey.

The format of the event included both field day style on-farm visits and structured conference presentations. Comments from the delegate survey suggested that this dual delivery approach was highly successful. Many delegates noted that the field trips were a highlight of the event and proved to be highly informative. The conference program was also highly regarded with delegates commenting on the quality and reputation of the speakers, and the ease and diversity of information exchange.

Improvements

There were some minor technical problems associated with the operation of the audio-visual equipment and in the future equipment should be tested with all presentation material, however the challenge exists to get all presentations in advance of the event. Unfortunately these technical difficulties impacted on the available time for presentations and required session chairs to revise time schedules. Notwithstanding these impediments, additional time could have been allowed for most presentations as speakers had a significant amount of relevant information to deliver and question time was limited. If information transfer events such as this are held more regularly, presenters may have more limited material to present on each occasion.

In terms of content, it was suggested that the information provided on fruit fly management during the program was less relevant to South Australian delegates. Discussions with the presenters of such

information would indicate the relevance to all growers to raise awareness of this pest but also to develop an appreciation of issues facing growers in other regions.

Delegates also commented that there were no handouts – more precisely proceedings were not available at the event due to the limited lead time for the event organization. Delegates received a package on registering at the event which contained a detailed program, including summaries of presentation. Proceedings were provided electronically to all delegates after the event. In addition the proceedings were posted on the Persimmons Australia website thus making them available to all Australian persimmon growers.

Future events and suggestions

All survey respondents indicated that they would like similar events to be held in the future, with field trips and quality presentations being a priority. The timing of the event proved successful and holding similar events in different production areas would be preferable.

It was suggested that industry members could be surveyed prior to developing the speaker program, to identify topics of interest. The survey also revealed that sessions on clearwing moth and value adding would be of interest. In deed presentations could be extended for an entire day or spread across two days, with field trips and possibly workshop sessions adding diversity to information exchange program.

Additionally the idea of inviting overseas experts to presentation at such an industry event was raised. This concept could be expanded on with an expert making a series of technical visits to each of the main production regions to further the knowledge of Australian growers and develop a reciprocal arrangement with other countries.

Recommendations

Plan industry similar events every 1-2 years.

Allow at least 6-8 months preparation time.

Survey industry for relevant topics.

Investigate the suitability of topics for a workshop style sessions.

Consider inviting a technical expert from overseas.

Ensure field trips to production areas are included in the program.

Promote future events directly to known growers and through cost effective electronic distribution channels.

Limit advertising in print media.

Aim to have proceedings available for distribution at the event.

Test audio-visual equipment prior to event, if possible.

Encourage presenters to respect time schedules.

Scientific Refereed Publications

None to report.

Intellectual Property/Commercialisation

No commercial IP generated.

Acknowledgements

Persimmons Australia Inc would like to extend its sincere thanks to Horticulture Innovation Australia Limited for providing funding from persimmon levies and the Australian Government to support the commitment of the PAI executive to host the Field Day event.

Moreover the support of our sponsors, the Fresh Produce Group and Biotrap Australia, is gratefully acknowledged. Events such as this are enhanced by your participation.

Our appreciation is extended to the presenters who gave their time and shared their knowledge so willingly.

Requiring special thanks are the growers who attended the event. They are the reason the event was held and their strong support and active participation ensured the success of the Field Days.

The PAI Executive Committee encourages all persimmon growers and others considering producing this crop to explore opportunities to improve their business through the knowledge gained and shared at such events.

Appendices

Appendix 1 - Analysis of Participant Survey - Australian Persimmon Industry Field Days and Conference

Appendix 2 – Photographs from the 2016 Australian Persimmon Industry Field Days and Conference

Appendix 3 – Proceedings of the 2016 Australian Persimmon Industry Field Days and Conference

Appendix 1 - Analysis of Participant Survey - Australian Persimmon Industry Field Days and Conference

Analysis of Participant Survey - Australian Persimmon Industry Field Days and Conference BAROOGA NSW 4 & 5 FEBRUARY 2016										
Please rate the organisation of the event where 1 is poor and where 5 is excellent:										
	1	2	3	4	5	No response	Total	Total respondents		
	0	0	1	9	9	1	20	19		
	0.0%	0.0%	5.3%	47.4%	47.4%			95%		
Please rate the organisation of the field trips where 1 is poor and where 5 is excellent:										
	1	2	3	4	5	No response	Total	Total respondents		
	0	0	0	6	11	3	20	17		
	0.0%	0.0%	0.0%	35.3%	64.7%			85%		
Please rate the organisation of the dinner where 1 is poor and where 5 is excellent:										
	1	2	3	4	5	No response	Total	Total respondents		
	0	0	0	6	12	2	20	18		
	0.0%	0.0%	0.0%	33.3%	66.7%			90%		
Please rate the organisation of the conference program where 1 is poor and where 5 is excellent:										
	1	2	3	4	5	No response	Total	Total respondents		
	0	0		10	9	1	20	19		
	0.0%	0.0%	0.0%	52.6%	47.4%			95%		
Please rate the presentations on overall presentation quality (information presented and style) and usefulness of information, where 1 is poor/not very useful and where 5 is excellent/very useful:										
Farm Visit #1 Peter Demaio										
Overall presentation	1	2	3	4	5	No response	Total	Total respondents		
	0	0	6	10	3	1	20	19		
	0.0%	0.0%	31.6%	52.6%	15.8%			95%		
Usefulness of information	1	2	3	4	5	No response	Total	Total respondents		
	0	1	5	8	5	1	20	19		
	0.0%	5.3%	26.3%	42.1%	26.3%			95%		
Farm Visit #2 Adrian Conti										
Overall presentation	1	2	3	4	5	No response	Total	Total respondents		
	0	0	2	10	7	1	20	19		
	0.0%	0.0%	10.5%	52.6%	36.8%			95%		
Usefulness of information	1	2	3	4	5	No response	Total	Total respondents		
	0	0	2	9	8	1	20	19		
	0.0%	0.0%	10.5%	47.4%	42.1%			95%		
Farm Visit #3 Nick Demaio										
Overall presentation	1	2	3	4	5	No response	Total	Total respondents		
	0	0	4	14	0	2	20	18		
	0.0%	0.0%	22.2%	77.8%	0.0%			90%		
Usefulness of information	1	2	3	4	5	No response	Total	Total respondents		
	0	0	8	10	0	2	20	18		
	0.0%	0.0%	44.4%	55.6%	0.0%			90%		
Farm Visit #4 Chris Stillard										
Overall presentation	1	2	3	4	5	No response	Total	Total respondents		
	0	0	0	8	5	7	20	13		
	0.0%	0.0%	0.0%	61.5%	38.5%			65%		
Usefulness of information	1	2	3	4	5	No response	Total	Total respondents		
	0	0	1	6	6	7	20	13		
	0.0%	0.0%	7.7%	46.2%	46.2%			65%		
The Horticultural Industry in Victoria and the Critical Role of the Horticulture Centre for Excellence & Horticulture Services Dr Sze Flett										
Overall presentation	1	2	3	4	5	No response	Total	Total respondents		
	0	0	3	13	3	1	20	19		
	0.0%	0.0%	15.8%	68.4%	15.8%			95%		
Usefulness of information	1	2	3	4	5	No response	Total	Total respondents		
	0	2	6	9	2	1	20	19		
	0.0%	10.5%	31.6%	47.4%	10.5%			95%		

Australian Sweet Persimmon Industry Development Project R&D Update Grant Bignell & David Oag									
Overall presentation	1	2	3	4	5	No response	Total	Total respondents	
	0	0	0	10	8	2	20	18	
	0.0%	0.0%	0.0%	55.6%	44.4%			90%	
Usefulness of information	1	2	3	4	5	No response	Total	Total respondents	
	0	0	2	6	10	2	20	18	
	0.0%	0.0%	11.1%	33.3%	55.6%			90%	
An Update on Hort Innovation and the Persimmon Marketing Campaign 2016 Astrid Hughes & Monique Emmi									
Overall presentation	1	2	3	4	5	No response	Total	Total respondents	
	0	0	0	14	4	2	20	18	
	0.0%	0.0%	0.0%	77.8%	22.2%			90%	
Usefulness of information	1	2	3	4	5	No response	Total	Total respondents	
	0	0	1	13	4	2	20	18	
	0.0%	0.0%	5.6%	72.2%	22.2%			90%	
A Technical Introduction to SmartFresh Technology Dr Hannah James									
Overall presentation	1	2	3	4	5	No response	Total	Total respondents	
	0	0	1	10	7	2	20	18	
	0.0%	0.0%	5.6%	55.6%	38.9%			90%	
Usefulness of information	1	2	3	4	5	No response	Total	Total respondents	
	0	0	1	8	8	2	19	17	
	0.0%	0.0%	5.9%	47.1%	47.1%			89%	
Fresh Produce Group – The Company Steve Fong									
Overall presentation	1	2	3	4	5	No response	Total	Total respondents	
	0	0	1	11	7	1	20	19	
	0.0%	0.0%	5.3%	57.9%	36.8%			95%	
Usefulness of information	1	2	3	4	5	No response	Total	Total respondents	
	0	0	1	7	11	1	20	19	
	0.0%	0.0%	5.3%	36.8%	57.9%			95%	
Fruit Fly Research in Australia – How will it help? Dr Penny Measham									
Overall presentation	1	2	3	4	5	No response	Total	Total respondents	
	0	0	3	11	5	1	20	19	
	0.0%	0.0%	15.8%	57.9%	26.3%			95%	
Usefulness of information	1	2	3	4	5	No response	Total	Total respondents	
	0	1	1	11	6	1	20	19	
	0.0%	5.3%	5.3%	57.9%	31.6%			95%	
The Impact on Fruit Production When a Region is Declared QFly Endemic Russell Fox									
Overall presentation	1	2	3	4	5	No response	Total	Total respondents	
	0	0	3	10	4	3	20	17	
	0.0%	0.0%	17.6%	58.8%	23.5%			85%	
Usefulness of information	1	2	3	4	5	No response	Total	Total respondents	
	0	1	5	8	3	3	20	17	
	0.0%	5.9%	29.4%	47.1%	17.6%			85%	
In Search of the Elusive Female Lure Andrew Jessup									
Overall presentation	1	2	3	4	5	No response	Total	Total respondents	
	0	0	1	11	5	3	20	17	
	0.0%	0.0%	5.9%	64.7%	29.4%			85%	
Usefulness of information	1	2	3	4	5	No response	Total	Total respondents	
	0	0	2	9	6	3	20	17	
	0.0%	0.0%	11.8%	52.9%	35.3%			85%	
Yang Fang – A New Variety Stephen Jeffers & Tom Dunn									
Overall presentation	1	2	3	4	5	No response	Total	Total respondents	
	0	0	1	12	5	2	20	18	
	0.0%	0.0%	5.6%	66.7%	27.8%			90%	
Usefulness of information	1	2	3	4	5	No response	Total	Total respondents	
	0	0	2	9	7	2	20	18	
	0.0%	0.0%	11.1%	50.0%	38.9%			90%	
Please rate the venue where 1 is poor and 5 is excellent:									
Location	1	2	3	4	5	No response	Total	Total respondents	
	0	0	1	5	13	1	20	19	
	0.0%	0.0%	5.3%	26.3%	68.4%			95%	
Facilities	1	2	3	4	5	No response	Total	Total respondents	
	0	0	0	3	16	1	20	19	
	0.0%	0.0%	0.0%	15.8%	84.2%			95%	
Catering	1	2	3	4	5	No response	Total	Total respondents	
	0	0	0	6	13	1	20	19	
	0.0%	0.0%	0.0%	31.6%	68.4%			95%	

How did you find out about the event? If you wish to choose more than one option, number your options from 1 being the reason that most influenced you to attend through to the option which influenced you the least.									
				% of total respondents*	No of responses				
				41.2%	7	Brochure emailed to you			
				17.6%	3	Brochure posted to you			
				47.1%	8	Phone call from PAI Executive member			
				0.0%	0	In your local paper (Circle which one)	Country News		
							The Murray Pioneer (Renmark)		
							Loxton News		
							The River News (Waikerie)		
							The Guardian (Swan Hill)		
							Sunraysia Daily (Mildura)		
				17.6%	3	Word of Mouth – Presenter, Grower			
				11.8%	2	Other			
					3	No response			
				*adds up to greater than 100% because could put more than one option					
What did you most like about the event?									
	Comments:	Fanstastic information in presentations							
		Diversity of information							
		Relevant to grow and unify the industry							
		The variety of topics, quality and reputation of speakers							
		The professional organisation							
		The friendly and sharing nature of all sessions							
		The very imformative field visits							
		The excellent R&D presentation by Grant Bignell							
		Good to catch up with industry							
		Ability to meed and interact with growers and researchers							
		General information and intereaction							
		Well organised							
		Bus trips work well							
		Accessible venues							
		Thanks for your efforts							
		Great opportunity to share experience and methods							
		The number of attendees							
		The sharing of information and the high quality of information							
		Professional event							
		Large attendance							
		Location							
		Farm visits							
		Great speakers							
		Relevant topics							
		Field trips							
		Presenter information							
		Field trips							
		Range of topics being presented							
		All okay							
What did you least like about the event?									
	Comments:	Minor technical problems							
		The fruit fly information was less relevant to South Australians							
		A little short on presentation time at the conference							
		A little more presentation time required							
		There were no handouts							
		Nothing							
		Confusion between venues told to us by receptionist at the Sports Club							

Would you like similar events to be held in the future?									
					% of total respon da nts*	No of response s			
					100.0%	18	Yes		
					0.0%	0	No		
						2	No response		
					Comments:		Timing-wise and location great		
							Strongly supportive!		
Do you have any other comments to assist in shaping future workshops?									
					Comments:	More time for presentations but excellent content			
						Perhaps look to invite an overseas persimmon expert to present at the conference, & make some			
						technical visits to each main production region			
						Consider a workshop session (or two) on specific topics relevant to all regions (eg clearwing moth)			
						Survey industry for topics before conference			
						Allow one day for presentations			
						Information on value adding			
						Very hard to fault, went well			
						Consult with presenters closer to the day to check their fit with schedule			
						Review number of speakers and timing of sessions and spacing of presentations			
						The field days are fantastic			
						Maybe balance speakers over two days			
						Bathroom break on field trips would be good			

Appendix 2 – Photographs from the 2016 Australian Persimmon Industry Field Days and Conference

		
<p>Delegates set off on field trip around Barooga district.</p>	<p>Chris Stillard quizzes Peter Demaio on his persimmon production.</p>	
		
<p>Adrian Conti shares his persimmon growing experience with conference delegates.</p>	<p>Conference delegates, Mark Silm and Tom Dunn, consider the benefits of Nick Demaio's MAF grading machine.</p>	<p>Delegates tour Chris Stillard's persimmon orchard.</p>
		
<p>Brett Guthrey assists with Dr Flett's presentation at the FPG Dinner.</p>	<p>Queensland researchers David Oag and Grant Bignell share the limelight.</p>	<p>Dr Hannah James gives delegates a fruit physiology lesson.</p>

		
<p>Astrid Hughes updates delegates on HIA.</p>	<p>Monique Emmi updates delegates on the HIA supported Persimmon Marketing Program.</p>	<p>Steve Fong shares his philosophy on selling persimmon.</p>

		
<p>Andrew Jessup imparts his knowledge on fruit fly management.</p>	<p>Penny Measham explains sterile insect technology.</p>	<p>Tom Dunn & Stephen Jeffers share their experiences of growing the new variety, 'Yang Fang'.</p>

Appendix 3 – Proceedings of the 2016 Australian Persimmon Industry Field Days and Conference



Moving Forward

Orchard to Consumer

PROCEEDINGS

Persimmons Australia Inc presents
**Australian Persimmon Industry
Field Days and Conference**
4th & 5th February 2016
Barooga, NSW

PAI Persimmon Field Day 2016 Organising & Facilitation Team

Brett Guthrey – PAI President, Persimmon Grower in NSW

Tom Dunn – PAI Vice-President, Persimmon Grower in Qld

Stephen Jeffers – PAI Secretary/Treasurer, Persimmon Grower in Qld

Chris Stillard – PAI Executive Member, Persimmon Grower in NSW

Warren Waddell – PAI Executive Member, Persimmon Grower in NSW

Dr Alison Fuss – PAI Secretariat

This project was funded by Horticulture Innovation Australia Limited using the persimmon levy and funds from the Australian Government.

Australian Persimmon Industry Field Days and Conference Proceedings

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Australian Sweet Persimmon Industry Development R&D Update

Grant Bignell, David Bruun and David Oag, Maroochy Research Facility, Department of Agriculture and Fisheries, 47 Mayers Road, Nambour Qld 4560. grant.bignell@daf.qld.gov.au or david.oag@daf.qld.gov.au

The Australian Sweet Persimmon Industry Development project includes research, development and extension activities on topics such as postharvest storage, rootstock performance and propagation, mealybug monitoring and control, varieties and canopy management. Information developed in the current and previous phases of the project are described in this paper.

Mealybug

Sticky bands, pheromone traps and calyx inspections were assessed for monitoring mealybug in persimmon orchards. Sticky bands proved unreliable in intercepting (female) mealybug and were deemed impractical due to contamination from organic matter on the orchard floor and other flying insects. Calyx inspections were a reliable method for monitoring mealybug populations, however detection is usually too late to enable effective control. Male mealybug counts in pheromone traps provide a good indication of the mealybug population in the orchard. Nevertheless, further work is required to establish a monitoring technique capable of indicating early season mealybug population development, thereby enabling early application of control measures to minimise mealybug infestation of fruit.

Chemical controls significantly reduce mealybug infestation of fruit at harvest. Samurai (clothianidin) applied as a soil drench in spring provided the greatest control with only 5% of fruit infested at harvest. Foliar sprays of Movento (spirotetramat) or Transform (sulfoxaflor) prior to harvest provided partial control with approximately 10% of fruit infested with mealybug.

Postharvest storage

Extending the storage life of persimmon creates the possibility of prolonging the supply season for the domestic market, as well as improving the prospects for export. Fruit of cv. Fuyu grown in Victoria was stored at 0°C for up to 12 weeks after treatment with SmartFresh™ (1-MCP) or packed in modified atmosphere (MA) bags. The firmness of fruit treated with 1-MCP and stored with or without a MA bag was commercially acceptable after cold storage up to 8 weeks. Fruit firmness after 10 weeks and 12 weeks was marginally acceptable yet clearly superior to fruit in ordinary cold storage or a MA bag only. The occurrence of skin blemishes was comparable for all four storage methods up to 10 weeks, with a substantial increase in blemishes occurring at 12 weeks on fruit from ordinary cold storage and the MA bag only.

Rootstocks and Tree Productivity

Yuruga nursery has successfully developed a technique for the vegetative propagation of persimmon rootstock material. The use of seedling rootstock material is standard practice across the Australian industry, which can lead to considerable variation in productivity. Clonal rootstock material presents

the opportunity to lift orchard productivity, although further work will be necessary in order to establish the best performing rootstocks in Australian conditions. Average fruit yield in Australia (7 t/ha) is just half that of persimmon orchards in New Zealand and considerably less than the 18-20 t/ha of the most productive countries Brazil, Italy and Azerbaijan (FAOSTAT, 2016). A replicated rootstock trial of nine rootstocks grafted to cv Jiro has been planted at Maroochy Research Facility to quantify the performance of seedling rootstocks commonly used in industry along with several other seedling rootstock selections.

Trunk scoring

Shoot growth can be restricted by cincturing (ie. removal of a strip of bark) or scoring (a knife blade cut). Scoring effectively reduces shoot extension growth in cv. Fuyu. The greatest reduction in shoot growth was achieved when trees were scored at budbreak or during early fruit development. Trunk scoring can increase fruit diameter, Brix and yield. Check the suitability of scoring in your district, as the trunk wound can be a site for increased attack from clearwing moth.

References

FAOSTAT (2016). Production statistics – persimmon, 2004-2014.

<http://faostat3.fao.org/browse/Q/QC/E>

Horticulture Innovation Australia – Persimmon Conference

Astrid Hughes, Relationship Manager, Horticultural Innovation Australia, Brisbane QLD 4000

astrid.hughes@horticulture.com.au

The format for the conference; over two days and enabling grower visits and presentations from across the value chain, including updates from key levy investment for Persimmons in Pool 1 e.g. the industry development project and the marketing program and Pool 2 with the fruit fly fund contributed to the success of the event. A brief summary of a presentation detailing the key points during transition process for Horticulture Innovation Australia and highlights over the past 12 months were presented. A summary follows,

- All stakeholders (Government, Levy Payers, IRBs and other investors) re-engaged and fully supportive
- Funding base and methodology maintained
- Issues associated with governance and compliance eliminated
- Specific industry needs recognised and catered for
- Strategic investments at both industry and national level
- Leading to a healthy, prosperous, profitable and competitive Horticulture sector both now and in the year 2026

A synopsis of the new investment model - for both short and long term is outlined below -

- Invest by both specific industry and broadly across horticulture
- Pool 1 levy funds paid by growers matched with Commonwealth contributions
- Pool 2 investor funds co-invested with Commonwealth funds

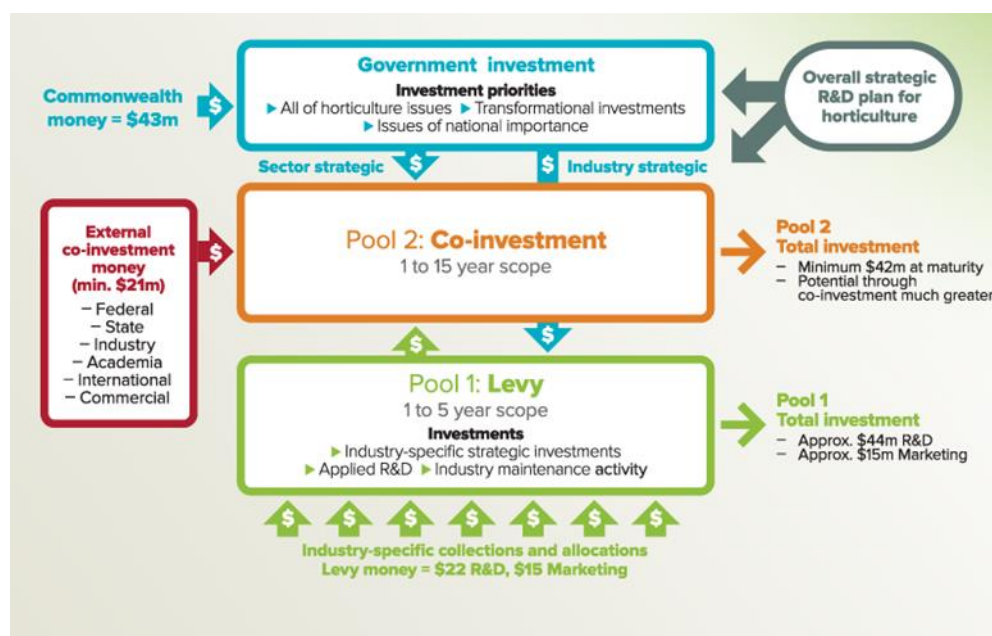


Figure 1: Horticulture Innovation Australia Funding Model

To join Hort Innovation as a member to start receiving regular news updates: please go to the communication channels highlighted below; Horticulture Innovation is a new company with a new way of doing business.

- Website: www.horticulture.com.au
- Facebook: www.facebook.com/hort/innovation
- Twitter: twitter.com/hort_au

Persimmons Field Day – Marketing Presentation

Monique Emmi, Marketing Manager, Horticulture Innovations Australia, Level 8, 1 Chifley Square,
Sydney NSW 2000. monique.emmi@horticulture.com.au

Objectives

For the 2016 Australian Persimmons PR campaign, our aim is to lift the profile of persimmons nationally, creating social media buzz and generating media coverage around the season to fuel demand and entice consumers to give the delicious fruit a go. While the fruit is gaining strong interest among media and bloggers, many main grocery buyers are still confused about how to pick and use the fruit. We need to engage audiences across various touch points, leveraging both media and social platforms to educate and excite consumers, spark conversations, build hype and ultimately get more everyday Aussies trying and buying the autumnal fruit.

Target Audiences

Consumers

- Non purchasers, lapsed and occasional buyers
- Younger consumers aged 20-35 years
- Main grocery buyers aged 35+, both men and women
- Health conscious consumer & foodies

Media

National print, broadcast, online media and bloggers across the food, consumer affairs, lifestyle, health, regional affairs and horticulture sectors

Two specifically different Blogger Events

1. Persimmons on cheese boards at the trendy Sydney cheese & wine venue, The Stinking Bishops
2. Persimmons and health – salads and snacks – hosted by the nutritionist, Lyndi Polivnick

What is a Blogger Event?

A blogger event is an opportunity to get key media influencers and well-followed bloggers into a room and learn about a product and brand and get the message out to exponential audiences.

Why are they good?

- They are good value and present great return on investment
- Key messaging is delivered to people who can amplify your message
- They create demand for products via usage through key influencers
- Bloggers will take away product to create dishes and then share content share their networks
- Hashtags can be unique and tracked easily to monitor the reach of the event

KPI Performance

- Minimum 80 media hits
- Audience reach of at least 7 million based on readership figures
- At least 3K new Facebook followers
- At least 220 new Followers on Instagram

SmartFreshSM For Maintaining Fruit Quality During Storage

Dr Hannah James, AgroFresh, 373 Brown Road, Officer VIC 3809. hjames@agrofresh.com

For as long as fruits have been grown, farmers have looked for ways to maintain the quality and saleability of their produce beyond a few months a year. The most effective ways to store most fruits while maintaining quality is by modifying the storage temperature and the storage atmosphere. These methods are effective at reducing the rate of respiration of many fruits allowing an increased storage period. However, despite progress in cool storage systems, there is a risk that fruit may lose their juiciness and/ or become affected by storage disorders, which can sometimes cause the waste of entire storage areas. SmartFreshSM complements these systems to provide an even better quality stored product. This means a better eating piece of produce for consumers and less waste for the industry.

The science behind SmartFresh was the result of work conducted by researchers Sislar and Blankenship at North Carolina State University who had been studying the naturally occurring plant substance ethylene since the mid-1980s. Ethylene is found in almost all fruits and vegetables and is responsible for the ripening and over-ripening process. Their experiments searched for ways to make plants less sensitive to ethylene and to slow their ethylene production to maintain higher levels of fruit quality. During the experiments, researchers discovered 1-methylcyclopropene (1-MCP), the active ingredient in SmartFresh technology. Similar in structure to ethylene, 1-MCP is a small hydrocarbon compound made of atoms of carbon and hydrogen.

Due to its similarity with ethylene, SmartFresh binds with the ethylene-sensitive receptor sites in the fruits and prevents the ethylene triggered quality degradation. After binding to the receptor site, 1-MCP is eventually broken down by the fruits natural ripening process and biodegrades into simple molecules containing carbon, hydrogen and oxygen which cannot be distinguished from the natural occurring carbon and hydrogen in the environment. SmartFresh does not leave detectable residue on fruit, nor in the environment.

Apples and pears have been the primary crops that have adopted the use of SmartFresh. However, there are many other horticultural crops that can benefit from this innovative technology. Persimmon are a crop that stands to receive some of the same benefits that have been observed in other crops, mainly increasing storage life, maintaining fruit taste and quality and facilitating harvest management. Figure 1 shows the impact that SmartFresh technology can have on maintaining persimmon firmness after 60 days of regular air storage demonstrating the benefit to increasing storage life that SmartFresh can provide.

The SmartFreshSM Quality System is registered for commercial use in over 40 countries worldwide, with the number of registrations increasing every year. SmartFresh is a full service product and requires access to an airtight, refrigerated space for the application to take place.

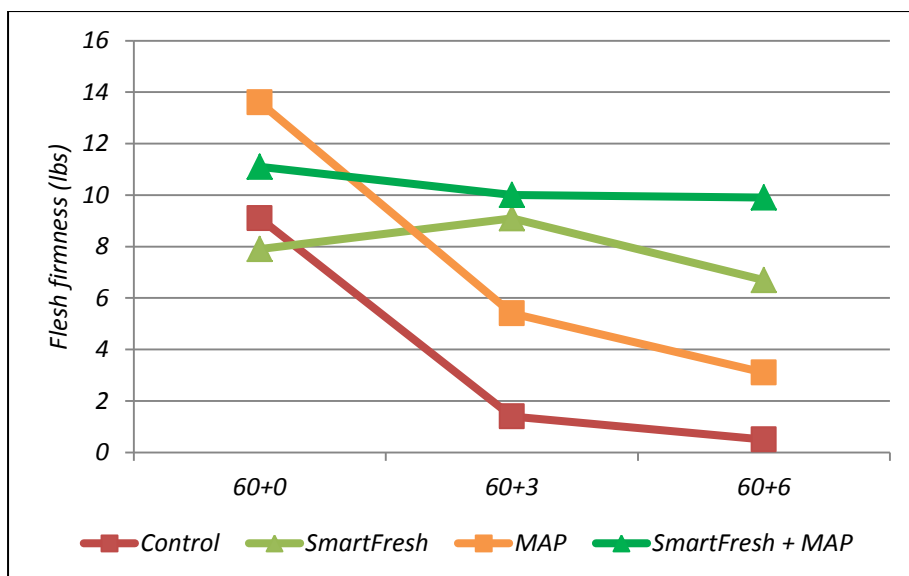


Figure 1 - Firmness (lbs) of persimmon fruit treated with or without SmartFresh and stored with or without modified atmosphere packaging (MAP) at harvest and stored in regular air storage for 60 days. Fruit firmness was assessed on removal from storage (0) as well as after 3 and 6 days of shelf life at 20°C.

Fresh Produce Group – The Company

Stephen Fong, Fresh Produce Group, Shed B Sydney Markets, Flemington NSW 2129.

Stephen.Fong@fpg.com.au

Thank you very much for extending me the opportunity to attend your Australian Persimmon Industry Field Days and Conference at Barooga, Victoria. As a Sydney market wholesaler with over 35 years' experience I have seen, over many years, fresh food products come and go as they prove themselves to eventually be popular or unpopular with the consumer.

Wholesaling & Retailing

Asians are, per head per capita, the greatest consumers of sweet persimmons, so much so that they need no introduction within this ethnic group. What has occurred, however, is not only the increase in the Asian population, but also many areas throughout Australia that now have a heavy Asian influence. With this comes increased enquiry and consumption. Asian buyers prefer larger sizes as their premium tray sale and will also have several per kilo lines of smaller slightly marked fruit as cheaper alternatives. Persimmons are a major part of their weekly turnover, and, as they tend not to stock as many fruit and vegetable lines as the major chain stores or larger fruit and vegetable retailers, they concentrate more heavily on fewer, but more Asian orientated products.

Non-Asian retailers are increasingly purchasing persimmons as they become more popular and consumers become less inhibited in their eating habits. The apartment dwelling youth, with disposable income, are the ones who are more likely to experiment with any type of new fresh foods. However, what I have observed over the past years is that more and more retailers are stocking persimmons as an addition to their tropical, exotic section. With stonefruit finished and just the usual pomefruits, citrus and bananas available in the autumn months, retailers are more willing than ever to have what is regarded as a seasonal fruit on their shelves.

Export

Australia is in an enviable position regarding persimmons. Namely, being in the southern hemisphere, close to the largest consumer, China, and best farming practises. I, personally, contact all of Sydney markets major exporters several times a week to update them on supplies and current pricing. Because our persimmons, unlike New Zealand's, are subject to air freight, they generally are distributed into more upmarket outlets, so quality is of utmost importance. As China's socio-economic base widens, many more people will be able to afford what is now considered a luxury. The foreseeable export future is extremely positive, but the foremost criteria are size and quality. Each year as I begin to conclude the Australian persimmon season, Sydney exporters ask my advice on last local arrivals so they can time their first NZ consignment so as not to clash. I interpret this as sign of respect to the flavour and acceptance of the Australian product.

Future

My belief is that the Australian persimmon is largely an untapped source of fresh fruit both locally and for export. What was once a product from Queensland, has now extended itself into many more states and areas, and, yet I have noticed the markets still seem to cope well with the quantities. My experience tells me that like most limited season produce, the consumer likes to take full advantage of such consumables when available. As quantities rise, there will be a natural progression towards more R&D and growing practises which in turn lead to an even better product for consumers here and abroad.

The FPG and LR Moss partnership creates a great opportunity for Persimmons

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FPG is an integrated grower and marketer of fresh fruit and vegetables with a national footprint. FPG manages its programs from varietal selections right through to the marketing to consumers and POS. The FPG business allows access to multiple channels this, combined with the tropical experience of LR Moss will give the ability to maximise values on the entire crop.

Wholesale: Access to Key Independent retailers and high end value customers

Supermarkets: FPG has strong relationships with Australia's largest retail groups – Coles, Woolworths, Aldi, Metcash

Export: FPG has strong relationships with importers in Asia, Middle East and North America

FPG have long standing experience with prepacking and can provide a range of pre pack types available. Prepacks have shown the ability to drive category growth through:

- Educate consumers at point of purchase
- Drive usage through recipes and product information



Innovation/IP	Growing	Technical, Quality Assurance & Control	Logistics Services	Distribution	Marketing
<p><u>Innovation is the catalyst to growth.</u></p> <p>We are continuously developing superior product varieties that meet evolving consumer needs. Innovation is also about innovative processes, packaging and marketing.</p>	<p>Own farms and partnerships with the best growers locally and overseas</p>	<p>Technical expertise in the pre & postharvest management of fresh produce to ensure optimal handling conditions from farm to customer whilst providing end-to-end food safety and quality security QC monitoring, testing, shelf-life assessments and reporting systems provide rapid feedback on product performance at key stages of the supply chain Communication, crop scheduling and technical visits build continuous improvement into our production and postharvest management systems</p>	<p>Expertise in produce supply chain mgmt We offer a range of services that can be tailored to your needs.</p> <ul style="list-style-type: none"> ▪ Cold Storage ▪ Program mgmt ▪ Rapid pre-cooling ▪ Hydro-cooling ▪ Restacking/ Repacking ▪ Ripening ▪ Range of pre-pack options 	<p>Our facilities are purpose built for the receipt, handling, & dispatch of fresh produce maximizing supply chain efficiencies with an objective to provide efficient daily service and produce</p> <ul style="list-style-type: none"> ▪ Facilities in New South Wales, Victoria, Queensland and WA ▪ State of the art packaging machines and equipment with a range of pre-pack options 	<p>We can support you to grow your business and market share</p> <ul style="list-style-type: none"> ▪ Consumer insights and analysis ▪ Packaging & label design ▪ Brand concept development ▪ In-store activation & POS ▪ Advertising development

Adaptive Area Wide Management of Qfly using SIT; A national approach for regional outcomes

Dr Penny Measham, Queensland Fruit Fly Area Wide Management Coordinator, Horticulture Innovation Australia. penny.measham@horticulture.com.au

Queensland Fruit Fly presents a complex problem and a coordinated, strategic approach to management is needed. After the loss of key chemical control options, increased outbreaks and a widening endemic status of fruit fly declared in the eastern states of Australia, there have been responses from all corners of the horticultural sector. Amid the current flurry of activity around fruit fly at the moment it's easy to lose sight of the big picture, of how all this effort is combining for a common cause. Current research investment is looking to provide new technologies for this particular pest; sterile insect technology (SIT) and more.

Horticulture Innovation has driven the creation of the SITplus Consortium made up of researchers from CSIRO, Macquarie University, Plant & Food Research Australia, NSW DPI, PIRSA and SARDI. There is now a coordinated and comprehensive research effort under the direction of Dan Ryan aiming to provide solutions for Queensland Fruit Fly affected horticulture.

Significant input and investment from South Australia has to the planning and development of a sterile insect production facility in Port Augusta. Projects include the development of a 'male-only' sterile line of Queensland fruit fly, the development of efficient diets on which to rear the sterile fly, the logistics and operation of the sterile fly facility and managing use of the fly in the field. Other projects are working on optimising and quantifying performance of a sterile fly. It is anticipated that up to 50 million sterile flies can be produced each week.

In order for eventual sterile fly releases to be applicable and effective there is also research being undertaken to inform where, when and how release will be most effective. Area wide management (AWM) has been recognised as a key strategy to support the eventual deployment of SIT. AWM is a form of pest management across a local area, including all fruit fly habitats in order to reduce total populations. This is a sustainable approach, and has been used successfully when chemical options are not available. Managing all fly habitats prevents flies re-entering production blocks, and should see on-farm control efforts become more effective. AWM for Queensland fruit fly is a year-round and long term approach; it relies on a coordinated, consistent and committed involvement from all stakeholders within a region.

Accordingly there are projects on Queensland fruit fly AWM; notably the Horticulture Innovation led "Adaptive area-wide management of Qfly using SIT" project which will develop guidelines for efficient and effective pest suppression using SIT as part of AWM. This project seeks to provide the scientific basis for area wide fruit fly management at a regional level within Australia; answering key questions such as "How big is an 'area' for effective SIT?", "What are the drivers for Qfly persistence in your region?", "What are the barriers and enablers new technology uptake?" and "What makes SIT cost effective?" This project is being funded from the Department of Agriculture and Water

Resources National Rural R&D for profit program and brings in even more collaborators to the SITplus space such as Wine Australia, DEDJTR and Bio-Fly (Israel).

In conjunction with research and with enough time before SIT is a reality, AWM in regions is being supported on-the-ground through planned extension and support packages. Growers have the opportunity to guide both research and extension efforts by providing their current experiences of Queensland Fruit Fly, and contribute to effective AWM. This is a problem that needs to be addressed by everyone together and this new collaborative SITplus R&D effort is a great start. The input from growers, and the wider community, has also been extremely encouraging and bodes well for a simpler (no fruit fly) future.



This project is supported by Horticulture Innovation Australia and CSIRO through funding from the Australian Government Department of Agriculture and Water Resources as part of its Rural R&D for Profit Programme. The project is part of the SITplus initiative, and the project partners include Wine Australia, Queensland University of Technology, South Australia Research & Development Institute, Primary Industries & Regions SA, New South Wales Department of Primary Industries, Victorian Government Department of Economic

The impact on fruit production when a region is declared Qfly endemic

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Jackson Tennant, Environmental Services Technical Officer, Safety, Amenity and Environment, Moira Shire Council, PO Box 578, Cobram VIC 3643. jtennant@moira.vic.gov.au

This presentation covered background to Queensland Fruit Fly in the Cobram area, its impact on fruit production in this major stonefruit producing area.

Further an outline of the Queensland Fruit Fly 2015/206 Action Plan, a community project initiated by the Cobram & District Fruit Growers Association, Moira and Berrigan Shires and industry service company, I.K. Caldwell, was provided.

The aim of the community project is to manage and reduce the Queensland Fruit Fly population in urban and peri-urban areas in the Moira and Berrigan shires. This will reduce Queensland Fruit Fly populations from moving into fruit and vegetable farms and therefore reduce the impact on those industries.

The community project involved the distribution of traps and MAT (Male Animation Technique – Attract and Kill units for male Qfly) to the public for use in their home gardens. Together with a series of community information meetings through the shires, TV and newspaper articles, YouTube videos and Facebook to inform and communicate to the community the importance, lifecycle, management and control of Queensland Fruit fly.

Managing Queensland fruit fly

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A change in mind-set on fruit fly management is necessary due to unprecedented expansions of fruit fly populations into previously fruit fly free regions, reduction in numbers of registered fruit fly control pesticides and lessening of Government support in fruit fly monitoring and control. No longer can growers wait until the first fruit fly sting is discovered in their orchard or backyard to start controlling fruit flies with pesticides. Fruit flies can be controlled with year-round attention and an understanding of the interactions between flies, their host plants and climate.

Most pest fruit flies belong to the family Tephritidae. There are well over 4,000 species of tephritid flies world-wide and, of them, about 270 live in Australia. Of these, there are eight that can infest fruit and vegetables causing financial impact on production and marketing.

Few registered pesticides are available for fruit fly control but some products can be used under permit. Growers should contact the Australian Pesticide and Veterinary Medicines Authority (APVMA) for advice.

The Queensland fruit fly's life cycle varies from about 22 days, egg to egg, under favourable conditions (20°C to 28°C with adequate relative humidity) to over 70 days in cool weather. Very cold weather and very hot and dry weather will kill fruit fly eggs, larvae, pupae and adults but adults may survive such conditions by flying to sites that are more favourable. Adult flies can survive for a month or so in warm weather up to several months in cool weather. They over winter, generally, as adults.

Fruit fly populations can explode in a short time. A female fruit fly needs to mate only once to ensure daily egg laying for the rest of her life providing she can find regular proteinaceous sustenance and suitable host plants. In the laboratory, under optimal conditions, one mating produced about 800 adult flies. A grove of 9 untended feijoa trees produced about 10,000 fruit from which were reared over 120,000 fruit flies. Under good conditions there may be between 2 and 10 fruit fly generations per year.

In the field, fruit fly activities are regulated by weather and the presence of suitable host fruit. In southern climates, where winters are cold, females need to mate again in the spring to cause the next wave of fruit flies. Simple modelling can predict the timing and severity of the first two fruit fly generations after winter. Correlating this with host availability will predict their impact on crops. Build up of fruit fly populations can be monitored with male-biased fruit fly traps and regular fruit inspection. Growers can start fruit fly control based on agreed action triggers (e.g. two flies trapped in one trap within one week) with increased trapping, protein baiting, windfall destruction and/ or cover sprays with registered/ permitted pesticides. This creates strategic management of fruit flies by timely and cost-effective application of control techniques.

A number of issues have been identified when using traps and baits for fruit fly control. Heat affects the attractancy and component efficacy of traps and baits. For example, a trap in full sun at 28°C creates internal temperatures up to 45°C which denatures proteinaceous attractants and repels fruit flies.

Aligning traps to fruit fly habits, which change due to season, will improve fruit fly control. Trapping of males and females is improved during late autumn, winter and early spring by increasing the number of food-based traps. This correlates with a seasonal change in male and female flies from seeking mates to looking for food for cold weather survival. Male-biased traps (i.e. those charged with sex related parapheromones) are less attractive in cool weather than protein based traps and do not trap females.

It is recommended not to trap or bait just at harvest time. This should be carried out at the very least six weeks before, during and three weeks after harvest. This will ensure fruit fly numbers will not build up at harvest or by next season's harvest.

It is recommended that a yearly schedule of activities to reduce fruit fly impacts be employed by growers.

Remember! It's a numbers game....the more fruit flies that survive the winter the bigger the problem in spring/ summer.

Yang Fang – A New Variety

Stephen Jeffers, 92 Countryview Street, Woombye QLD 4559. stephen@jeffersmarket.com.au

Tom Dunn, 155 Crows Nest Road, Blackbutt QLD 4306. tomhenrydunn@gmail.com

Persimmons Australia Inc (PAI) acquired the sweet persimmon variety, Yang Fang, from the Australian Persimmon Export Co in mid-2014. The budwood came from Central China about 6 years prior but the parentage of the variety is unknown. There have been some small trial plantings established around the country under non-propagation agreements but until recently it has been challenging to get sufficient budwood for propagation.

To date the trees have performed reasonably well, particularly given that many of them have been pruned hard for budwood. Trees which have not been pruned as hard have flowered consistently and had adequate fruit set such that thinning has been required. A commercial crop has been achieved from year three.

Yang Fang is considered to have moderate vigour, somewhere between that of Jiro and Fuyu, although the trees are more upright than Jiro. Some growers have found the vigour of Yang Fang to be more comparable to Jiro and have suggested that care needs to be taken to grow the tree prior to cropping.

In spite of large amounts of budwood taken from many trial trees, the fruit set seems to be quite good and they are likely to be a moderate to heavy cropping tree (Figure 1). In comparison to the established varieties, Yang Fang does not seem to bear as much as Jiro, although is likely to be more productive than Fuyu. The fruit seem to respond well to thinning although do not appear to have the sizing capacity of Jiro.

The maturity of fruit coincides with the end of the Jiro crop or slightly later. However it tends to hold well on the tree even after colouring early and this could be advantageous for extending the harvested over a 4 to 6 week period in coastal climate. Moreover the skin integrity is maintained even in rainy weather which is likely to be an advantage over Jiro in some environments. The fruit colours well to a deep orange and definitely has a deeper colour than Jiro. Yang Fang flesh is sweet and flavoursome and develops good brix.

The shape of Yang Fang fruits is more like Izu and Fuyu and not as flat or lobed as a Jiro. The slightly deeper fruit means that they pack a good, heavy tray. Fruit shape problems appear to be minimal, as does calyx separation although in some situations there have been signs of the calyx sticking around the fruit. This is most likely due the wet conditions during the growing season. The skin is clean and quite free of rainfall related blemish so well suited to a humid environment.

The fruits present and market well, and have excellent shelf life so should export well. From a consumer point of view they are very good piece of fruit. From a growers perspective Yang Fang could have a useful fit in some growing enterprises, depending on the degree of overlap with the Jiro season.

Overall, the plants are relatively easy to grow, have a moderate to high yielding potential and quality fruit. It is definitely easier to manage than Fuyu and would be exceptional if harvest was a couple of weeks later although this may be able to be manipulated by management practices.

Planting material of Yang Fang is available through Fruitscapes Nursery (Stephen Jeffers) although growers need to pre-order as it is not held in stock. Yang Fang is only available to PAI members under a non-propagation agreement with a \$1.00 per tree royalty payable to PAI.



Figure 1. Development of Yang Fang fruits in early February 2016 in Queensland.

Australian Persimmon Industry Field Days and Conference Program

THURSDAY | 4 FEBUARY 2016

- 1.00pm Conference Registration | Barooga Sports Club | Burkinshaw Street, Barooga
- 1.30pm Bus departs Barooga Sports Club for afternoon tour through the horticultural production regions of Barooga & Cobram, including visits to the properties of:
- Peter Demaio
-
- Peter has about an acre of trees, mainly Fuyu and a few Saruga's. All of his trees are free standing.
- Adrian Conti
-
- Adrian has Fuyu, Jiros and Saruga's and is currently converting his trellised trees to freestanding with interesting methods to achieve good results.
- Nick Demaio
-
- Nick is a significant grower of stonefruits and apples. He has the latest "Maf" grading machine and it is huge and very impressive.
- 7.00pm Persimmons Australia Inc Pre-Dinner Drinks | Cobram Barooga Golf Club | Golf Course Road, Barooga
- 7.30pm Fresh Produce Group Dinner | Fairway Function Room | Cobram Barooga Golf Club | Golf Course Road, Barooga
- Guest Speaker | Dr Sze Flett | Director | Horticulture Centre for Excellence & Horticulture Services
- The Horticultural Industry in Victoria and the Critical Role of the Horticulture Centre for Excellence & Horticulture Services | Dr Sze Flett
-
- An overview of the status of the horticultural industry in Victoria and the critical role of the Horticulture Centre for Excellence & Horticulture Services is playing in helping producers diversify, increase production, and boost exports of Victoria's high-quality horticultural produce.

FRIDAY | 5 FEBRUARY 2016

8.30am Conference Program Commences | Fairway Function Room | Cobram Barooga Golf Club
| Golf Course Road, Barooga

8.30am Welcome | Brett Guthrey

8.35am Australian Sweet Persimmon Industry Development Project R&D Update | Grant Bignell
& David Oag

This presentation will give an update on the latest research and development from the Persimmon industry development project and will include topics such as; postharvest storage, mealybug monitoring and control, varieties and rootstocks.

9.05am An Update on Hort Innovation and the Persimmon Marketing Campaign 2016 | Astrid
Hughes & Monique Emmi

An interactive session on the Persimmon marketing campaign for the year and an update on what's happening with Hort Innovation and the investment of Persimmon levies.

9.25am A Technical Introduction to SmartFresh Technology | Dr Hannah James

An introduction to what the SmartFresh Quality System is, the physiology of how it works and what you will need if you want to do applications at your facility.

9.40am Fresh Produce Group – The Company | Steve Fong

An introduction to the Fresh Produce Group and it's involvement with production, wholesale and retail of fresh produce and the opportunities it offers to the Persimmon industry.

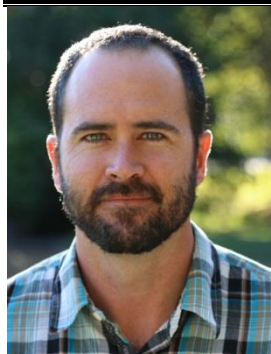
9.50am Morning Tea

10.20am Fruit Fly Research in Australia – How will it help? | Dr Penny Measham

Dealing with Queensland Fruit Fly is a complex problem and a coordinated, strategic approach is needed. After the loss of key chemical control options, increased outbreaks and a widening endemic status of fruit fly declared in the eastern states of Australia, there have been responses from all corners of the horticultural sector. Amid the current flurry of activity around fruit fly at the moment it's easy to lose sight of the big picture, of how all this effort is combining for a common cause. Current research investment is looking to provide new technologies for this particular pest; sterile insect technology and more. Learn how this might impact on you.

10.45am	The Impact on Fruit Production When a Region is Declared QFly Endemic Russell Fox
	What impact has the declaration of northern Victoria as Qfly endemic on fruit production in the region? This includes the impact on orchards as well as in urban and peri-urban environments.
11.05am	In Search of the Elusive Female Lure Andrew Jessup
	For decades we have had male lures for Queensland fruit fly and female lures for Mediterranean fruit fly but why has it been so difficult to produce a female lure for this species? Male lures are primarily based on pheromones or para pheromones and these are loosely called "sex attractants", whereas for females the primary direction has been focused on food attractant baits.
11.15am	Yang Fang – A New Variety Stephen Jeffers & Tom Dunn
	Brought into Australia by the Australian Persimmon Export Company, Yang Fang is now owned by Persimmons Australia Inc and offers growers an alternative variety which may fit in their production systems.
11.40am	Conference Program Concludes
11.45am	Lunch
12.30pm	Bus Departs Cobram Barooga Golf Club to visit the Persimmon orchard of: Chris Stillard
	Chris has approximately 3,000 trees of Fuyu and Jiro on trellis. Chris is currently laying out a new block but also has trees up to 15 years old.
2.00pm	Bus Returns & Conference Concludes Cobram Barooga Golf Club Golf Course Road, Barooga

Australian Persimmon Industry Field Days and Conference Speakers



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