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OUR COVER:
Joel and Kate Brockhoff and their children, Otherwood Orchards (read more on page 18).

APAL would like to thank our partners who provide us with funding and support.
It is with much excitement that we report on the increase in Australian apple exports for the first half of 2015. Wayne Prowse shares his insights and data that shows our exports are up 47 per cent on last year. Well done to all the apple growers and exporters out there – this is an important industry achievement.

China is one of those export markets and we hear from APAL’s Olivia Tait about two events in mainland China and Hong Kong where APAL was working to promote Australian pome fruit. Annie Farrow gives us the low-down on emerging trends in Hong Kong for our fruit – perhaps an under-exploited market for us.

Tree nutrition is also on people’s minds and we have a nice piece from AgFirst on getting the balance – not just the quantity – of nutrients right in the orchard to optimise production. We also get the results of a netting trial in WA that is showing that white netting combined with drip irrigation may deliver the best results for growers.

And we feature our Young Grower of the Year – Joel Brockhoff – who takes us around his new Rockit™ block and shares his thoughts on a trial he is hosting with Lenswood Cooperative in South Australia.

Sophie Clayton

FROM THE EDITOR

Modi™ apple launch

The Modi™ Apple arrived in Coles’ supermarkets in Victoria last month and in NSW stores in October as part of its official launch in Australia.

Photo: @ModiApple_Aus

Rice harvester turned pruning platform

As we take one last look at winter, here’s an ex rice harvester that was converted to a pruning platform for Battunga Orchards.

Sliced pears triple in sales

Woot Froot are the first fresh sliced and packed pears in the US. They hit the market in 2013 and sales have tripled since then.

Photo: Goodfruit.com

Submit your photos and ideas to cm@apal.com.au
Creating value-added and exportable products

By John Dollisson
CEO, APAL

By the time you read this editorial Michele Allan and I will have completed our grower visits around Australia and followed up on many of the issues raised.

We discussed national issues of poor pricing; ineffective apple and pear marketing; the need to increase consumption per head; new varieties; the need for consistent quality; and the need for all growers to be members of Horticulture Innovation Australia. Local and State issues including water, pests and the shrinking role of state departments of agriculture were also raised.

We also had the opportunity to look at value-added products and opportunities including juicing when we saw the new Appledale cooperative’s mechanical harvester that will significantly improve the profit in ‘growing for juicing’ and Avondale Food’s apple processing facility. Both of these, and other similar facilities across Australia, are a very important part of our industry in assisting growers to improve their profitability or recovery from second grade fruit.

APAL will be investigating R&D around the world to ensure all our processors are aware of latest techniques, equipment and processes. We also discussed opportunities for additional value-added products from apples and pears and the potential for these to improve industry profitability and ensure full use of all production.

Part of this process was the commissioning of specific pear nutritional research with the CSIRO some of which I hope you have seen in the media. Once complete we will consolidate with similar research undertaken on apples in 2010 to both reassess our marketing and nutritional claims and identify niches in value-added products such as compressed fruit bars, vinegar, and extruded cereal or similar products – ideally where growers own the brand.

Longer term, getting more out of our production by converting it into shelf-stable, no-protocol, easily exportable products will significantly add value to the Australian industry and grower profitability.

John Dollisson (lt) and APAL Chair Michele Allan (centre) visited Batlow Apples Co-operative packing shed as part of their NSW grower tours.

…getting more out of our production by converting it into shelf-stable, no-protocol, easily exportable products will significantly add value to the Australian industry and grower profitability.

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‘Now in Season’ Asian promotion wins award

Congratulations to the Victorian Government and its partners, including APAL, for winning the Marketing Campaign of the Year award for the ‘Now in Season’ campaign that was rolled out across Asia earlier this year.

The award was presented at the Asia Fruit Congress in Hong Kong on 1 September 2015 and was accepted by the Victorian Government, who led the project, alongside partners Hort Innovation and Austrade.

The ‘Now in Season’ campaign promoted Australian-grown horticultural produce across South East Asia in April and May 2015. APAL’s Market Development Manager Olivia Tait participated in the campaign to support and promote Australian apples and pears in Thailand, Indonesia and the Philippines.

Plans are afoot for a 2016 campaign to extend to more regions and more sectors.

Source: pirsasagovau

Lenswood Co-op to expand

Lenswood Apples Co-operative has received an $850,000 grant from the South Australian Government to support the development of their processing facility.

Lenswood Co-op plan to increase their capacity to produce new innovative packaging for domestic and expanding export markets.

CEO of Lenswood Co-op James Walters said the development would reinvigorate apple choice and availability for consumers, not only in Australia, but also across global markets.

According to SA Regional Development Minister Geoff Brock the Co-op’s proposed $11.37 million expansion would diversify and expand its capacity, as well as creating new regional employment opportunities.

“This is a major project which will bring economic benefits to the region and industry,” Mr Brock said. “At least 50 new ongoing jobs will be created to run the new and expanded operations once full capacity is reached.”

Source: pirsasagovau

The ‘Now in Season’ team receiving the Marketing Campaign of the Year award at Asia Fruit Congress.
Australia and China sign horticulture trade MoU

Hort Innovation and the China Entry-Exit Inspection and Quarantine Association (CIQA) signed a Memorandum of Understanding (MoU) in September to demonstrate their long-term commitment to building their relationship.

The MoU creates a framework for mutually beneficial engagement of horticultural trade interests between the two countries.

Hort Innovation CEO John Lloyd said the MoU is a tangible demonstration of Hort Innovation’s leadership in the trade space, bringing together Australian horticultural exporting commodities under one document.

“Hort Innovation has worked closely with CIQA to negotiate the MoU, and the high-level attendance on both sides reflects the importance the parties attach to the relationship,” Mr Lloyd said.

Annie Farrow, APAL Industry Services Manager, also signed the MoU on behalf of Australia’s apple and pear growers.

“The apple and pear chapter states that the parties may encourage the development of collaborative projects to benefit the joint interests of their members and that these projects may form a separate Memorandum of Agreement,” said Annie.

“APAL is seeking to sign an Agreement with CIQA later this year.

“Better relationships with the Chinese industry aims to help drive access for mainland apples into China.”

Hort Innovation organised a program of activities at the China Fruit and Vegetable Fair where the MoU was signed including a technical workshop. The workshop provided a series of presentations from industry in both countries to expand understanding and cooperation across the horticulture sector.

General Manager of Research Marketing and Investment at Hort Innovation David Moore (rt) with Annie Farrow (centre) and Secretary General of CIQA Bao Junkai, during the signing of the Australia-China MoU.

Horticulture could employ Syrian refugees

The Federal Government’s decision to resettle 12,000 Syrian asylum seekers could be good news for the horticulture industry, says the Voice of Horticulture.

Horticulture is the largest agriculture industry employer and very reliant on seasonal workers, including backpackers and workers on temporary work visas. But more labour is needed to meet the growing opportunity to export Australian horticulture products.

In the Goulburn Valley and elsewhere, Middle Eastern migrants, from Iraq and Afghanistan, have made a significant contribution to the industry.

According to Craig Boyce, CEO of Integrity Fruit, a consortium of larger apple, pear and stonefruit growers, “Middle Eastern workers have distinguished themselves by their work ethic, ability to pick up and apply skills as well as their commitment to the industry.”

John Dollisson, CEO of APAL, said that the horticulture sector is very accommodating of new migrants who provide the industry with a well needed supply of pruning and harvesting skills.
Trading starts at new Melbourne Market

On arriving at the new Melbourne Market the first impression is a fresh new site with the trading areas looking well lit, bright and buzzing with activity.

The media release about the new market says that the Epping facility will provide businesses and buyers with a safer, cleaner and more efficient market. And in the briefing given to media visitors that APAL joined on the third day of trade, occupational health and safety was highlighted as one of the improvements compared to the Footscray site.

APAL asked Melbourne Market Authority CEO Mark Maskiell and Chairman Steve McArthur about the number of grower stands and parking.

**Fewer grower stands**

According to Mark, “Everybody that wanted one [a grower stand] got one, they just may not have as much as they want.”

“But there is demand for additional stands that we’re working through,” he added.

Steve further explained that while there is less space for growers in the Traders’ Stands, he hopes that in time some of the current tenants will release their stand licenses so growers can use them.

He explained that at the old Footscray markets, a number of the growers’ stands were held by wholesalers who were not necessarily using them to trade because some of the space was used to park vehicles and store pallets. Those traders booked the new sites at Epping thinking they would need the same space.

“As time goes on the expectation is that those wholesalers, will release those stands back to growers who actually need the space,” said Steve.

There is more warehouse space for storage and different parking arrangements at Epping, which means it is not as cost effective to lease a large area in the Traders’ Stands for these purposes.

“From a standholder’s point of view, a stand in the market is about $390 a square metre, versus warehouse space which is $150 a square metre,” said Mark. “So economically, on a square metre rate, you can do things differently.”
There was just 33,000 square metres of warehousing at Footscray, but the new Epping site has 85,000, and the capacity to build more.

Steve and Mark acknowledge that it may be a while before businesses bed down their practices and determine what space they need in the different areas. But they have a waiting list and know who wants more space when it becomes available.

Parking problems

Parking at the new Epping site is quite different to the Footscray site where traders often booked a few parking bays to ensure space for loading and storage. In front of the wholesalers’ stores at Epping there are now dedicated truck parking bays with loading bays either side.

Before 3am every day the wholesalers access the parking area to unload their produce, then the retailers move in after that. So while it does mean some shifting of vehicles, there may be an efficiency gained.

“The wholesaler will bring his truck in, unload his produce or put it in his warehouse, whichever suits him, and then he shifts his vehicle out and it becomes retailer parking,” explained Steve.

Steve suggested that retailers tell the wholesalers where they will be parked and the produce can even be taken to them.

“A lot of the produce is pre-ordered, so a lot of guys deal with the same suppliers all the time,” said Steve. “So a lot of the produce will be sitting there beside their parking bay before the retailer’s truck even gets there.”

Both Steve and Mark seemed open to input and ready to receive and deal with concerns – and both were happy and proud that trading had finally begun.

VOH calls for China FTA

In light of wavering commitment to the China-Australia Free Trade Agreement, the Voice of Horticulture (VOH), has spoken up in support of finalising the FTA promptly.

“To not support the FTAs, and in particular the China FTA, is effectively limiting employment growth, and the huge export potential of Australian horticulture,” says VOH Chair Tania Chapman.

Source: mmg.com.au and freshplaza.com
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Promoting Australian pome fruit in China

By Olivia Tait

APAL recently took part in this year’s Asia Fruit Logistica (AFL) held in Hong Kong and the Fruit and Vegetable Fair (FVF) held in Beijing.

During each of these events, the APAL booth was positioned under the Australia Fresh banner, exhibiting with other industry representative bodies, producers and exporters.

The new look Australia Fresh branding, co-ordinated by Hort Innovation, enhanced the overall positioning of the Australian presence at both events and helped to establish Australia as a major source of a range of premium quality fruits and vegetables with the capacity and ability to supply into the Asian market.

AFL attracted more than 9,200 trade visitors from 70 different countries to Hong Kong’s AsiaWorld-Expo Center. The record attendance at Asia’s leading fresh fruit and vegetable trade show was driven by a significant increase in Asian visitor numbers. Total visitor numbers rose by 14 per cent on last year’s event, and 66 per cent of those visitors came from Asia, up from 58 per cent in 2014.

The APAL booth at AFL was used by a number of visiting growers as a base from which they could meet with existing and potential buyers, retailers and importers, and display their produce. In addition to the commercial aspects of the fair, the event provided growers and exporters with a great insight into the global industry. Walking the fair allows you to see the competition, both in terms of product but also market positioning, collateral, point of sale etc. and discover new and emerging trends in each product category.

The purpose of exhibiting at FVF is quite a different proposition. This event is owned by China Entry-Exit Inspection and Quarantine Association (CIQA). Australian industry sector groups with, or seeking, market access to China are encouraged to participate in this event as a show of support and commitment to the Chinese market.

Hort Innovation led and coordinated a series of activities this year, including; positioning Australia as the largest stand-alone exhibitor, the co-chairing of a CIQA and Hort Innovation workshop on horticulture cooperation, technical exchange and trade matching of horticulture products. Individual presentations made by Citrus Australia, Australian Table Grapes Association, APAL, Cherries Growers Australia and Summerfruit Australia and the signing of an MoU between CIQA, Hort Innovation and participating industry representative bodies re-affirming cooperation and collaboration.

It’s not too early to start planning for 2016 and perhaps participation at AFL may be a useful inclusion in growers’ program who are seeking to enter or further trade negotiations and relationships with key: afg

…”the event provided growers and exporters with a great insight into the global industry.”

Olivia Tait,
Market Development Manager, APAL
m: 0409 554 078 | e: otait@apal.org.au

UPCOMING EVENTS

APAL Grower Roadshow
Stanthorpe, QLD
6-7 Oct 2015

Horticultural and Gardening Festival
Melbourne, VIC
9-11 Oct 2015

Australian Cider Festival
Melbourne, Vic
10-11 Oct 2015

APAL Board meeting
Melbourne, VIC
12 Oct 2015

Batlow Apple Blossom Festival
Batlow, NSW
16 Oct 2015

Taste of Melbourne
Melbourne, Vic
12-15 Nov 2015

FGV AGM
Berwick, Vic
19 Nov 2015

AgriFoodLCA, Growth through sustainability
Melbourne, VIC
23-24 Nov 2015

Hort Innovation Annual General Meeting
Sydney, NSW
27 Nov 2015

More event info:
apal.org.au/events

We want to know about your local events for fruit growers! Please submit your events to cm@apal.org.au to get listed here and on APAL’s website.
The Royal Adelaide Show proves a big success with growers showcasing their fruit and meeting consumers, while in the orchard research is about to start on native pollinators.

At the time of writing this article we have just drawn to a close another very successful Royal Adelaide Show for the South Australian apple and pear industry. With a refreshed display and an increased number of entries into the commercial fruit competitive section the industry put on an eye-catching display of outstanding quality fruit. Congratulations go to Harrisville Orchards for winning the best two apple cartons chosen directly from the Packaging Line and Ready for Sale; Harrisville Orchards for Champion Tray of Apples; KR Filsell & Sons for Champion Plate of Apples; Gilmours Orchards for Champion Tray of Pears and Champion Plate of Pears; and also to all the other class prize winners, which included Appelinna Hills, AA Magarey & Sons and Ceravolo Orchards. We were also thrilled to be awarded a second prize for our stand in the Horticulture Pavilion.

As always, the apple and pear slinkies were extremely popular at the show with many comments from the public that they always love coming back each year to get their slinky. We also had some good media interest in the display and we were pleased to have local icon and radio station 5AA’s Jane Reilly acting as a guest judge again this year. Crunch the mascot was also in fine form entertaining the crowd and taking part in the Grand Parade. A delegation from Shandong Province in China also tasted some apples and pears at the stand and the guests were extremely impressed with the quality of fruit. The absolute highlight of the show however, was with growers having the chance to interact with the general public and promote our produce.

This kind of event doesn’t happen on its own and it is an absolute privilege to have such strong support from our growers to make it the success that it is. With over 115 different volunteers from our growing community helping out in some way, this event is truly a team effort. I cannot thank everyone enough and there is also a very long list of people who deserve extra special thanks for going the extra mile; too many in number to name individually here. However, I must acknowledge the excellent job that Mel Ware did in running the stand seamlessly through the show and also the invaluable support from my husband Simon, who has been helping out with show promotions for over 20 years.

As is always the way when the show finishes, the orchards spring to life very quickly and will become a hive of activity. There will be extra activity in some Adelaide Hills orchards this spring as researchers from the University of Adelaide embark on a pilot research program to better understand the role of native pollinators in our orchards. It is hoped this knowledge will enable us to provide habitats that support native pollinators to help boost pollination reserves and also future proof against an incursion of Varroa Mite.

Susie Green
CEO
Apple and Pear Growers Association of South Australia
New South Wales

NSW Farmers question the Horticulture Code of Conduct, while growers anticipate a visit from APAL.

Well, spring has certainly sprung, the district has been experiencing some glorious days and cool nights. The dams are at 100 per cent, which is great to see and looks promising for the warmer months ahead.

Minister for Agriculture Barnaby Joyce has been promising all these wonderful schemes in relation to fruit fly. The district placed a submission with Minister Joyce eight weeks ago in relation to setting up a low pest prevalence. We are awaiting a response.

There has been a lot of talk in relation to the Horticulture Code of Conduct. As far as I am concerned, it is a complete farce and a waste of time.

New South Wales

Having a Code, which is voluntary, lacks retail participation and anyone having existing contracts with merchants is still valid, so how can this Code benefit anyone? I am not able to see how the Code is going to benefit any horticulturalists.

Our district has just learned that a 25 year old chemical (Maveric™) is now being sold as an agency product – meaning the distribution and retail price are controlled. This change has greatly affected the purchase price that has increased by $95 per litre. Wouldn’t it be great if we could manage our apples in the same way to increase their price?

The APAL Chair and CEO will be coming to Orange in September, it would be good to see all orchardists attend and ask any questions they may feel relevant in regards to the levy money being spent. Talking about levy money, we have recently discovered claims in relation to misappropriated funds within Hort Innovation. These claims are currently being investigated. The worrying thing is; has this ever happened before and more so, what steps have been taken to ensure it does not happen again.

Guy Gaeta
Communication Officer
NSW Farmers Association

Western Australia

WA appoints new technical staff member, reminds growers Australia-wide about ordering ANABP 01 (dark-skinned apple) trees and heads to the Perth Royal Show.

This month we are delighted to announce that Susie Murphy White, formerly of the Department of Agriculture and Food, Western Australia (DAFWA), joins Pomewest. We welcome Susie to our team.

It’s great to have Susie on board and her work will continue with the national climate change projects. This has resulted from the transfer of management of this work across to Pomewest from DAFWA. This now gives us direct access to tap into relevant technical reporting opportunities surrounding this work for our members.

Susie reports that this month there was an early start to chill accumulation. This gives WA an average amount of winter chill for this season as the apple and pear trees enter into green tip earlier and hopefully meaning flowering will be more compacted setting the trees up for good yields here.

Whilst we anticipate another great season in 2016, we continue to work on promotion to increase demand for product with our work on striving for excellence in maturity standards, which will ensure consumers can expect and be delivered great tasting fruit from this state in the future.

We are also involved in presenting the Aussie Apples brand at our upcoming royal show with Hort Innovation’s support. We are lucky to have secured a valuable position in the Farm 2 Food pavilion that aims to educate children and families about WA’s agriculture and food. We hope to keep apples on everyone’s minds by offering fresh apple slinky treats and apple juice to tempt a healthy alternative to the usual show fare.

Fruit West Cooperative Ltd, who are managing the ANABP 01 variety, are advising growers Australia-wide that trees are available for sale for 2016 on various rootstocks. If you are interested in this variety give me a call and I can provide you with more information.

Nardia Stacy
Executive Officer
Pomewest

Susie Murphy White joins Pomewest – read her article on netting on page 26.
The high-reliability water shares (the per cent allocation of a water license a grower is likely to receive) for the northern rivers of Victoria on 1 September 2015 were as follows: Murray (60%), Broken (0%), Goulburn (66%), Campaspe (50%), Loddon (50%) and Bullarook Creek (0%). At the same time last year, all were at 100 per cent. This may explain why the price of irrigation water remains around $200 ML and is unlikely to drop.

Compared to August 2015, the Loddon system increased from 45 to 50 per cent; the Murray and Goulburn systems have only slightly increased to just under 70 per cent; and the Broken and Campaspe systems have remained unchanged.

Goulburn-Murray Water has suggested a reasonable probability of 100 per cent Victoria across all systems if major rain events occur in the coming two months.

The Queensland Fruit Fly Task Force members met mid-September at the Horticulture Centre of Excellence (Tatura) to finalise a strategy. The Task Force will seek letters of support from stakeholders that, together with the business case proposal, will be presented to the Victorian Minister for Agriculture Jaala Pulford.

Apple and pear tree bloom has just started. Low temperatures across Victoria this winter led to a good chill accumulation and it is anticipated there will be a shorter flowering period, which is preferred by growers.

The Melbourne Markets trading wholesale fruit and vegetables finally opened for trading amidst a storm of controversy. Traders are managing with what they have got and are making the best of it. FGVL recently hosted a grower tour through the market, the tour was popular and of interest so look out for the next one when we will see our apple and pear traders in action.

FGVL’s Annual General Meeting will be held at Clover Cottage, Berwick on Thursday 19 November, followed by the Gippsland Fruit Growers dinner. Please contact Julie on 03 5825 3700 if you would like to attend.

FGVL recently completed a selection process to recruit a new Industry Development Officer – expect an introduction in our column for the next edition.

Véronique Froelich & Tony Filippi
Fruit Growers Victoria Ltd.
(FGVL)
Hong Kong: 
emerging trends

By Annie Farrow

Following a trip to Asiafruit Congress, APAL’s Annie Farrow shares her insights into Hong Kong’s fruit imports.

Wet markets continue to dominate fresh produce sales in Hong Kong though supermarkets are beginning to improve their market share according to Melinda Meador, an agricultural trade officer with the United States Department of Agriculture (USDA). Speaking at Asiafruit Congress, Meador said that about 60 per cent of retail fruit sales were currently made at the wet markets but this will decline as consumers shift to modern shopping channels.

“Two emerging trends are online shopping and specialist fruit boutiques, which are driving the demand for premium quality and organic produce,” Meador said. “The number of fruit juice stands, which also offer cut fruit, is increasing and the produce sector is benefiting from government promotion of healthy eating through fruit and vegetable consumption. Increased awareness of food safety is also boosting high quality and imported product demand.”

According to the 2015 Asiafruit Statistics Handbook, Hong Kong imported 127,000 tonnes of apples, up 10.9 per cent, while pear imports rose by 7.2 per cent to 67,800 tonnes.

Australian apple exports to Hong Kong were 46 tonnes between June 2014 and June 2015. Analysis of the same period undertaken by Wayne Prowse for APAL based on Australian Bureau of Statistics data suggests that Australian apples fetched a slightly higher free on board (FOB) price of $3.39/kg in Hong Kong than many other export markets, where the average across all markets was $2.78/kg.

Shipments of Australian pears to Hong Kong have risen substantially in the first half of this year to 347 tonnes, which is up from just 9 tonnes for the same period last year. This is despite an apparent drop in the FOB price. Pears fetched $1.60/kg in the 12 months to June 2015, sitting just below the average price obtained across all export markets.

Hong Kong is not a protocol market and there are no tariffs, so Australian exporters face strong competition from a multitude of suppliers. China dominates the imported apple market with a 46 per cent share, followed by the US (28%), New Zealand (9%) and Chile (6%).

Meador said that imported fruit consumption would continue to increase as a result of Hong Kong’s steadily rising economic indicators and few trade barriers. However, Hong Kong remains a major platform for on-shipment with re-exports accounting for 58 per cent of inbound trade.

“About 90 per cent of the re-exported fruit is destined for China with the remainder split between Macau and Taiwan,” said Meador.

The Asiafruit analysis suggests that re-exports of apples are considerably less significant than the overall picture of all fruits painted by Meador. Data based on Hong Kong export data indicates that Hong Kong re-exported 37,000 tonnes of apples in 2014, about 29 per cent of the total import volume. This is down 7.4 per cent on the previous year, which may reflect the US regaining access to China. Apple re-exports are also lower than for other fruits due to the high volume of domestic apple production and cold storage in China. This leaves Hong Kong with 90,000 tonnes of net imports of apples or 12.5kg per capita consumption.

“Hong Kong importers believe they will continue to play an ongoing role with mainland China because of Hong Kong’s infrastructure, especially airfreight,” Meador reported. “The high speed rail (scheduled to be completed by 2020) between Hong Kong and Shenzhen (which is already connected through to Beijing) will strengthen that. Nevertheless, China will improve its own infrastructure with port facility expansions and the capacity for larger ships. E-commerce trading will also change the dynamics.

“Suppliers are now beginning to develop direct relationships with supermarkets, though the capacity of retailers to access smaller scale volumes can present a challenge. Direct relationships between locally based suppliers and customers through e-commerce is small but emerging. Nevertheless, importers remain a dominant source of fruit produce to wholesalers, retailers and the hospitality sectors.

“Imported fruit is used in the snacking, gifting, bakery, dessert and juice sectors in Hong Kong, though gifting is on the decline. Strong cultural inclusion of fruit into the native cuisine, strong links with China, an affluent economy and the government promotion of fruit for health reasons is likely to continue to provide good opportunities for imported fruit in Hong Kong,” she concluded.

Annie Farrow, Industry Services Manager, APAL

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Apple exports up 47 per cent in first half of 2015

By Wayne Prowse

 Australian apple exports increased by 47 per cent in the first half of 2015 – a welcome sign that the efforts to turn around the fledgling export sector of the apple industry is starting to pay off.

From January to June 2015, Australia exported 1,157 tonnes of apples worth $3.2 million with the unit price increasing $0.82 to $2.78, arguably aided by the fall in the exchange rate. A focus on exporting higher value varieties to niche markets likely also contributed. April to June were the major export months coinciding with the harvest season.

After initial trials last year, there have been 168 tonnes of apples exported from Tasmania to China, which have been mostly marketed through online distributors direct to consumers. China is the world’s largest producer of apples so securing a slice of the import market is a significant challenge and sellers need to be unique to gain the attention of buyers. Online distribution is a rapidly expanding sector in China particularly for imported fruit and savvy Australian growers are seizing the opportunity to develop trade for the Tiger Fuji variety and creating interest through this online supply channel.

Although smaller in volume, Thailand and Singapore have also imported more apples from Australia this year with exporters focused on delivering high value varieties such as Pink Lady™, which set Australian apples apart from other suppliers. By June, 81 tonnes had been shipped to Singapore up from 23 tonnes last year and 41 tonnes to Thailand after nothing last year. These markets imported 50,000 and 129,000 tonnes respectively, of apples from all sources in 2014, which shows the potential to generate some market share. Even if demand was just a small percentage it could see a few thousand tonnes exported there.

Indonesia is another market that has seen a positive change lifting from nothing last year to 230 tonnes. Indonesia imported 139,000 tonnes from all sources in 2014 mostly from China. In 2012, Indonesia implemented some trade restrictions to curb the growth to improve domestic self-sufficiency, which for apples seems...
inappropriate given the tropical climate. Nonetheless, most of Australia’s apples to Indonesia are supplied to settlements in West Papua from Queensland-based exporters serving these areas as well as Papua New Guinea, which remains the largest export destination for Australian apples.

The annual exports trade for apples now stands at 2,152 tonnes worth $5.9 million.

To give further perspective, there were around 1 million tonnes of apples imported collectively by all Asian markets in 2014 including intra-Asian trade, particularly from China. Australia’s share was around 0.1 per cent and there is no misconception of the difficulty in generating demand for our apples at viable price points acceptable to our industry. Premium quality and safety; unmatched service; and constancy and reliability, are all marketing buzz words that need to be taken seriously to secure an increased share of these markets and compete effectively with New Zealand, Chile, South Africa, the United States and, of course, China.

Imports

The volume of apples imported to Australia has remained below 800 tonnes per year since access was given to China and New Zealand in 2011. This is equivalent to 0.3 per cent of Australia’s apple production. From September 2014 to June 2015, Australia imported 483 tonnes of apples, all of which were from China. These all arrived between October 2014 and March 2015. By contrast, New Zealand supplied 317 tonnes of apples to Australia in 2014, all between June and August, which was 0.1 per cent of their 320,000 tonnes shipped globally.

About the author: Wayne Prowse,
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Apples were first planted on Otherwood Orchards in the 1920s by Joel’s great grandfather, who was also a founding member of the Lenswood Apples Co-operative. Joel now manages the 13 hectares on Otherwood Orchards that are dedicated to horticulture, where he is growing apples, kiwifruit, avocados and citrus. But his excitement – and innovative streak – shows through most when he talks about the new orchard block that he is leasing from his neighbour.

“Four years ago Dad and I took over a lease of the neighbouring property – it doubled our orchard area,” says Joel. “It was a mix of Jonathon, Granny Smith, Sundowner, Red Delicious, Fuji and Gala apples.”

Joel and his father Peter have pushed out the Jonathons, Granny Smith and Sundowners and are replanting half of the block. The first of their new trees are moving into their third season.

“We cut down all the Red Delicious and grafted them with Pink Lady,” says Joel.

He explains that while Red Delicious are not a great variety to rework because they are prone to getting Trametes – a bark rot – it was a good short term measure because high-coloured Pink Lady™ apples have been more profitable to grow than Red Delicious.

But the big move, and the one that excites Joel most, has come with the planting of Rockit™ apples.

“I think club varieties are essential for us now,” says Joel. “We’re making a considerable commitment to Rockit that will see 20 per cent of our orchard planted to this variety. We’re looking forward to having some excellent trees in the ground.

“As a club variety, Rockit has got that appeal of being a managed volume and we’ve got the benefit that Rockit has an export focus, which the other club varieties don’t necessarily have. Its marketing strategy has all been laid out and it makes us feel pretty confident that it’s going to be managed well, that there’s going to be demand in excess of the volume. It’s giving us optimism for the future.
“We’ve got, hopefully, a profitable orchard business based on varieties that don’t lose their value, like some of our commodity varieties have at this stage anyway.”

And he’s also optimistic about the yields.

“It’s a new apple for us, but we understand that more than 50 tonnes a hectare in New Zealand has been achieved, which is a realistic expectation for us,” Joel explains.

“At 50 tonnes a hectare they will be profitable, but of course we hope for higher yields, especially with the structure and the tree volume we’re going to end up having I can’t see why it won’t be more than that.”

Laying out the future

Joel has planted his Rockit in a much tighter layout than some of his other pre-existing blocks.

“We’ve got about 2,850 trees a hectare, with three and a half metre wide rows by one metre spacings – it suits our terrain,” says Joel. “I feel comfortable with the way that the trees grow at that spacing, and it will allow us to manage the vigour to keep them productive.

“When we come to tie them down I think we’ll be tying them down, as other growers have referred to, as Fuji flat,” says Joel. “We’re not going to steeply tie them down to 45 degrees like a Pink Lady or Royal Gala, it’s going to be a flatter angle because the branches are going to hang pretty easily.”

“This density suits us, it’s ideal for the use of platforms and a bit of mechanisation. It’s not ideal for robots, but it is going to be more efficient with platforms and that is going to be enough for us.”

He adds that he wouldn’t mind having a play with some of the two dimensional systems because he sees the approach as really interesting.

Testing ground

In his new block, Joel, together with Paul James, Field Advisor at Lenswood Apples Co-operative, has also established a trial of young Rockit and Aztec Fuji trees. Each is being managed differently throughout the first five years to determine which type of management results in the most productive trees.

“We’re looking at a number of factors that will produce the best tree in the first season,” explains Joel. “Paul is looking at four or five different treatments or types of management. We will measure the growth rate and cumulative yield of each treatment to determine which one is the best way to manage the tree.”

Joel says that he is a bit conservative and would prefer to get young trees established first before aiming for high yields. He notes that Rockit has quite a strong ‘basatonic’ growth habit meaning the top of the tree tends to terminate while the lower branches continue to grow.

“It’s a little bit early to say that one approach is better than another,” says Joel. “However, just looking at what we’ve got on some of the trees that were headed and the trees that had no pruning – they’re not spectacular.

“The trees that had their feathers removed, which were rodded, they’ve probably grown better than anything and they look good. I think that will be our approach this year rather than heading them. Paul’s figures support this.”

With the establishment of the new block, Joel also installed drip irrigation, which has proven a big bonus.

“I think we probably never realised how much the soil dries out,” says Joel. “With sprinklers, the volume of water needed is so much greater to keep that relatively narrow strip damp where the roots are.

“Irrigation plays such a very big role in tree growth especially for the young trees, so being able to get them in moist soil and keep the soil moist through the whole season, is a big advantage.”

He’s also seen the advantage of netting, especially in the higher density orchards where the cost of the netting is justified by the value of the crop produced in a given area.

“The netting system we will use is based on the European gable system that breaks apart under load (hail) and the trellis posts double as netting support,” says Joel.

For Joel there are three drivers for netting: 1) having the right structure to support the tree; 2) bird protection – Rainbow Lorikeets are a big problem for South Australian orchardists; and 3) environmental protection – particularly to reduce heat and sunburn.

“So it’s environmental netting really and I haven’t even mentioned hail,” says Joel. “But there will be a year when we’re very thankful we’ve got it for that reason too.”

Diversification

Joel’s enthusiasm for his new block is tempered by his critical assessment – and pragmatism – in managing the other fruit trees that he looks after.

“Around 30 years ago there was a bit of a push into kiwifruit, avocados and citrus,” says Joel. “All of that diversification’s been beneficial at times and detrimental at times. It probably meant that the apple growing was never really as focused as it could have been.”

He recognises that investing sooner in a bigger orchard with more Pink Lady and Rosy Glows could have been an advantage. But he has embraced the diversity of the orchard and put it to his advantage, by operating both a roadside stall called Apple Fields Orchard Shop in Balhannah and a stall at the Adelaide Showgrounds Farmers’ Market.

“Having a range of produce has made going to the Farmers’ Market a lot more useful,” says Joel.

He explains that having more than just apples means they have more to offer customers to bring them back. And they’re selling the fruit at retail prices, which helps make it worthwhile.

“We have to give up our Sundays, but Dad and I alternate each week, so we get every second Sunday off,” says Joel. “We’ve also got the roadside stall that helps us to sell a bit more fruit at a higher price and it’s a diversification to our business.”
Out and about

Since winning the APAL Young Grower of the Year award, Joel has attended the Emerging Leaders program with APAL and Marcus Oldham College in Victoria.

While he acknowledges the formal part of the course was helpful, particularly in drawing his attention to how he communicates and different strategies for communicating effectively, he thinks getting to know other people from the industry was the biggest benefit.

“It’s been really good to talk to people that I probably would never have had the opportunity to talk to in the past,” says Joel.

But prior to this Joel was already active in the industry and connecting with other growers. In 2007, he went to Italy on a one-way exchange program supported by APAL where he spent a month working with an orcharding family in the Vinschgau Valley near Bolzano in the South Tyrol region. He says that trip was a major turning point for him.

“My time in Italy became a pivotal moment – or month – for me because it helped me form a vision for what was possible at home,” Joel explains. “It gave me insights into different approaches, some of which I have adopted, and it kept me enthused about the industry. It was also a lot of fun.”

Joel also credits Future Orchards™ for contributing to making a tangible difference to his approach to orchard management. But perhaps most importantly, Joel acknowledges his family’s support.

“I would also like to thank my dad for his openness to modernise and embrace new ideas and my wife Kate for her support,” Joel says.

Acknowledgements

Thanks to Joel and Kate Brockhoff for welcoming APAL to Otherwood Orchards and to Susie Green for providing additional photos.

Listen to Joel talk about the trial by going to APAL’s YouTube channel:
To produce wonderful Pome and Stone fruit, it pays to start early with DuPont™ Altacor® insecticide. By targeting the first generation of Oriental fruit moth and Codling moth, it gets on top of the problem – before it gets on top of you. Altacor® works to control Codling moth in the egg, as they hatch and any larvae that emerge, while remaining friendly to key beneficials.

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**Realise the difference. Spray early.**
Good orchard nutrition for intensively managed apple and pear orchards includes understanding the interaction between nutrients to ensure those applied are most effectively used for fruit production.

Most growers know the importance of applying the right amounts of nutrients to ensure the tree is not lacking any of the essential macro or trace elements. However, some deficiencies are not caused by a shortage of the element, but an imbalance with other nutrients. As we strive for higher yields, these nutrient imbalances tend to show up more.

The importance of obtaining the optimum ratio of nutrients in the soil and plant becomes vital to sustaining high marketable yields. This article will introduce some principles to illustrate the importance nutrient interactions play in achieving the optimum nutritional program for intensive apple and pear production.

Nutrient sufficiency vs nutrient balance
Understanding the relationship between nutrient sufficiency and balance is critical to developing the optimum nutritional program for a high producing pome fruit orchard. Sufficiency is about addressing individual nutrient status, balance is understanding nutrient interactions.

Nutrient sufficiency
Step one to a balanced nutritional program is to ensure your tree has sufficient amounts of nutrients to complete their vital growth functions. The higher the yields, the more nutrients they will require. Liebig's 'Law of Minimum' states that crop yield/growth is limited by the nutrient or vital plant growth factor that is most limiting, even if all other vital factors/nutrients are adequate.

Identifying those nutrient(s) that are most limiting and then applying sufficient amounts to correct this is fundamental to achieving high yields. This is where soil tests and leaf tests are invaluable.

Ensuring nutrient concentration is in the ‘adequate’ zone maximises yield potential. Leaf testing is a useful tool to especially pick up nutrients in the ‘marginal zone’. Also known as ‘hidden hunger’, this is the pre-clinical deficiency stage where yield is being compromised due to a lack of a nutrient but you cannot yet see the symptoms in the leaf. Potassium is a good example of this.

Nutrient interactions
To sustain a high yielding orchard it’s not enough to just look at nutrient sufficiency. Growers must also apply nutrients in the right balance and this requires an understanding of nutrient interactions.

Mulder’s chart of nutrient interactions illustrates how different nutrients interact with each other. Nutrients can have a stimulation effect where there is an increase in the need for a nutrient by the plant because of the increase in the level of another nutrient. Nutrients can also have an antagonistic effect whereby there’s a decrease in the availability of a nutrient caused by the interaction of another nutrient.

An example of a stimulation effect is nitrogen on magnesium. Increasing the nitrogen level in the plant leads to an increase in demand for magnesium. An example of an antagonistic effect is magnesium and potassium. An increase in magnesium supply to the plant will decrease the availability of potassium to the plant.

“Sufficiency is about addressing individual nutrient status, balance is understanding nutrient interactions.”
Both of these examples can have detrimental consequences to crop productivity if not understood and the correct measures taken. For example, applying nitrogen to a plant with a marginal magnesium status is likely to induce a magnesium deficiency if magnesium is not also supplied. Potassium uptake will be suppressed by high soil magnesium levels, thereby inducing a potassium deficiency, so additional potassium needs to be supplied to balance out the high magnesium status.

The potassium, magnesium and calcium interaction

These three cations (positively charged ions) are critical in pome fruit production. They compete with each other on the soil exchange sites and also when in soil solution for plant uptake. Too much of one nutrient will suppress the uptake of the others. A balanced supply of these three nutrients is therefore vital. Table 1 illustrates the effect of varying concentrations of potassium on calcium and magnesium uptake by the plant. As the potassium status in the soil increases the uptake of calcium and magnesium decreases.

Once you have achieved sufficient levels of nutrients in the soil you now need to ensure they are in the right ratios to achieve a balanced uptake by the plant. A soil test is an excellent guide to determine balance.

Starting with calcium, this nutrient needs to dominate the soil exchange sites with at least 65 per cent of the sites being occupied. It’s important that sufficient calcium is released into soil solution and available for plant uptake especially during the critical cell division stage, which is six weeks after fruit set. Calcium is required in the fruit for cell wall integrity; to prevent pit and lenticel breakdown; and grow good, firm fruit.

Next target the potassium/magnesium ratio in the soil which needs to be close to 1:2. If the ratio is low, more potassium will need to be added, whereas if the ratio is high, additional magnesium will be required. Build your fertiliser program accordingly to ensure a good balance of supply based around these optimum ratios.

Table 1. Effect of potassium (K) on availability of calcium (Ca) and magnesium (Mg).

<table>
<thead>
<tr>
<th>K soil base saturation (%)</th>
<th>Composition of Leaves</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>% K</td>
</tr>
<tr>
<td>0</td>
<td>0.4</td>
</tr>
<tr>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>1.0</td>
<td>0.8</td>
</tr>
<tr>
<td>2.0</td>
<td>1.0</td>
</tr>
<tr>
<td>4.0</td>
<td>2.1</td>
</tr>
<tr>
<td>8.0</td>
<td>2.1</td>
</tr>
<tr>
<td>12.0</td>
<td>2.2</td>
</tr>
<tr>
<td>16.0</td>
<td>2.2</td>
</tr>
<tr>
<td>20.0</td>
<td>3.1</td>
</tr>
</tbody>
</table>

Mulder’s chart of nutrient interactions: dotted lines show a stimulation effect between nutrients and solid lines show an antagonistic effect.

Potassium deficiency: yield and quality can be affected by potassium deficiency long before leaf symptoms are seen.

Magnesium deficiency: applying nitrogen to a plant with a marginal magnesium status is likely to induce a magnesium deficiency if magnesium is not also supplied.
Potassium is needed in the largest quantities and is needed for fruit size and colour. It is also important in the water relations in the plant and for maintaining the balance of salts. Deficiency symptoms include marginal necrosis and cupping of the leaf. Potassium is very mobile in the plant so deficiency symptoms will be first seen in the older leaves. Beware that yield and quality can be affected by potassium deficiency long before leaf symptoms are seen. So it’s important to monitor this nutrient in the leaf early and take a proactive management approach.

The nitrogen and potassium partnership

Nitrogen is essential for protein and chlorophyll synthesis, however too much nitrogen promotes excessive vigour, delayed maturity and can lead to soft, poorly coloured fruit with storage issues. It is well documented in many crops, including apples, about the positive interaction between nitrogen and potassium.

Potassium ions act as a carrier for nitrate from root to leaf, where proteins are synthesised and photosynthates are metabolised. So with adequate potassium input balancing out the nitrogen input, nitrogen is much more efficiently metabolised to useful components such as amino acids and proteins and so yield potential is optimised and quality maximised. Potassium could be viewed somewhat as an antidote to excessive nitrogen levels.

Too much nitrogen can lead to excessive vigour in the canopy that reduces yield.
Leaf nutrient ratios

Leaf testing is an extremely good way to monitor the health of your trees and pick up nutritional imbalances before they affect productivity. Early season leaf testing will allow changes to be made to the nutritional program so productivity can be optimised in the current year. Macro nutrient ratios, especially the nitrogen/potassium and potassium/magnesium balance (Table 2) should be measured early in the season (Nov/Dec) so any adjustments to the nutritional program can still be made and be effective for the current season’s crop.

Achieving nutritional balance in the plant will optimise tree health and maximise yield, fruit colour and size as well as lessen post-harvest storage issues. Trace elements are essential nutrients but only needed in very small quantities. Leaf testing will quickly pick up any trace element imbalance and in most cases can be solved by a single foliar fertiliser application.

OrchardNet® – Nutrition Centre

The real benefit of monitoring the nutritional status of your orchard is to follow the trends over time and then relate this to what fertiliser was actually applied and ultimately how it affected productivity and profitability. It’s useful to have all this information in one place and be able to run nutritional reports.

OrchardNet has a new feature called the Nutrition Centre. This is where you can enter and store all your soil test results, leaf test results, fruitlet test results, fruit test results and nutrient inputs for each block. You can save multiple years’ results and then run reports which show nutrient trends, nutrient inputs over time (ground, fertigation and foliar applications) and where your results fit in relation to the optimum range.

Because it’s all recorded in OrchardNet where you have also recorded all your production and financial information against the same block, it now turns into a very powerful tool to help determine those blocks that are highly productive and profitable and relate this to what role nutrition played in achieving this.

Please have a go for yourself by logging on to the demonstration site: www.hortwatch.com/orchardnet/login.php
Login: augrower
Password: cobber

Summary

Nutrition plays a critical role in orchard productivity. Understanding nutrient sufficiency in combination with nutrient balance is crucial to deliver the optimum nutritional program in your orchard.

Using diagnostic tools, such as soil and leaf testing and then correctly interpreting the results is fundamental in delivering a balanced program that can sustain high yields of quality fruit. Soil nutrition is a dynamic environment so monitoring and analysing trends over time allows you to more accurately assess the nutritional status of your orchard and the efficacy of your nutrient programs so more informed refinements can be made.

Table 2. Leaf test result taken in December. Units are % w/w

<table>
<thead>
<tr>
<th>Block</th>
<th>Nitrogen (%)</th>
<th>Potassium (%)</th>
<th>Magnesium (%)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.3%</td>
<td>1.8%</td>
<td>0.29%</td>
<td>Highly coloured, large, firm fruit.</td>
</tr>
<tr>
<td>2</td>
<td>2.8%</td>
<td>1.1%</td>
<td>0.36%</td>
<td>Poorly coloured, soft, small fruit.</td>
</tr>
<tr>
<td>Optimum</td>
<td>2.3 – 2.8%</td>
<td>1.5 – 1.8%</td>
<td>0.25 – 0.30%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Block</th>
<th>N : K ratio</th>
<th>K : Mg ratio</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.3:1</td>
<td>6.2:1</td>
<td>Optimum ratio</td>
</tr>
<tr>
<td>2</td>
<td>2.5:1</td>
<td>3.1:1</td>
<td>Need more K to balance</td>
</tr>
<tr>
<td>Target</td>
<td>&lt;1.5:1</td>
<td>&lt;6.0:1</td>
<td></td>
</tr>
</tbody>
</table>

About the author:
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Horticultural Consultant, AgFirst
e: dean.rainham@agfirst.co.nz

OrchardNet® Nutrition Centre report showing an example of nitrogen leaf test results.
Encouraging and exciting results have been realised in the second season of the netted orchard demonstrations at Lyster Orchards, Manjimup, Western Australia. Established in October 2013, the demonstration is aimed at showing the value of netting to improve water use efficiency and productivity in high density orchard production systems.

We are assessing the impact of netting on fruit quality parameters such as sunburn, windburn, colour, firmness and sugars, while in-field data is being collected to compare tree development and chill accrual under nets compared to outside the nets.

Demonstration treatments
The 1.2 hectare site has 0.5ha of permanent net constructed over an established Cripps Pink and Fuji orchard. Sections of black and white 16mm quad netting were installed, each covering 0.25ha. The remaining area contains two comparison blocks, a DAFWA-managed area without net, and a grower-managed area without net as a control treatment.

A further treatment using drip irrigation under the netting was added to address the high tree vigour observed in the first season. It is widely accepted that vigour is an enemy of producing good quality fruit on Cripps Pink trees, affecting fruit size and colour development, both very important quality and marketing criteria. Drip irrigation lines were installed either side of four rows of trees under the changeover from black and white net. The addition of drip irrigation brings the treatments being tested to five:

1. Black net, under tree sprinkler.
2. White net, under tree sprinkler.
3. DAFWA no net, under tree sprinkler.
4. Grower no net, under tree sprinkler.
5. Drip irrigation under netting.
Ten Cripps Pink trees within each area were tagged, intensively monitored during the season then harvested separately from the remaining crop. All thinning, pruning and tree management was done as per normal practice by the orchard owners Maurie and Ann Lyster. An independent, remotely controlled, irrigation system allowed each treatment to get a different irrigation schedule.

The drip area was in between the buffer area of the netted treatments and comprised one row each of Cripps Pink and Fuji under black net and one row each under white.

Harvesting data

The 10 tagged trees from each treatment block were strip picked by DAFWA staff based on maturity (starch conversion tests), but not colour development, starting on 27 April 2015. The remainder of each treatment block (390 trees) was picked to commercial standards based on colour and maturity by the Lysters. The commercial harvest continued through May. The fruit in the commercial harvest was allowed slightly longer to develop colour and only fruit suitable for packing was picked by the Lysters. The drip section has data only from the DAFWA strip pick harvest.

Average fruit numbers, from the 10 trees strip picked, varied between treatments with the no-net grower treatment averaging 167 apples/tree. The black and white net and drip treatments all had similar fruit numbers of 198, 202 and 209 fruit per tree respectively. The no-net DAFWA treatment had significantly more fruit with an average of 301 fruit per tree.

All strip picked fruit from individual trees was manually graded as marketable and non-marketable based on the incidence of damage (bird damaged, sun damaged, bruising, marks, insects and disease). Fruit considered marketable was assessed against the Pink Lady™ standards. A subset was weighed, measured for diameter and tested for maturity (Table 1). Non-marketable fruit ranged between 18 per cent in the no-net grower treatment to 29 per cent in the white net treatment. The most common reason for non-marketable fruit was small fruit and dents, which increased as fruit numbers per tree increased, as expected.

<table>
<thead>
<tr>
<th>Block</th>
<th>marketable %</th>
<th>non-marketable %</th>
<th>sunburn #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black net</td>
<td>79</td>
<td>21</td>
<td>0.45</td>
</tr>
<tr>
<td>White net</td>
<td>71</td>
<td>29</td>
<td>0.45</td>
</tr>
<tr>
<td>No net DAFWA</td>
<td>73</td>
<td>27</td>
<td>1</td>
</tr>
<tr>
<td>No net grower</td>
<td>82</td>
<td>18</td>
<td>2.2</td>
</tr>
<tr>
<td>Drip (net)</td>
<td>78</td>
<td>22</td>
<td>0.48</td>
</tr>
</tbody>
</table>

# sunburn is a subset of non-marketable fruit.

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Have you got a Drape Net Pack Out?

The grower of the Gala and Standard Cripps Pink Lady pictured recently achieved better then 90% pack out and then cardboard binned the Znds!

His comment was,

“I never would of got even close to that result without Drape Net”
Yield

Background colour, blush and maturity all contribute to the marketability and grade assigned to Pink Lady apples. While the results are presented separately it is important to consider them together.

Both the strip pick data (Table 2) and the commercial pick data (Table 3) have been included to demonstrate the difference in the assessment and importance of working on a commercial property. Only marketable fruit from the strip pick was assessed for size and quality.

Encouragingly, average fruit diameters from the strip pick were all very similar between treatments. There was a slight difference in average fruit weight, which when multiplied with the difference in average number of fruit per tree, contributed to the difference in extrapolated yield per hectare.

The data from the commercial pick (Table 3) is based on bins picked from the remaining 390 trees per treatment and shows a slightly different story. The commercial yield is lower for the black net and both DAFWA and grower no-net treatments, and higher under the white net. This is largely due to the increased number of trees per treatment, averaging out differences in fruit numbers and the staggered picking over several weeks, allowing for colour to guide the timing of harvest. This meant fruit with less blush than desired may have increased in size and weight before being picked by the Lysters, with some fruit left on the trees that were already over mature or not considered marketable.

As the drip irrigation was part of the black and white net treatments, there was not separate commercial harvest data for those rows. Based on the strip pick data and discussion with the Lysters, it can be assumed those rows would have had a commercial yield between that of the black and white netted areas.

Water use efficiency

As expected, water applied to the drip area was much lower. Only 3 ML/ha was applied using the drip irrigation compared to 5 ML/ha and 5.3 ML/ha under the black and white net respectively. The drip area used 45 per cent less water but had no significant difference in the yield.

Water use efficiency is the tonnes of fruit picked per mega litre of water used (t/ML). The DAFWA no-net treatment had a 32 per cent increase in water use efficiency compared to the grower no-net treatment.

The white net treatment was 30 per cent more water use efficient than the DAFWA no-net treatment. This is an encouraging result, with an increase in yield using less water for both netted areas, reducing pumping costs and potentially increasing returns from the block.

When water use efficiency for drip irrigation is compared to the best of the sprinkler irrigation treatments under the net, there is a significant improvement. A yield of 18-23 t/ML compared with 13.2 t/ML, with a 36 to 74 per cent greater water use efficiency was achieved using drip irrigation compared to under tree sprinklers that were netted.

Table 2. Average fruit diameter, weight, fruit per tree and yield of non-damaged fruit based on strip pick at the end of April 2015.

<table>
<thead>
<tr>
<th>Block</th>
<th>Average fruit diameter (mm)</th>
<th>Average single fruit weight (g)</th>
<th>Average fruit number per tree</th>
<th>Extrapolated yield (t/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black net</td>
<td>71.7</td>
<td>170.2</td>
<td>156</td>
<td>66.3</td>
</tr>
<tr>
<td>White net</td>
<td>72</td>
<td>162.6</td>
<td>143</td>
<td>58.2</td>
</tr>
<tr>
<td>No net DAFWA</td>
<td>71.2</td>
<td>161.0</td>
<td>219</td>
<td>88.1</td>
</tr>
<tr>
<td>No net grower</td>
<td>71.7</td>
<td>171.1</td>
<td>137</td>
<td>58.6</td>
</tr>
<tr>
<td>Drip (net)</td>
<td>70.7</td>
<td>160.5</td>
<td>162</td>
<td>65.1</td>
</tr>
</tbody>
</table>

Table 3. Commercial pick figures, water applied and water use efficiency.

<table>
<thead>
<tr>
<th>Block</th>
<th>Yield (t/ha)</th>
<th>Irrigation applied (ML/ha)</th>
<th>Water use efficiency (t/ML)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black net</td>
<td>54</td>
<td>5</td>
<td>10.8</td>
</tr>
<tr>
<td>White net</td>
<td>69.8</td>
<td>5.3</td>
<td>13.2</td>
</tr>
<tr>
<td>No net DAFWA</td>
<td>65.3</td>
<td>6.4</td>
<td>10.2</td>
</tr>
<tr>
<td>No net grower</td>
<td>45</td>
<td>5.8</td>
<td>7.7</td>
</tr>
<tr>
<td>Drip (net)</td>
<td>54-69*</td>
<td>3</td>
<td>18-23</td>
</tr>
</tbody>
</table>

*no commercial yield data available. Strip pick data indicates yield within commercial range of black and white net.
Colour

Colour was assessed using the Pink Lady Europe Ctifl colour charts (Centre technique interprofessionnel des fruits et legumes (Ctifl) Pink Lady Eurofru colour charts) on the 40 apples to be sampled from each of the 10 trees. Each apple was given a score for background colour (F1-F7), a score for blush intensity (R1-R8) and a percentage of blush intensity when the blush was over R3.

At the time of strip picking the majority of apples had reached the ideal background colour (F3-F4). In both the no-net DAFWA and black net blocks, 78 per cent of fruit was between F3 to F4. While, 68 per cent of white net apples and only 47 per cent of apples in the no-net grower treatments were between F3 to F4 (Table 4).

Background colour greater than F4 is undesirable for long term storage, as the green background begins to move toward yellow. Between 22 per cent (DAFWA no-net) and 53 per cent (no-net grower) of fruit were beyond the ideal background storage colour (> F4).

While optimum Blush is between R4 and R5 for long term storage, blush greater than R4 is preferred in all fruit. Colour under the black and white net sprinkler irrigated treatments was lower than desired at strip picking with the majority of fruit lower than R4. The fruit on the trees irrigated using drip irrigation had better colour with 72 per cent of fruit above R score 4 (Table 5). The no-net grower treatment had 81 per cent of fruit at greater than R4.

Conclusions and plans for next season

There was greater vigour in the sprinkler irrigated trees under net. The greater leaf cover hinders light penetration and reduces colour development under the lower light situation of netting. This is likely to have caused the difference in colour between the sprinkler irrigated crop and the drip irrigated crop under the net.

Under-tree sprinkler irrigation will sustain significant grass cover that requires maintenance during the season, an added cost. It also may reduce the amount of reflected light from the surface, potentially affecting the colour development. Under drip irrigation, less grass cover persists between the rows, a direct result of limiting water to a narrow band around the trees.

While colour was better this season, we hope to improve it in the coming season. Due to the reduced water use and vigour and increased colour development under the net using drip irrigation, it is planned to convert the entire netted area to drip for the coming season.

There are benefits to be made from using drip irrigation under the net and possibly outside the netted area, based on this year’s observations. A smaller area outside the net may also be converted to drip for comparison, with the benefit of still having the under-tree sprinklers in extreme heat events and to maintain some ground cover.

For more information search for Netted Apple Demonstration on the DAFWA website www.agric.wa.gov.au.

Acknowledgements

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Developing a winning variety

By Andrew Maughan

With experience in rolling out new branded varieties such as Modi™, Honey Belle™, PIQA® Boo®, Sumo Citrus™ and Kiwiberry®, Andrew Maughan spoke at Asia Fruit Logistica about how to select and develop a winning variety.

The ultimate goal with any managed or club variety is for all parts of the supply chain – breeders, growers, retailers – to be profitable and sustainable. New varieties can provide a crucial point-of-difference in an increasingly competitive and commodity-driven market.

Intellectual Property (IP) has become a popular choice to achieve point-of-difference, but the success of an IP program does not depend solely on whether or not it is a good variety (from a growing perspective). It is a constant challenge to balance the needs and aspirations of the variety owners and breeders with those of all supply chain stakeholders.

Cooperation, collaboration, commitment

In the Freshmax™ experience, entering into a managed or club variety structure requires stakeholders to work towards the common good of the variety or club, even if this sometimes means they are required to make sacrifices in their individual business.

There must be cooperation and collaboration between breeder, grower, packer, marketer and retailer, and a commitment from all parties for the good of the variety.

There are three main principles of best practice in IP program delivery:

1) It must start with exciting/excellent plant material (filling a supply window, improved eating quality, tonnage/yield, ease of growing).
2) Be founded on a cooperative management model with disciplines and rules.
3) The branding, marketing and sales strategies must all be consumer focused and engage industry.

JOB OPPORTUNITY: PACKING SHED MANAGER

Integrity Fruit is a successful all year round packing facility located in the Goulburn Valley.

Due to continued growth we are looking for a Packing Shed Manager who can add value to our Management Team and who is enthusiastic, responsible, and thorough and shows sincerity.

We are a grower owned and focused business, with a proud multi-cultural workforce that succeeds based on a strong set of business values that help deliver good outcomes and a harmonious and productive workplace.

You would be responsible for the day to day operation of the packing lines on site and their efficient running, as well as ensuring the best pack out result for growers. A key focus is also on data collection for the business and the training of staff to ensure optimal results for both the grower and the business.

It is essential that you possess:

» Extensive knowledge of Pome and Stone Fruit
» Qualifications in HACCP would be an advantage
» The ability to interact and communicate effectively with internal and external stakeholders in a complex and multicultural environment
» Leadership Qualities
» Mechanical aptitude would be an advantage

This position may require working day/night shifts as well as weekends when seasonal pressure determines it.

This is a career growth opportunity for the right person and offers a competitive salary.

Please forward your CV to:
info@integrityfruit.com
...you need to understand what peak demand would look like for the new variety and then establish a production cap.

Whatever their part in the supply chain, they will have different objectives and mechanisms for achieving these. You have to map these out and work out what works best for everyone.

Getting volumes right is crucial

To avoid oversupply you need to understand what peak demand would look like for the new variety and then establish a production cap. It is also critical to establish routes to market to support the necessary growth in volume. As one route to market reaches its maximum capacity for demand, you need to have other markets and channels emerging to respond to the product. This might include bringing on export relations ahead of a domestic market being saturated.

Consult and engage with your current and prospective customers to understand what they want and what they need. A proposed variety should fit the needs and desires of multiple markets – this affords you greater flexibility and sustainability in demand.

Designing and controlling a brand

Critical to the expanding success of an IP variety is its brand. The best brands are ‘glocalised’ – controlled and rolled out across all regions, and then customised at a local level. Branding needs to be in terms that all parties can understand. Trademark and Plant Breeders Rights (PBR)/Plant Variety Rights (PVR) protection (where possible) is imperative in the territories where the variety is to be grown and marketed. This requires the establishment of due process and ownership to monitor that this protection is upheld and any breaches are addressed.

Before the first tree goes in the ground it is important to build a roadmap for on-going learning around the technical requirements for the variety. It takes time to truly understand the agronomic nuances and flaws of the variety to ensure sustained success. All varieties will have technical challenges and it is important to understand them as best as possible to allow for them to be successfully managed.

Commercial planning for an IP variety requires a solid foundation, including building a business plan that establishes the market positioning of the brand and product, and identifies the sustainable competitive advantages and opportunities, as well as the risks.

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A court case has revealed the misappropriation of apple and pear marketing funds, but Hort Innovation CEO John Lloyd has told APAL that grower programs will not be affected.

On 3 September 2015, the Supreme Court of NSW made judgment on the case Horticulture Innovation Australia Ltd v Luke Christopher Westley [2015] NSWSC 1292, following a court hearing on 31 August 2015.

The summary judgement explains that:

“Between June 2014 and July 2015, Mr Westley used his position as Manager, Marketing Services of Hort Innovation and HAL to cause his employer to make a number of payments to various entities without authority. For the most part, those payments were put towards costs and expenses associated with a theatrical production known as “Avenue Q”. Mr Westley was the executive producer of that production, which was staged at the Enmore Theatre between 2 and 18 July 2015.”

The full judgment states that “Mr Westley does not dispute that he used misappropriated funds totalling $277,180.77.” Moreover, there are additional funds that Hort Innovation is accusing Mr Westley of misappropriating as outlined in the judgment.

Luke Westley was responsible for marketing apples and pears at Hort Innovation and for administering the apple and pear marketing levy paid by growers.

The Court gave Luke the money held from ticket sales with the expectation he will pay his debtors, including Hort Innovation. The Court says that Hort Innovation is “entitled to equitable compensation from, and judgment against, Mr Westley, in the amount of his misappropriation together with interest.”

Hort Innovation has since recouped all the misappropriated monies, with Hort Innovation CEO John Lloyd telling APAL that no grower programs will be affected.

“Like me, I am sure many apple and pear growers will feel very distressed and angry on hearing that our marketing levy has been misappropriated,” said APAL CEO John Dollisson.

“I am very glad this problem was discovered and also glad to see that Hort Innovation are taking steps to recover the funds that should have gone toward apple and pear marketing.

“In a year when growers needed all the support they could get from the marketing program managed by Hort Innovation, it is beyond frustrating that this has occurred.

“I will stay in close touch with Hort Innovation to provide any support we can to resolve this matter and see the funds returned to marketing for our industry.”

Hort Innovation administers the marketing levy, gives itself the marketing money to manage and then oversees itself to deliver the projects – no-one else is privy to the detail of these projects. There is clearly a conflict of interest occurring here and we would like to see a more competitive and open process around our marketing levy to ensure this type of problem does not occur again.”

According to the Sydney Morning Herald, who has been tracking the case, Luke has now been charged with fraud and been granted conditional bail. He is due to appear at Downing Centre Local Court on 7 October 2015.

Farewell to Alena!

Alena Swinbourne, who was only recently announced as the new Marketing Manager for apples and pears at Hort Innovation, has recently tendered her resignation – effective at the end of September 2015.

APAL would like to applaud Alena for her scrutiny of the apple and pear marketing at Hort Innovation and for significantly improving information sharing and transparency around marketing activities. Her contribution has been much appreciated by everyone at APAL.

Alena’s work has been instrumental in the fresh approach Hort Innovation is taking for apple and pear marketing and we hope her efforts to improve marketing for our industry will be continued after her departure.

Hort Innovation is recruiting a replacement Marketing Manager for apples and pears.
Q&A with Hort Innovation

APAL and its state partner associations wanted to know more about what happened and more about what will be done to prevent misappropriation of fruit growers’ levies at Hort Innovation. APAL quizzed Warwick Scherf, Hort Innovation’s General Manager of Stakeholder Engagement, to get some more information.

What processes will Hort Innovation put in place to avoid this in the future?

There’s no process that can really be a 100 per cent guarantee against misappropriation if you still want to remain as a reasonably functional business. In this case, the Supreme Court did find that the method that was used for the misappropriation was largely the falsification of invoices. It’s quite difficult to overcome that, but in the future at Hort Innovation we’ll separate the receipt of invoices and the approval processes of invoices into separate procurement departments.

Is there a cap within Hort Innovation regarding how much one person has authority to approve?

It was $300,000. However, the cap is irrelevant to the matter as the misappropriations ranged from between $5,000 to $50,000 in each instance.

Are there any of the other checks and balances beyond that separation of receipts and approval of invoices that you now have in place?

The other checks and balances that are in place are the implementation of a procurement process whereby there is a separation of duties between the design of work, the commissioning of work, the contracting of that work, and the oversight in terms of the work being done, and thereby the payments being made. A forensic software program will also be implemented to detect anomalies. Staff processes will also be subject to spot audits.

Why did it take so long to discover the problem?

The problem was uncovered by a highly experienced employee early in July who reported the anomalies observed directly to management, and we took action that very day. We took action as soon as we were made aware of it, but in terms of the length of time and the series of events that took place over time, they were small incidents of deception, so it was difficult to pick that up as a consequence of those smaller values.

We’ve seen some poor performance in the Aussie Apples marketing campaign – is there a connection?

It really appears that the deception was over and above what was called ‘normal expenditure’. So the premise of the campaign was not directly related to the financial character of this particular matter.

The performance of the campaign should be evaluated in isolation of this particular issue. There will be a range of factors as to why the campaign hasn’t performed, and from what I understand that’s under review, and that’s being looked at in terms of learnings going forward as to how to get the best performance out of any campaign, in particular the apple campaign.

How will Hort Innovation improve transparency so there is external scrutiny of your programs?

This is my direct area of responsibility moving forward, and I can say categorically that greater transparency around what’s going on in all programs and in all projects is what we’re driving towards. That needs to be supported by the right sort of systems in place internally. But we believe we’re taking those steps at the moment to provide additional transparency and have an absolute intention to be more transparent around expenditure. It’s just unfortunate the timing of this coincides with what may be perceived to be a lack of transparency over the most recent period due to the disruptive nature of the review, and the transitioning from HAL to Hort Innovation. All projects, costs and suppliers will be published on our website.

Will this past transparency be retrospective so we can see expenditure in marketing?

I can’t answer that right now, that will be something we will take on advice, and we’d have to look into what the challenges might be around that. But in principle, as I said, we don’t have any problem with being transparent about expenditure.

All the R&D levy-funded projects are going out to competitive tender, will marketing levy-funded projects go the same way?

This is consistent with our new procurement policy on all major component parts of marketing programs. These will be subject to the competitive procurement process, a la tenders, but the matter of management of any marketing program is really for our Board to make a decision about. But we need to recognise also that Hort Innovation must fulfil its supervisory and governance obligations as well. Noting that Recommendation 6 from the ACIL Allen review [that Hort Innovation should to engage in marketing on a fee for service basis, and only on the request of the body representing the industry that contributes marketing levy funds] was specifically rejected by government. :alp
International apple and pear research update

Compiled by Dr Gordon Brown

Research snippets are sourced from abstracts of published scientific papers collated in the CAB direct database. To get the abstract related to any snippet please contact Gordon Brown on gordon@scientifichorticulture.com.au or 03 6239 6411.

Nurseries and new varieties

Apple diversity at risk
USA: Apples are at risk due to the small genetic base of commercial varieties and human encroachment on wild species. New York has a collection of 5,004 cultivars including wild species.

New resistant pear
France: Harrow Sweet is a new regular and high yielding pear cultivar that is very flavoursome and resistant to fire blight and pear psylla.

Apple aroma genes
New Zealand: The genetics of apple aroma and flavour inheritance is being investigated to aid in new cultivar selection.

Production

Apples’ carbon footprint
Italy: A life cycle assessment has shown that producing 1 kg of apples has a carbon footprint of 0.20 kg CO2 equivalents – mostly from machinery fuel.

Biochar in orchards
Australia: Biochar incorporated in soil to improve fertiliser use efficiency in an apple orchard increased water movement through the topsoil removing significantly more potassium and phosphorous.

Improving redness
Iran: Spraying Gala apple trees with 1.5 g/L calcium chloride at two, four and six weeks before harvest improved fruit red colouration.

Nets cut sunburn
Argentina: Black hail nets over Pink Lady™ apple trees reduced fruit sunburn damage, but also reduced fruit size.

White trap preference
Turkey: White traps are best for catching and monitoring pollination insects, as opposed to harmful insects, when using different coloured sticky traps over flowering in an orchard.

Postharvest

Blue mould control – apple
Italy: Potassium sorbate provides poor control of blue mould on apple due to low residue persistence, irregular distribution on the fruit surface and the ability of P. expansum to degrade it.

Storage increases apple aroma
Italy: Aroma compounds emitted by apples is cultivar specific and differences are more pronounced after storage than at harvest.

DA meter has scald use
Italy: The DA meter not only measures fruit maturity but can also predict apples prone to scald such that appropriate anti scald activities can be implemented.

Economic benefit of storage
Turkey: An economic analysis of different apple storage rooms has found an internal rate of return of 6.6% for air stores and 12.4% for controlled atmosphere rooms.

Pests and diseases

Valsa canker control
China: A Bacillus amyloliquefaciens strain, denoted GB1, applied to apple trees provides biocontrol of apple Valsa canker which is normally difficult to control.

Blue mould control – pear
China: The yeast Rhodotorula mucilaginosa has been found to provide control of blue mould on pear.

Irradiation stops disease
Italy: A small change in soil microflora as a result of soil gamma-irradiation results in overcoming apple replant disease.

Fungi stimulates growth
Italy: Some fungi isolates of Ceratobasidium sp., Cylindrocarpon sp. and Fusarium acuminatum from replanted apple roots stimulated tree growth through auxin production.

Better than Kaolin
Croatia: Economic analysis of trial results demonstrate that baculovirus and synthetic pyrethroids are superior to Kaolin or doing nothing for the control of codling moth.

Black spot infection
Slovinia: Studies of black spot ascospores in the atmosphere show that primary infection ascospores are released many hours after stimulating rain and night time release can also occur.

Bordeaux spray effectiveness
China: A 0.5% bordeaux spray on apple trees was effective against apple ring rot on the fruitlets for 15 days but only effective on the 1 year old branches for 7 days.

Red nets better for Fuji
Italy: Fuji fruit grown under red hail nets instead of black ones were perceived to be firmer, sweeter and yellower and instrumental analysis indicated a change in cell structure.
**Greg’s Quiz**

**QUESTION 1:**
(True or False): Mainly used as a rootstock in times past, the pear variety Kieffer Hybrid is a hybrid of pear and quince.

**QUESTION 2:**
What type of fruit had the old names of Gorseberry, Feaberry and Feverberry?
A: Raspberry.
B: Blackberry.
C: Sloe Plums.
D: Gooseberry.

**QUESTION 3:**
As a generalisation, which of these fruit trees is best able to cope with poor soil drainage and limited soil aeration?
A: Pear.
B: Peach.
C: Apple.
D: Cherry.

**QUESTION 4:**
Was the origin of the Malling 9 (M9) rootstock?
A: A chance seedling.
B: A deliberate cross at the East Malling Research, England.
C: A hybrid bred at the John Innes Institute, Merton, England.
D: Previously known as the Clark Dwarf and propagated at East Malling.

**QUESTION 5:**
What is the propagation term used for a graft of two independent and usually similarly sized, self-sustaining plants?
A: Bark graft.
B: Whip and tongue graft.
C: Chip bud.
D: Approach graft.

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**Crossword**

ACROSS
2. Irrigation used in netting trial
4. Netting can reduce this
7. SA champion plate of pears winner
8. Melbourne Markets new location

DOWN
1. Asia Fruit Logistica was held here
3. New apple planted by Joel Brockhoff
5. Nutrient that causes excess vigour
6. New apple just launched in Australia
Keep your apples and pears in knock-out shape

Luna® Sensation offers exceptional in-field control of problematic fungal diseases like powdery mildew and black spot, as well as suppression of alternaria. Its unique chemistry is designed to extend the vitality of apples and pears with the aim of increasing their shelf-life. That can make them a more appealing buy right down the line.

Find out more from lunasensation.com.au